

Actinium Pharmaceuticals, Inc.  
Form S-1/A  
October 28, 2013

As filed with the Securities and Exchange Commission on October 28, 2013

Registration No. 333-191468

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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

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FORM S-1

(Amendment No. 1)

REGISTRATION STATEMENT UNDER THE  
SECURITIES ACT OF 1933

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ACTINIUM PHARMACEUTICALS, INC.  
(FORMERLY CACTUS VENTURES, INC.)  
(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction  
of incorporation or  
organization)

2834  
(Primary Standard  
Industrial Classification  
Code Number)

000-52446  
(I.R.S. Employer  
Identification Number)

501 Fifth Avenue, 3rd Floor  
New York, NY 10017  
(646) 459-4201  
(Address, including zip code, and telephone number,  
including area code, of registrant's principal executive offices)

Action Stock Transfer Corporation  
2469 E. Fort Union Blvd., Suite 214  
Salt Lake City, UT 84121  
(801) 274-1088  
(Name, address, including zip code, and telephone number,  
including area code, of agent for service)

Copies to:

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Edgar Filing: Actinium Pharmaceuticals, Inc. - Form S-1/A

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Tel No.: (315) 235-2299

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Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b2 of the Exchange Act.

|                         |                          |                           |                                     |
|-------------------------|--------------------------|---------------------------|-------------------------------------|
| Large accelerated filer | <input type="checkbox"/> | Accelerated filer         | <input type="checkbox"/>            |
| Non-accelerated filer   | <input type="checkbox"/> | Smaller reporting company | <input checked="" type="checkbox"/> |

(Do not check if a smaller reporting company)

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## CALCULATION OF REGISTRATION FEE

| Title of Each Class Of Securities to be Registered   | Amount to be Registered (1) | Proposed Maximum Offering Price per share (2) | Proposed Maximum Aggregate Offering Price | Amount of Registration Fee |
|--|-----------------------------|---|---|----------------------------|
| Common stock, \$0.001 par value per share  | 5,329,500                   | \$ 1.65(2)                                    | \$ 8,793,675                              | \$ 1,199.46                |
| Common stock, \$0.001 par value per share  | 10,832,819                  | \$ 0.78(2)                                    | \$ 8,449,599                              | \$ 1,152.52                |
| Common stock, \$0.001 par value per share, issuable upon exercise of the Series B warrants       | 1,559,438                   | \$ 2.48(3)                                    | \$ 3,867,406                              | \$ 527.51                  |
| Common stock, \$0.001 par value per share, issuable upon exercise of the Stock Offering warrants | 2,673,652                   | \$ 0.78(3)                                    | \$ 2,085,449                              | \$ 284.46                  |
| Common stock, \$0.001 par value per share, issuable upon exercise of consulting firm warrants    | 3,755,562                   | \$ 0.01(3)                                    | \$ 37,556                                 | \$ 5.12                    |
| Common stock, \$0.001 par value per share, issuable upon exercise of placement agent warrants    | 1,120,499                   | \$ 0.78(3)                                    | \$ 873,990                                | \$ 119.21                  |
| Common stock, \$0.001 par value per share, issuable upon exercise of placement agent warrants    | 464,027                     | \$ 2.48(3)                                    | \$ 1,150,787                              | \$ 156.97                  |
| <b>Total</b>   | <b>25,735,497</b>           |   |   | <b>\$ 3,445.25*</b>        |

(1) This registration statement includes an indeterminate number of additional shares of common stock issuable for no additional consideration pursuant to any stock dividend, stock split, recapitalization or other similar transaction effected without the receipt of consideration, which results in an increase in the number of outstanding shares of our common stock. In the event of a stock split, stock dividend or similar transaction involving our common stock, in order to prevent dilution, the number of shares registered shall be automatically increased to cover the additional shares in accordance with Rule 416(a) under the Securities Act of 1933, as amended.

(2) Calculated based upon the sales price of the common stock held by the selling stockholders named in this Registration Statement.

(3) Calculated based upon the exercise price of the warrants held by the selling stockholders named in this Registration Statement.

\* Filing fee previously paid.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the commission, acting pursuant to said Section 8(a), may determine.



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The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS                      SUBJECT TO COMPLETION                      DATED October 28, 2013

25,735,497 Shares of Common Stock

ACTINIUM PHARMACEUTICALS, INC.

This prospectus covers the sale by the selling stockholders of up to (i) 16,162,319 shares of common stock, par value \$0.001 per share, held by the selling stockholders, (ii) 1,559,438 shares of our common stock issuable upon exercise of Series B warrants held by the selling stockholders at an exercise price of \$2.48 per share, (iii) 2,673,652 shares of our common stock issuable upon exercise of the 2011 stock offering (the “Stock Offering”) warrants held by the selling stockholders at an exercise price of \$0.78 per share, (iv) 3,755,562 shares of our common stock issuable upon exercise of consulting firm warrants held by the selling stockholders at an exercise price of \$0.01 per share, (v) 1,120,499 shares of our common stock issuable upon exercise of placement agent warrants held by the selling stockholders at an exercise price of \$0.78 per share, (vi) 464,027 shares of our common stock issuable upon exercise of placement agent warrants held by the selling stockholders at an exercise price of \$2.48 per share. Our common stock issuable upon the exercise of Series A Warrants are not being offered because they have been either exercised and converted into common stock or expired as of May 28, 2013. The shares being sold by the selling stockholders were issued to them in private placement transactions which were exempt from the registration and prospectus delivery requirements of the Securities Act of 1933, as amended (the “Securities Act”). Our common stock and warrants are more fully described in “Description of Securities.”

These shares will be offered for sale by the selling shareholders in accordance with the “Plan of Distribution.” We will not receive any proceeds from sales of shares of our common stock or warrants by the selling stockholders. However, to the extent the warrants are exercised for cash, if at all, we will receive the exercise price of the warrants. We will pay the expenses incurred in connection with the offering described in this prospectus, with the exception of brokerage expenses, fees, discounts and commissions, which will be paid by selling stockholders.

Our common stock is presently traded on the OTCQB under the symbol ATNM. On October 24, 2013, the last sale price of our shares as reported by the OTCQB was \$5.00 per share. The prices at which the selling stockholders may sell the shares of common stock that are part of this offering may be market prices prevailing at the time of sale, at negotiated prices, at fixed prices, or at varying prices determined at the time of sale. See “Plan of Distribution.”

We are an “emerging growth company” under the federal securities laws and will be subject to reduced public company reporting requirements. An investment in our common stock may be considered speculative and involves a high degree of risk, including the risk of a substantial loss of your investment. See “Risk Factors” beginning on page 6 to read about the risks you should consider before buying shares of our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is \_\_\_\_\_, 2013



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Please read this prospectus carefully. It describes our business, our financial condition and results of operations. We have prepared this prospectus so that you will have the information necessary to make an informed investment decision.

You should rely only on information contained in this prospectus. We have not authorized any other person to provide you with different information. This prospectus is not an offer to sell, nor is it seeking an offer to buy, these securities in any state where the offer or sale is not permitted. The information in this prospectus is complete and accurate as of the date on the front cover, but the information may have changed since that date.

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PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus. This summary does not contain all the information that you should consider before investing in the common stock. You should carefully read the entire prospectus, including “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and the consolidated financial statements, before making an investment decision. Our actual results may differ significantly from the results discussed in these forward-looking statements as a result of certain factors, including those described in “Risk Factors” and “Cautionary Note Regarding Forward-Looking Statements.” All references to “we,” “us,” “our,” and the “Company” mean Actinium Pharmaceuticals, Inc. and its subsidiary Actinium Corporation.

Business Overview

We are a biopharmaceutical company focused on the \$54 billion market for cancer drugs. Our most advanced products are Actimab™-A, an antibody-drug construct containing actinium 225 (Ac-225), currently in human clinical trials for acute myeloid leukemia (AML) and Iomab™-B, an antibody-drug construct containing iodine 131 (I-131), used in myeloconditioning for hematopoietic stem cells transplantation (HSCT) in various indications. The Company is currently designing a trial which the Company intends to submit for registration approval in HSCT in the settings of refractory and relapsed acute myeloid leukemia in older patients. The Company is developing its cancer drugs using its expertise in radioimmunotherapy. In addition, the Ac-225 based drugs development relies on the patented Alpha Particle Immunotherapy Technology (APIT) platform technology co-developed with Memorial Sloan-Kettering Cancer Center, whose indirect subsidiary, Actinium Holdings Ltd., is a significant stockholder of the Company. The APIT technology couples monoclonal antibodies (mAb) with extremely potent but comparatively safe alpha particle emitting radioactive isotopes, in particular actinium 225 and bismuth 213. The final drug construct is designed to specifically target and kill cancer cells while minimizing side effects. The Company intends to develop a number of products for different types of cancer and derive revenue from partnering relationships with large pharmaceutical companies and/or direct sales of its products in specialty markets in the U.S.

Since our inception on June 13, 2000, we have not generated any revenues, and as of December 31, 2012, we have incurred net losses of \$55,743,463. As of December 31, 2012 and June 30, 2013 our cash balance was \$5,618,669, and \$5,650,328, respectively, and we need up to \$25 million in cash to finance research and development and to cover our ongoing working capital needs. If we do not raise any additional funding, we will be able to continue our operations through August of 2014. If we raise 25% of the needed funds, we will be able to conduct our planned operations through the end of 2014 and into 2015. If we raise 50% of the needed funds, we will be able to conduct our planned development programs through the first half of 2015. If we raise 75% or more of the needed funds, we will be able to accelerate our planned development programs through 2015 and into the first quarter of 2016. Our first product is not expected to be commercialized until at least 2017. In the second quarter of 2013 we issued shares of common stock pursuant to the exercise of A-Warrants originally issued in connection with a private placement that closed in January 2013. The warrants were exercised at \$1.65 per share, resulting in gross proceeds of \$3,457,087 for the Company. As the remainder of the outstanding warrants are exercisable on a cashless basis there can be no assurance that we will be able to realize any proceeds from their exercise.

Corporate Information

Our principal executive offices are located at 501 Fifth Avenue, 3rd Floor, New York, NY 10017 and our telephone number is (646) 459-4201. Our website address is [www.actiniumpharmaceuticals.com](http://www.actiniumpharmaceuticals.com). The information contained therein or connected thereto shall not be deemed to be incorporated into this prospectus or the registration statement of which it forms a part. The information on our website is not part of this prospectus.



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THE OFFERING

|  |  |
|--|--|
| Common stock offered by selling stockholders | 25,735,497 shares of our common stock including: up to (i) 16,162,319 shares of common stock, par value \$0.001 per share, held by the selling stockholders, (ii) 1,559,438 shares of our common stock issuable upon exercise of Series B warrants held by the selling stockholders at an exercise price of \$2.48 per share, (iii) 2,673,652 shares of our common stock issuable upon exercise of the 2011 stock offering (the “Stock Offering”) warrants held by the selling stockholders at an exercise price of \$0.78 per share, (iv) 3,755,562 shares of our common stock issuable upon exercise of consulting firm warrants held by the selling stockholders at an exercise price of \$0.01 per share, (v) 1,120,499 shares of our common stock issuable upon exercise of placement agent warrants held by the selling stockholders at an exercise price of \$0.78 per share, (vi) 464,027 shares of our common stock issuable upon exercise of placement agent warrants held by the selling stockholders at an exercise price of \$2.48 per share. Our common stock issuable upon the exercise of Series A Warrants are not being offered because they have been either exercised and converted into common stock or expired as of May 28, 2013. |
| Common stock outstanding before the offering | 23,656,583 shares of common stock (1)  |
| Common stock outstanding after the offering  | 33,229,761 shares of common stock (2)  |
| Use of proceeds                              | We will not receive any proceeds from the sale of the common stock by the selling stockholders. However, we may receive up to approximately \$8,015,188 in the aggregate upon the exercise of the warrants if the holders exercise them for cash. However, we do not expect proceeds from the exercise of the outstanding B- warrants, Stock Offering warrants, consulting firm warrants, and placement agent warrants since these warrants contain cash-less exercise provisions. The registration of common stock pursuant to this prospectus does not necessarily mean that any of those shares will ultimately be offered or sold by the selling stockholders. We intend to use the proceeds, if any, received from any cash exercise of the warrants for working capital and general corporate purposes.  |
| Trading Symbol                               | ATNM   |
| Risk Factors                                 | The common stock offered hereby involves a high degree of risk and should not be purchased by investors who cannot afford the loss of their entire investment. See “Risk Factors”.   |

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(1) Based upon the total number of issued and outstanding shares as of October 25, 2013

(2) Based upon the total number of issued and outstanding shares as of October 25, 2013, and including (i) 1,559,438 shares of our common stock issuable upon exercise of Series B warrants held by the selling stockholders at an exercise price of \$2.48 per share, (ii) 2,673,652 shares of our common stock issuable upon exercise of the Stock Offering warrants held by the selling stockholders at an exercise price of \$0.78 per share, (iii) 3,755,562 shares of our common stock issuable upon exercise of consulting firm warrants held by

the selling stockholders at an exercise price of \$0.01 per share, (iv) 1,120,499 shares of our common stock issuable upon exercise of placement agent warrants held by the selling stockholders at an exercise price of \$0.78 per share, (v) 464,027 shares of our common stock issuable upon exercise of placement agent warrants held by the selling stockholders at an exercise price of \$2.48 per share.

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RISK FACTORS

An investment in our common stock involves a high degree of risk. You should carefully consider the risks described below, together with all of the other information included in this Registration Statement, before making an investment decision. If any of the following risks actually occurs, our business, financial condition or results of operations could suffer. In that case, the trading price of our shares of common stock could decline and you may lose all or part of your investment. See “Cautionary Note Regarding Forward Looking Statements” above for a discussion of forward-looking statements and the significance of such statements in the context of this Registration Statement.

Risks Related to Our Business

We have generated no revenue from commercial sales to date and our future profitability is uncertain.

We have a limited operating history and our business is subject to all of the risks inherent in the establishment of a new business enterprise. Our likelihood of success must be considered in light of the problems, expenses, difficulties, complications and delays frequently encountered in connection with this development and expansion. Since we began our business, we have focused on research, development and clinical trials of product candidates, and have incurred losses since inception. As of December 31, 2012 and June 30, 2013, we had a deficit accumulated during development stage of approximately \$55.7 million and \$59.2 million, respectively. If we continue to incur operating losses and fail to become a profitable company, we may be unable to continue our operations. We expect to continue to operate at a net loss as we continue our research and development efforts, continue to conduct clinical trials and develop manufacturing, sales, marketing and distribution capabilities. There can be no assurance that the products under development by us will be approved for sale in the U.S. or elsewhere. Furthermore, there can be no assurance that if such products are approved they will be successfully commercialized, and the extent of our future losses and the timing of our profitability are highly uncertain.

If we fail to obtain the capital necessary to fund our operations, we will be unable to continue or complete our product development and you will likely lose your entire investment.

We do not currently have sufficient capital for the development and commercialization of our lead product and we will need to continue to seek capital from time to time to continue development of our lead drug candidates and to acquire and develop other product candidates. Our first product is not expected to be commercialized until at least 2017 and we do not expect that the partnering revenues it will generate will be sufficient to fund our ongoing operations. Our cash balance as of June 30, 2012 was \$5.7 million. We expect that we will need approximately \$4.6 million over the next 12 months to finance research and development and to cover our ongoing working capital needs.

Our business or operations may change in a manner that would consume available funds more rapidly than anticipated and substantial additional funding may be required to maintain operations, fund expansion, develop new or enhanced products, acquire complementary products, business or technologies or otherwise respond to competitive pressures and opportunities, such as a change in the regulatory environment or a change in preferred cancer treatment modalities. However, we may not be able to secure funding when we need it or on favorable terms.

If we cannot raise adequate funds to satisfy our capital requirements, we will have to delay, scale-back or eliminate our research and development activities, clinical studies or future operations. We may also be required to obtain funds through arrangements with collaborators, which arrangements may require us to relinquish rights to certain technologies or products that we otherwise would not consider relinquishing, including rights to future product candidates or certain major geographic markets. We may further have to license our technology to others. This could result in sharing revenues which we might otherwise have retained for ourselves. Any of these actions may harm our business, financial condition and results of operations.

The amount of capital we may need depends on many factors, including the progress, timing and scope of our product development programs; the progress, timing and scope of our preclinical studies and clinical trials; the time and cost necessary to obtain regulatory approvals; the time and cost necessary to further develop manufacturing processes and arrange for contract manufacturing; our ability to enter into and maintain collaborative, licensing and other commercial relationships; and our partners' commitment of time and resources to the development and commercialization of our products.

We have limited access to the capital markets and even if we can raise additional funding, we may be required to do so on terms that are dilutive to you.

We have limited access to the capital markets to raise capital. The capital markets have been unpredictable in the recent past for radio-immunotherapy and other oncology companies and unprofitable companies such as ours. In addition, it is generally difficult for development stage companies to raise capital under current market conditions. The amount of capital that a company such as ours is able to raise often depends on variables that are beyond our control. As a result, we may not be able to secure financing on terms attractive to us, or at all. If we are able to consummate a financing arrangement, the amount raised may not be sufficient to meet our future needs. If adequate funds are not available on acceptable terms, or at all, our business, including our technology licenses, results of operations, financial condition and our continued viability will be materially adversely affected.

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If we fail to obtain or maintain necessary U.S. Food and Drug Administration clearances for our radio-immunotherapy products, or if such clearances are delayed, we will be unable to commercially distribute and market our products.

Our products are subject to rigorous regulation by the U.S Food and Drug Administration (FDA) and numerous other federal, state and foreign governmental authorities. The process of seeking regulatory clearance or approval to market a radio-immunotherapy product is expensive and time-consuming and, notwithstanding the effort and expense incurred, clearance or approval is never guaranteed. If we are not successful in obtaining timely clearance or approval of API products from the FDA, we may never be able to generate significant revenue and may be forced to cease operations. In particular, the FDA permits commercial distribution of a new radio-immunotherapy product only after the product has received approval of a Biologics License Application (“BLA”) filed with the FDA pursuant to 21 C.F.R. § 314, seeking permission to market the product in interstate commerce in the United States. The BLA process is costly, lengthy and uncertain. Any BLA application filed by the Company will have to be supported by extensive data, including, but not limited to, technical, preclinical, clinical trial, manufacturing and labeling data, to demonstrate to the FDA’s satisfaction the safety and efficacy of the product for its intended use.

Obtaining clearances or approvals from the FDA and from the regulatory agencies in other countries could result in unexpected and significant costs for us and consume management’s time and other resources. The FDA and other agencies could ask us to supplement our submissions, collect non-clinical data, conduct additional clinical trials or engage in other time-consuming actions, or it could simply deny our applications. In addition, even if we obtain a BLA approval or pre-market approvals in other countries, the approval could be revoked or other restrictions imposed if post-market data demonstrates safety issues or lack of effectiveness. We cannot predict with certainty how, or when, the FDA will act. If we are unable to obtain the necessary regulatory approvals, our financial condition and cash flow may be materially adversely affected, and our ability to grow domestically and internationally may be limited. Additionally, even if cleared or approved, the Company’s products may not be approved for the specific indications that are most necessary or desirable for successful commercialization or profitability.

Our radio-immunotherapy product candidates are in the early stages of development; and we have not demonstrated that any of our products actually cure cancer.

Only two product candidates of the Company are currently in clinical development by the Company. There is an ongoing physician sponsored Phase I AML trial at MSKCC with a single dose of Actimab™-A. The Company has also commenced a Phase I/II multi-center AML trial with fractionated doses of Actimab™-A under its own federal Investigational New Drug Application (IND). Additionally, there are a number of physician IND trials that have been conducted or are currently ongoing at FHCRC with single doses of Iomab™-B. Neither the Company nor any relevant collaborative partner(s) has yet undertaken any clinical assessment or investigation of Company radio-immunotherapy product candidates for other indications, including colon cancer or prostate cancer. Significant further investment may be required to acquire antibody rights and to undertake necessary research and continued development. Further laboratory and specific clinical testing will be required prior to regulatory approval of any product candidates. Adverse or inconclusive results from pre-clinical testing or clinical trials of product candidates may substantially delay, or halt entirely, any further development of one or more of our products. The projected timetables for continued development of the technologies and related product candidates by us may otherwise be subject to delay or suspension.

Modifications to our product candidates may require federal New Drug Application (NDA) approvals.

The NDA application is the vehicle through which the company may formally propose that the FDA approve a new pharmaceutical for sale and marketing in the United States. Once a particular Company product candidate receives FDA approval or clearance, expanded uses or uses in new indications of our products may require additional human clinical trials and new regulatory approvals or clearances, including additional IND and NDA submissions and

premarket approvals before we can begin clinical development, and/or prior to marketing and sales. If the FDA requires new clearances or approvals for a particular use or indication, we may be required to conduct additional clinical studies, which would require additional expenditures and harm our operating results. If the products are already being used for these new indications, we may also be subject to significant enforcement actions.

Conducting clinical trials and obtaining clearances and approvals can be a time-consuming process, and delays in obtaining required future clearances or approvals could adversely affect our ability to introduce new or enhanced products in a timely manner, which in turn would harm our future growth.

There is no guarantee that the FDA will grant NDA approval of our future product candidates and failure to obtain necessary clearances or approvals for our future product candidates would adversely affect our ability to grow our business.

We have recently commenced a multi-center Phase I/II clinical trial for our lead drug candidate, Actimab™-A, in AML and in the future expect to submit an NDA to the FDA for approval of this product. This drug candidate is also the subject of an ongoing human safety trial being conducted under a physician IND at MSKCC in New York City. We are in the early stages of evaluating other drug candidates consisting of conjugates of Ac-225 with human or humanized antibodies for pre-clinical and clinical development in other types of cancer. In June 2012, the Company acquired rights to Iomab™, a Phase II clinical stage monoclonal antibody with safety and efficacy data in more than 250 patients in need of HSCT. Product candidates utilizing this antibody would also require FDA approval of a NDA. The FDA may not approve or clear these products for the indications that are necessary or desirable for successful commercialization. Indeed, the FDA may refuse our requests for NDA market approval of new products, new intended uses or indications to existing or future product candidates. Failure to receive approval for our new products would have an adverse effect on our ability to expand our business.

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Clinical trials necessary to support NDA approval of our future product candidates will be time consuming and expensive. Delays or failures in our clinical trials will prevent us from commercializing our product candidates and will adversely affect our business, operating results and prospects and could cause us to cease operations.

Initiating and completing clinical trials necessary to support NDA approval of Actimab™-A and other product candidates, will be time-consuming and expensive and the outcome uncertain. Moreover, the results of early clinical trials are not necessarily predictive of future results, and any product candidate we advance into clinical trials may not have favorable results in later clinical trials. We have worked with the FDA to develop a clinical trial designed to support initial safety and efficacy of Actimab™-A and on October 6, 2008, and January 5, 2009, we submitted IND amendments to the FDA for the conduct of a multi-center Phase I/II clinical trial for treatment of AML. The trial is now underway with the purpose of examining the use of Actimab™-A in AML patients who are not eligible for approved forms of treatment with curative intent. The trial is not designed to support final NDA approval of the product candidate and one or more additional trials will have to be conducted in the future before we file a NDA. In addition, there can be no assurance that the data generated during the trial will meet our chosen safety and effectiveness endpoints or otherwise produce results that will eventually support the filing or approval of a BLA.

The issued patents, which are licensed by the Company for the HuM-195 antibody, our acute myeloid leukemia targeting antibody, will begin to expire before we have commercialized Actimab™-A.

The humanized antibody which we use in the conjugated Actimab™-A product candidate is covered by the claims of issued patents that we license from Facet Biotech Corporation, a wholly-owned subsidiary of Abbott Laboratories ("Facet"). Some of those patents will begin to expire in 2013. After these patents expire, others may be eventually able to use an antibody with the same sequence in alpha particle drug products based on alpha particle emitters other than actinium 225 and bismuth 213. Any process that would enable such a competition as described above is likely to require several years of development before achieving our product candidate's current status and may be subject to significant regulatory hurdles, but is nevertheless a possibility that can affect the Company's business in the future.

Additionally, because we expect that certain of these patents will expire prior to commercialization of Actimab™-A, the Company expects that in order to attract a commercialization partner for that product candidate, it will may need to reach an agreement with Facet to reduce the milestone payments and royalties currently required to be paid under our license agreement for HuM-195. There can be no assurance that the parties will be able to agree on an amendment to the terms of the license. Failure to reach such an agreement could materially adversely affect the Company's ability to find a commercialization partner for Actimab™-A which may materially harm our business.

The BC8 antibody utilized in Iomab™-B is not patent protected.

The antibody we use in the conjugated Iomab™ product candidate is not covered by the claims of any issued or pending patents. Accordingly, others may be eventually able to use an antibody with the same sequence in alpha particle drug products based on alpha particle emitters. Any process that would enable such a competition as described above is likely to require several years of development before achieving our product candidate's current status and may be subject to significant regulatory hurdles, but is nevertheless a possibility that could negatively impact the Company's business in the future.

We may be unable to obtain a sufficient supply of Ac-225 medical grade isotope in order to continue clinical trials and to allow for the manufacture of commercial quantities of Actimab™-A

There are limited quantities of Ac-225 available today. The existing supplier of Ac-225 to the Company is Oak Ridge National Laboratory (ORNL). It manufactures Ac-225 by eluting it from its supply of Thorium-229. Although this has proven to be a very reliable source of production for a number of years, it is limited by the quantity of

Thorium-229 at ORNL. We believe that the current approximate maximum of Ac-225 production from this source is sufficient for approximately 1,000 - 2,000 patient treatments per year. Since our needs are significantly below that amount at this time, and will continue to be below that for as long as we do not have a commercial product with a potential of selling more than 2,000 patient doses per year, we believe that this supply will be sufficient for completion of clinical trials and early commercialization. To secure supplies beyond this amount, the Company has developed what it believes to be a scalable cost-effective process for manufacturing Ac-225 in a cyclotron at an estimated cost in excess of \$5 million. This work has been conducted at Technical University Munich (TUM) in Germany. The Company is now in possession of detailed descriptions of all the developed manufacturing procedures and has rights to all relevant patent applications and other intellectual property. However, we do not currently have access to a commercial cyclotron capable of producing medical grade Ac-225. Although beam time on such cyclotrons is commercially available, the Company does not currently have a relationship with any entity that owns or controls a suitable cyclotron. It has identified possible sources and estimates that it could secure the necessary beam time when needed at a cost of approximately \$2 million per year. The Company's contract for supply of this isotope from ORNL extends through the end of 2013, is renewable for future years. However, there can be no assurance that ORNL will decide to renew the contract or that the U.S. Department of Energy will not change its policies that allow for the sale of isotope to the Company. Failure to acquire sufficient quantities of medical grade Ac-225 would make it impossible to effectively complete clinical trials and to commercialize Actimab<sup>TM</sup>-A and would materially harm our business.

Conducting successful clinical studies may require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit.

Patient enrollment in clinical trials and completion of patient participation and follow-up depends on many factors, including the size of the patient population; the nature of the trial protocol; the attractiveness of, or the discomforts and risks associated with, the treatments received by enrolled subjects; the availability of appropriate clinical trial investigators; support staff; and proximity of patients to clinical sites and ability to comply with the eligibility and exclusion criteria for participation in the clinical trial and patient compliance. For example, patients may be discouraged from enrolling in our clinical trials if the trial protocol requires them to undergo extensive post-treatment procedures or follow-up to assess the safety and effectiveness of our product candidates or if they determine that the treatments received under the trial protocols are not attractive or involve unacceptable risks or discomforts. Patients may also not participate in our clinical trials if they choose to participate in contemporaneous clinical trials of competitive product candidates. In addition, patients participating in refractory AML clinical trials are seriously and often terminally ill and therefore may not complete the clinical trial due to reasons including comorbid conditions or occurrence of adverse medical events related or unrelated to the investigational products, or death.

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Development of sufficient and appropriate clinical protocols to demonstrate safety and efficacy are required and we may not adequately develop such protocols to support clearance and approval.

The FDA may require us to submit data on a greater number of patients than we originally anticipated and/or for a longer follow-up period or change the data collection requirements or data analysis applicable to our clinical trials. They may also require additional data on certain categories of patients, should it emerge during the conduct of our clinical trials that certain categories of patients are likely to be affected in different and/or additional manner than most of the patients. In addition to FDA requirements, our clinical trial requires the approval of the institutional review board, or IRB, at each site selected for participation in our current Actimab<sup>TM</sup>-A clinical trial. We have submitted our clinical trial to the IRBs at participating sites for approval and we have thus far obtained approval from five IRBs. The Company's clinical trial protocols have not been rejected by any IRB.

Additional delays to the completion of clinical studies may result from modifications being made to the protocol during the clinical trial, if such modifications are warranted and/or required by the occurrences in the given trial.

Each such modification has to be submitted to the FDA. This could result in the delay or halt of a clinical trial while the modification is evaluated. In addition, depending on the quantity and nature of the changes made, FDA could take the position that some or all of the data generated by the clinical trial is not usable because the same protocol was not used throughout the trial. This might require the enrollment of additional subjects, which could result in the extension of the clinical trial and the FDA delaying clearance or approval of a product candidate.

There can be no assurance that the data generated using modified protocols will be acceptable to FDA.

There can be no assurance that the data generated using modified protocols will be acceptable to FDA or that if future modifications during the trial are necessary, that any such modifications will be acceptable to FDA. If the FDA believes that its prior approval is required for a particular modification, it can delay or halt a clinical trial while it evaluates additional information regarding the change.

Serious injury or death resulting from a failure of one of our drug candidates during current or future clinical trials could also result in the FDA delaying our clinical trials or denying or delaying clearance or approval of a product.

The ongoing Phase I clinical trial for Actimab<sup>TM</sup>-A conducted at MSKCC was designed to establish the maximum tolerated dose of the product. As the Company expected, patients receiving highest dose of the drug administered in the trial so far had prolonged bone marrow suppression which could lead to fatal infections and other severe consequences. Consequently, the dose levels of our drug in that trial were reduced as we continue our work on establishing maximum tolerated dose.

Even though an adverse event may not be the result of the failure of our drug candidate, FDA or an IRB could delay or halt a clinical trial for an indefinite period of time while an adverse event is reviewed, and likely would do so in the event of multiple such events.

Any delay or termination of our current or future clinical trials as a result of the risks summarized above, including delays in obtaining or maintaining required approvals from IRBs, delays in patient enrollment, the failure of patients to continue to participate in a clinical trial, and delays or termination of clinical trials as a result of protocol modifications or adverse events during the trials, may cause an increase in costs and delays in the filing of any submissions with the FDA, delay the approval and commercialization of our product candidates or result in the failure of the clinical trial, which could adversely affect our business, operating results and prospects. Lengthy delays in the completion of our Actimab<sup>TM</sup>-A clinical trials would adversely affect our business and prospects and could cause us to cease operations.

If the third parties on which we rely to conduct our clinical trials and to assist us with pre-clinical development do not perform as contractually required or expected, we may not be able to obtain regulatory approval for or commercialize our product candidates.

We do not have the ability to independently conduct our pre-clinical and clinical trials for our product candidates and we must rely on third parties, such as contract research organizations, medical institutions, clinical investigators and contract laboratories to conduct such trials. If these third parties do not successfully carry out their contractual duties or regulatory obligations or meet expected deadlines, if these third parties need to be replaced, or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our pre-clinical development activities or clinical trials may be extended, delayed, suspended or terminated, and we may not be able to obtain regulatory approval for, or successfully commercialize, our product candidates on a timely basis, if at all, and our business, operating results and prospects may be adversely affected. Furthermore, our third-party clinical trial investigators may be delayed in conducting our clinical trials for reasons outside of their control.

The future results of our current or future clinical trials may not support our product candidate claims or may result in the discovery of unexpected adverse side effects.

Even if our clinical trials are completed as planned, we cannot be certain that their results will support our product candidate claims or that the FDA or foreign authorities will agree with our conclusions regarding them. Success in pre-clinical studies and early clinical trials does not ensure that later clinical trials will be successful, and we cannot be sure that the later trials will replicate the results of prior trials and pre-clinical studies. The clinical trial process may fail to demonstrate that our product candidates are safe and effective for the proposed indicated uses. If FDA concludes that the clinical trials for Actimab™-A, or any other product candidate for which we might seek clearance, have failed to demonstrate safety and effectiveness, we would not receive FDA clearance to market that product candidate in the United States for the indications sought. In addition, such an outcome could cause us to abandon the product candidate and might delay development of others. Any delay or termination of our clinical trials will delay the filing of any submissions with the FDA and, ultimately, our ability to commercialize our product candidates and generate revenues. It is also possible that patients enrolled in clinical trials will experience adverse side effects that are not currently part of a product candidate's profile. In addition, our clinical trials for Actimab™-A involve a relatively small patient population. Because of the small sample size, their results may not be indicative of future results.

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Actimab™-A and future product candidates may never achieve market acceptance.

Actimab™-A and future product candidates that we may develop may never gain market acceptance among physicians, patients and the medical community. The degree of market acceptance of any of product will depend on a number of factors, including the actual and perceived effectiveness and reliability of the product; the results of any long-term clinical trials relating to use of the product; the availability, relative cost and perceived advantages and disadvantages of alternative technologies; the degree to which treatments using the product are approved for reimbursement by public and private insurers; the strength of our marketing and distribution infrastructure; and the level of education and awareness among physicians and hospitals concerning the product.

Failure of Actimab™-A or any of our other product candidates to significantly penetrate current or new markets would negatively impact our business financial condition and results of operations.

To be commercially successful, physicians must be persuaded that using our product candidates for treatment of AML and other cancers are effective alternatives to existing therapies and treatments.

We believe that oncologists and other physicians will not widely adopt a product candidate unless they determine, based on experience, clinical data, and published peer-reviewed journal articles, that the use of that product candidate provides an effective alternative to other means of treating specific cancers. Patient studies or clinical experience may indicate that treatment with our product candidates does not provide patients with sufficient benefits in extension of life or quality of life. We believe that recommendations and support for the use of each product candidate from influential physicians will be essential for widespread market acceptance. Our product candidates are still in the development stage and it is premature to attempt to gain support from physicians at this time. We can provide no assurance that such support will ever be obtained. If our product candidates do not receive such support from these physicians and from long-term data, physicians may not use or continue to use, and hospitals may not purchase or continue to purchase, them.

Even if our product candidates are approved by regulatory authorities, if we or our suppliers fail to comply with ongoing FDA regulation or if we experience unanticipated problems with our products, these products could be subject to restrictions or withdrawal from the market.

Any product candidate for which we obtain FDA clearance or approval, and the manufacturing processes, reporting requirements, post-approval clinical data and promotional activities for such product candidate, will be subject to continued regulatory review, oversight and periodic inspections by the FDA. In particular, we and our suppliers are required to comply with FDA's Quality System Regulations, or QSR, and International Standards Organization, or ISO, regulations for the manufacture of products and other regulations which cover the methods and documentation of the design, testing, production, control, quality assurance, labeling, packaging, storage and shipping of any product candidate for which we obtain clearance or approval. Additionally, because our product candidates include radio-active isotopes, they will be subject to additional regulation and oversight from the United States Nuclear Regulatory Commission (NRC) and similar bodies in other jurisdictions. Regulatory bodies, such as the FDA, enforce these regulations through periodic inspections. The failure by us or one of our suppliers to comply with applicable statutes and regulations administered by the FDA and other regulatory bodies, or the failure to timely and adequately respond to any adverse inspectional observations or safety issues, could result in, among other things, enforcement actions by the FDA and/or other regulatory bodies.

If any of these actions were to occur, it would harm our reputation and cause our future product sales and profitability to suffer and may prevent us from generating revenue. Furthermore, our key component suppliers may not currently be or may not continue to be in compliance with all applicable regulatory requirements which could result in our failure to produce our product candidates on a timely basis and in the required quantities, if at all.

Even if regulatory clearance or approval of a product candidate is granted, such clearance or approval may be subject to limitations on the intended uses for which a product may be marketed and reduce the potential to successfully commercialize that product and generate revenue from that product. If the FDA determines that the product promotional materials, labeling, training or other marketing or educational activities constitute promotion of an unapproved use, it could request that we or our commercialization partners cease or modify our training or promotional materials or subject us to regulatory enforcement actions. It is also possible that other federal, state or foreign enforcement authorities might take action if they consider such training or other promotional materials to constitute promotion of an unapproved use, which could result in significant fines or penalties under other statutory authorities, such as laws prohibiting false claims for reimbursement.

In addition, we may be required to conduct costly post-market testing and surveillance to monitor the safety or effectiveness of our products, and we must comply with adverse event and pharmacovigilance reporting requirements, including the reporting of adverse events which occur in connection with, and whether or not directly related to, our products. Later discovery of previously unknown problems with our products, including unanticipated adverse events or adverse events of unanticipated severity or frequency, manufacturing problems, or failure to comply with regulatory requirements, may result in changes to labeling, restrictions on such products or manufacturing processes, withdrawal of the products from the market, voluntary or mandatory recalls, a requirement to recall, replace or refund the cost of any product we manufacture or distribute, fines, suspension of regulatory approvals, product seizures, injunctions or the imposition of civil or criminal penalties which would adversely affect our business, operating results and prospects.

Our revenue stream will depend upon third party reimbursement.

The commercial success of our product candidates in both domestic and international markets will be substantially dependent on whether third-party coverage and reimbursement is available for patients that use our products. However, the availability of insurance coverage and reimbursement for newly approved cancer therapies is uncertain, and therefore, third-party coverage may be particularly difficult to obtain even if our products are approved by the FDA as safe and efficacious. Patients using existing approved therapies are generally reimbursed all or part of the product cost by Medicare or other third-party payors. Medicare, Medicaid, health maintenance organizations and other third-party payors are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement of new drugs, and, as a result, they may not cover or provide adequate payment for these products. Submission of applications for reimbursement approval generally does not occur prior to the filing of an NDA for that product and may not be granted until many months after NDA approval. In order to obtain reimbursement arrangements for these products, we or our commercialization partners may have to agree to a net sales price lower than the net sales price we might charge in other sales channels. The continuing efforts of government and third-party payors to contain or reduce the costs of healthcare may limit our revenue. Initial dependence on the commercial success of our products may make our revenues particularly susceptible to any cost containment or reduction efforts.

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Our Business as a “Going Concern”

In expressing an opinion on our financial statements, our auditor has expressed its opinion as to our business being a “going concern”. Such an opinion indicates that the business lacks sufficient liquidity to remain operating as a business entity for the next 12 months. Our ability to continue operations is dependent on the successful execution of our plans, which include the expectation of raising debt or equity based capital, with some additional funding from other traditional financing sources, including term notes, until such time that funds provided by operations are sufficient to fund working capital requirements. We may need to issue additional equity and incur additional liabilities with related parties to sustain our existence although no commitments for funding have been made and no assurance can be made that such commitments will be available.

We are dependent on third parties for manufacturing and marketing of our proposed proprietary products. If we are not able to secure favorable arrangements with such third parties, our business and financial condition would be harmed.

We will not manufacture any of our proposed proprietary products for commercial sale nor do we have the resources necessary to do so. In addition, we currently do not have the capability to market drug products ourselves. We intend to contract with specialized manufacturing companies to manufacture our proposed proprietary products and partner with larger pharmaceutical companies for their commercialization. In connection with our efforts to commercialize our proposed proprietary products, we will seek to secure favorable arrangements with third parties to distribute, promote, market and sell them. If we are not able to secure favorable commercial terms or arrangements with third parties for distribution, marketing, promotion and sales of our proposed proprietary products, we may have to retain promotional and marketing rights and seek to develop the commercial resources necessary to promote or co-promote or co-market certain or all of our proprietary product candidates to the appropriate channels of distribution in order to reach the specific medical market that we are targeting. We may not be able to enter into any partnering arrangements on this or any other basis. If we are not able to secure favorable partnering arrangements, or are unable to develop the appropriate resources necessary for the commercialization of our proposed proprietary products, our business and financial condition could be harmed. In addition, we will have to hire additional employees or consultants, since our current employees have limited experience in these areas. Sufficient employees with relevant skills may not be available to us. Any increase in the number of our employees would increase our expense level, and could have an adverse effect on our financial position.

In addition, we, or our potential commercial partners, may not successfully introduce our proposed proprietary products or they may not achieve acceptance by patients, health care providers and insurance companies. Further, it is possible that we may not be able to secure arrangements to manufacture, market, distribute, promote and sell our proposed proprietary products at favorable commercial terms that would permit us to make a profit. To the extent that corporate partners conduct clinical trials, we may not be able to control the design and conduct of these clinical trials.

We may have conflicts with our partners that could delay or prevent the development or commercialization of our product candidates.

We may have conflicts with our partners, such as conflicts concerning the interpretation of preclinical or clinical data, the achievement of milestones, the interpretation of contractual obligations, payments for services, development obligations or the ownership of intellectual property developed during our collaboration. If any conflicts arise with any of our partners, such partner may act in a manner that is adverse to our best interests. Any such disagreement could result in one or more of the following, each of which could delay or prevent the development or commercialization of our product candidates, and in turn prevent us from generating revenues: unwillingness on the part of a partner to pay us milestone payments or royalties we believe are due under a collaboration; uncertainty regarding ownership of intellectual property rights arising from our collaborative activities, which could prevent us

from entering into additional collaborations; unwillingness by the partner to cooperate in the development or manufacture of the product, including providing us with product data or materials; unwillingness on the part of a partner to keep us informed regarding the progress of its development and commercialization activities or to permit public disclosure of the results of those activities; initiating litigation or alternative dispute resolution options by either party to resolve the dispute; or attempts by either party to terminate the agreement.

Upon commercialization of our product candidates, we may be dependent on third parties to market, distribute and sell them.

Our ability to receive revenues may be dependent upon the sales and marketing efforts of any future co-marketing partners and third-party distributors. At this time, we have not entered into an agreement with any commercialization partner and only plan to do so after the successful completion of Phase II clinical trials and prior to commercialization. If we fail to reach an agreement with any commercialization partner, or if upon reaching such an agreement that partner fails to sell a large volume of our products, it may have a negative impact on our business, financial condition and results of operations.

Our product candidates will face significant competition in the markets for them, and if they are unable to compete successfully, our business will suffer.

Our product candidates face, and will continue to face, intense competition from large pharmaceutical companies, as well as academic and research institutions. We compete in an industry that is characterized by (i) rapid technological change, (ii) evolving industry standards, (iii) emerging competition and (iv) new product introductions. Our competitors have existing products and technologies that will compete with our product candidates and technologies and may develop and commercialize additional products and technologies that will compete with our product candidates and technologies. Because several competing companies and institutions have greater financial resources than us, they may be able to (i) provide broader services and product lines, (ii) make greater investments in research and development, or R&D, and (iii) carry on broader R&D initiatives. Our competitors also have greater development capabilities than we do and have substantially greater experience in undertaking preclinical and clinical testing of product candidates, obtaining regulatory approvals, and manufacturing and marketing pharmaceutical products. They also have greater name recognition and better access to customers than us. Our chief competitors include companies such as Algeta ASA, Bayer Schering Pharma AG, GlaxoSmithKline Plc and Spectrum Pharmaceuticals, Inc.

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Adverse events involving our products may lead the FDA to delay or deny clearance for our product candidates or result in product recalls that could harm our reputation, business and financial results.

Once a product candidate receives FDA clearance or approval, the agency has the authority to require the recall of commercialized products in the event of adverse side effects, material deficiencies or defects in design or manufacture. The authority to require a recall must be based on an FDA finding that there is a reasonable probability that the device would cause serious injury or death. Manufacturers may, under their own initiative, recall a product if any material deficiency in a product is found. A government-mandated or voluntary recall by us or one of our distributors could occur as a result of adverse side effects, impurities or other product contamination, manufacturing errors, design or labeling defects or other deficiencies and issues. Recalls of any of our products would divert managerial and financial resources and have an adverse effect on our financial condition and results of operations. The FDA requires that certain classifications of recalls be reported to FDA within 10 working days after the recall is initiated. Companies are required to maintain certain records of recalls, even if they are not reportable to the FDA. We may initiate voluntary recalls involving our products in the future that we determine do not require notification of the FDA. If the FDA disagrees with our determinations, they could require us to report those actions as recalls. A future recall announcement could harm our reputation with customers and negatively affect our sales. In addition, the FDA could take enforcement action for failing to report the recalls when they were conducted.

Our business depends upon securing and protecting critical intellectual property.

Our commercial success will depend in part on our obtaining and maintaining patent, trade secret, copyright and trademark protection of our technologies in the United States and other jurisdictions, as well as successfully enforcing this intellectual property and defending this intellectual property against third-party challenges. We will only be able to protect our technologies from unauthorized use by third parties to the extent that valid and enforceable intellectual property protection, such as patents or trade secrets law, cover them. In particular, we place considerable emphasis on obtaining patent and trade secret protection for significant new technologies, products and processes. Furthermore, the degree of future protection of our proprietary rights is uncertain because legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep our competitive advantage. Moreover, the degree of future protection of our proprietary rights is uncertain for product candidates that are currently in the early stages of development because we cannot predict which of these product candidates will ultimately reach the commercial market or whether the commercial versions of these product candidates will incorporate proprietary technologies.

Our patent position is highly uncertain and involves complex legal and factual questions.

Accordingly, we cannot predict the breadth of claims that may be allowed or enforced under our patents or in third-party patents. For example, we or our licensors might not have been the first to make the inventions covered by each of our pending patent applications and issued patents; we or our licensors might not have been the first to file patent applications for these inventions; others may independently develop similar or alternative technologies or duplicate any of our technologies; it is possible that none of our pending patent applications or the pending patent applications of our licensors will result in issued patents; our issued patents and issued patents of our licensors may not provide a basis for commercially viable technologies, or may not provide us with any competitive advantages, or may be challenged and invalidated by third parties; and, we may not develop additional proprietary technologies that are patentable.

As a result, our owned and licensed patents may not be valid and we may not be able to obtain and enforce patents and to maintain trade secret protection for the full commercial extent of our technology. The extent to which we are unable to do so could materially harm our business.

We or our licensors have applied for and will continue to apply for patents for certain products. Such applications may not result in the issuance of any patents, and any patents now held or that may be issued may not provide us with adequate protection from competition. Furthermore, it is possible that patents issued or licensed to us may be challenged successfully. In that event, if we have a preferred competitive position because of such patents, such preferred position would be lost. If we are unable to secure or to continue to maintain a preferred position, we could become subject to competition from the sale of generic products. Failure to receive, inability to protect, or expiration of our patents for medical use, manufacture, conjugation and labeling of Ac-225, the antibodies that we license from third parties, or subsequent related filings, would adversely affect our business and operations.

Patents issued or licensed to us may be infringed by the products or processes of others. The cost of enforcing our patent rights against infringers, if such enforcement is required, could be significant, and the Company does not currently have the financial resources to fund such litigation. Further, such litigation can go on for years and the time demands could interfere with our normal operations. There has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the pharmaceutical industry. We may become a party to patent litigation and other proceedings. The cost to us of any patent litigation, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the costs of such litigation more effectively than we can because of their substantially greater financial resources. Litigation may also absorb significant management time.

Unpatented trade secrets, improvements, confidential know-how and continuing technological innovation are important to our scientific and commercial success. Although we attempt to and will continue to attempt to protect our proprietary information through reliance on trade secret laws and the use of confidentiality agreements with our partners, collaborators, employees and consultants and other appropriate means, these measures may not effectively prevent disclosure of our proprietary information, and, in any event, others may develop independently, or obtain access to, the same or similar information.

Certain of our patent rights are licensed to us by third parties. If we fail to comply with the terms of these license agreements, our rights to those patents may be terminated, and we will be unable to conduct our business.

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If we are found to be infringing on patents or trade secrets owned by others, we may be forced to cease or alter our product development efforts, obtain a license to continue the development or sale of our products, and/or pay damages.

Our manufacturing processes and potential products may violate proprietary rights of patents that have been or may be granted to competitors, universities or others, or the trade secrets of those persons and entities. As the pharmaceutical industry expands and more patents are issued, the risk increases that our processes and potential products may give rise to claims that they infringe the patents or trade secrets of others. These other persons could bring legal actions against us claiming damages and seeking to enjoin clinical testing, manufacturing and marketing of the affected product or process. If any of these actions are successful, in addition to any potential liability for damages, we could be required to obtain a license in order to continue to conduct clinical tests, manufacture or market the affected product or use the affected process. Required licenses may not be available on acceptable terms, if at all, and the results of litigation are uncertain. If we become involved in litigation or other proceedings, it could consume a substantial portion of our financial resources and the efforts of our personnel.

Our ability to protect and enforce our patents does not guaranty that we will secure the right to commercialize our patents.

A patent is a limited monopoly right conferred upon an inventor, and his successors in title, in return for the making and disclosing of a new and non-obvious invention. This monopoly is of limited duration but, while in force, allows the patent holder to prevent others from making and/or using its invention. While a patent gives the holder this right to exclude others, it is not a license to commercialize the invention where other permissions may be required for commercialization to occur. For example, a drug cannot be marketed without the appropriate authorization from the FDA, regardless of the existence of a patent covering the product. Further, the invention, even if patented itself, cannot be commercialized if it infringes the valid patent rights of another party.

We rely on confidentiality agreements to protect our trade secrets. If these agreements are breached by our employees or other parties, our trade secrets may become known to our competitors.

We rely on trade secrets that we seek to protect through confidentiality agreements with our employees and other parties. If these agreements are breached, our competitors may obtain and use our trade secrets to gain a competitive advantage over us. We may not have any remedies against our competitors and any remedies that may be available to us may not be adequate to protect our business or compensate us for the damaging disclosure. In addition, we may have to expend resources to protect our interests from possible infringement by others.

We may undertake international operations, which will subject us to risks inherent with operations outside of the United States.

Although we do not have any foreign operations at this time, we intend to seek market clearances in foreign markets that we believe will generate significant opportunities. However, even with the cooperating of a commercialization partner, conducting drug development in foreign countries involves inherent risks, including, but not limited to difficulties in staffing, funding and managing foreign operations; unexpected changes in regulatory requirements; export restrictions; tariffs and other trade barriers; difficulties in protecting, acquiring, enforcing and litigating intellectual property rights; fluctuations in currency exchange rates; and potentially adverse tax consequences.

If we were to experience any of the difficulties listed above, or any other difficulties, any international development activities and our overall financial condition may suffer and cause us to reduce or discontinue our international development and registration efforts.

We may not be successful in hiring and retaining key employees.

Our future operations and successes depend in large part upon the continued service of key members of our senior management team whom we are highly dependent upon to manage our business, in particular, Dr. Dragan Cicic, our Chief Operating Officer and Chief Medical Officer. If any member of our current senior management terminates his or her employment with us, such a departure may have a material adverse effect on our business.

Our future success also depends on our ability to identify, attract, hire or engage, retain and motivate other well-qualified managerial, technical, clinical and regulatory personnel. There can be no assurance that such professionals will be available in the market, or that we will be able to retain existing professionals or meet or continue to meet their compensation requirements. Furthermore, the cost base in relation to such compensation, which may include equity compensation, may increase significantly, which could have a material adverse effect on us. Failure to establish and maintain an effective management team and work force could adversely affect our ability to operate, grow and manage our business.

We do not yet know what the consequences may be on our business of the Patient Protection and Affordable Care Act.

In March 2010, President Obama signed the Patient Protection and Affordable Care Act ("PPACA"), which makes changes that are expected to significantly impact the pharmaceutical industries. One of the principal aims of the PPACA as currently enacted is to expand health insurance coverage to approximately 32 million Americans who are currently uninsured. The consequences of this significant coverage expansion on the sales of our products, once they are developed, are unknown and speculative at this point.

The PPACA contains a number of provisions designed to generate the revenues necessary to fund the coverage expansions among other things. This includes new fees or taxes on certain health-related industries.

The PPACA provisions on comparative clinical effectiveness research extend the initiatives of the American Recovery and Reinvestment Act of 2009, also known as the stimulus package, which included \$1.1 billion in funding to study the comparative effectiveness of health care treatments and strategies. This stimulus funding was designated for, among other things, conducting, supporting or synthesizing research that compares and evaluates the risks and benefits, clinical outcomes, effectiveness and appropriateness of products. The PPACA appropriates additional funding to comparative clinical effectiveness research. Although Congress has indicated that this funding is intended to improve the quality of health care, it remains unclear how the research will impact current Medicare coverage and reimbursement or how new information will influence other third-party payor policies.

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In addition, other legislative changes have been proposed and adopted since the PPACA was enacted. Most recently, on August 2, 2011, the President Obama signed into law the Budget Control Act of 2011, which, among other things, creates the Joint Select Committee on Deficit Reduction to recommend proposals in spending reductions to Congress. The Joint Select Committee did not achieve a targeted deficit reduction of at least \$1.2 trillion for the years 2013 through 2021, which threatened to trigger the legislation's automatic reduction to several government programs, including aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, starting in 2013. Congress passed and President Obama signed, however, the American Taxpayer Relief Act of 2012 which delays these required cuts for one year. We expect that the PPACA, as well as other federal or state health care reform measures that may be adopted in the future, could have a material adverse effect on our industry generally and our ability to successfully commercialize our products or could limit or eliminate our spending on certain development projects. The taxes imposed by the PPACA and the expansion in the government's role in the U.S. healthcare industry may result in decreased profits to us, lower reimbursement by payors for our products, and/or reduced medical procedure volumes, all of which may adversely affect our business, financial condition and results of operations.

Managing our growth as we expand operations may strain our resources.

We expect to need to grow rapidly in order to support additional, larger, and potentially international, pivotal clinical trials of our drug candidates, which will place a significant strain on our financial, managerial and operational resources. In order to achieve and manage growth effectively, we must continue to improve and expand our operational and financial management capabilities. Moreover, we will need to increase staffing and to train, motivate and manage our employees. All of these activities will increase our expenses and may require us to raise additional capital sooner than expected. Failure to manage growth effectively could materially harm our business, financial condition or results of operations.

We may expand our business through the acquisition of rights to new product candidates that could disrupt our business, harm our financial condition and may also dilute current stockholders' ownership interests in our company.

Our business strategy includes expanding our products and capabilities, and we may seek acquisitions of drug candidates, antibodies or technologies to do so. Acquisitions involve numerous risks, including substantial cash expenditures; potentially dilutive issuance of equity securities; incurrence of debt and contingent liabilities, some of which may be difficult or impossible to identify at the time of acquisition; difficulties in assimilating acquired technologies or the operations of the acquired companies; diverting our management's attention away from other business concerns; risks of entering markets in which we have limited or no direct experience; and the potential loss of our key employees or key employees of the acquired companies.

We can make no assurances that any acquisition will result in short-term or long-term benefits to us. We may incorrectly judge the value or worth of an acquired product, company or business. In addition, our future success would depend in part on our ability to manage the rapid growth associated with some of these acquisitions. We cannot assure that we will be able to make the combination of our business with that of acquired products, businesses or companies work or be successful. Furthermore, the development or expansion of our business or any acquired products, business or companies may require a substantial capital investment by us. We may not have these necessary funds or they might not be available to us on acceptable terms or at all. We may also seek to raise funds by selling shares of our preferred or common stock, which could dilute each current stockholder's ownership interest in the Company.

### Risks Related to Ownership of Our Common Stock

Our shareholders will not be able to use the Rule 144 safe harbor until one year after we ceased to be a shell company.

Rule 144 under the Securities Act of 1933 provides a safe harbor under which holders of restricted securities and affiliates of an issuer may resell their securities into the public market. Effective February 15, 2008, Rule 144 was amended to make it unavailable for securities of former shell companies until, among other things, twelve months have elapsed since the former “shell company” has filed “Form 10 information” with the Securities and Exchange Commission. The Company was a “shell company” until December 28, 2012, when it completed its share exchanges with Actinium. On January 2, 2013, we filed a Form 8-K report that was intended to satisfy the “Form 10 information” requirement.

The unavailability of the Rule 144 resale exemption for our securities may adversely affect our ability to attract additional capital through unregistered offerings, and may adversely affect the ability of shareholders who acquired our shares pursuant to unregistered offerings to resell their securities into the public market, all of which could have a material adverse effect on us and our shareholders.

Because we became public by means of a “reverse merger,” we may not be able to attract the attention of major brokerage firms.

Additional risks may exist since we became public through a “reverse merger.” Securities analysts of major brokerage firms may not provide coverage of us since there is little incentive to brokerage firms to recommend the purchase of our common stock. We cannot assure you that brokerage firms will want to conduct any secondary offerings on behalf of our company in the future.

Because we were formerly an SEC-reporting shell company, we are subject to SEC rules on seasoning requirements.

The Company, since it was formerly an SEC-reporting shell company, is also subject to SEC rules which require such companies to trade in the over-the-counter markets (or some other national exchanges) for one full fiscal year and to file all periodic reports with the SEC before seeking to “uplist” to a national securities exchange like NASDAQ or NYSE MKT. The Company can only bypass the one year over-the-counter trading requirement if it can complete a firm commitment underwritten public offering with gross proceeds of at least \$40 million. As a result, our stockholders may find it more difficult to dispose of shares or obtain accurate quotations as to the market value of our common stock.

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The sale of securities by us in any equity or debt financing could result in dilution to our existing stockholders and have a material adverse effect on our earnings.

We believe we need up to \$25 million in cash to finance research and development and to cover our ongoing working capital needs through the first quarter of 2016, and we have not completed efforts to establish a stable recurring source of revenues sufficient to cover our operating costs for the next twelve months. We have financed our operations primarily through sales of stock and the issuance of convertible promissory notes. It is likely that during the next twelve months we will seek to raise capital through the sales of stock and/or issuance of convertible promissory notes in order to expand our level of operations to continue our research and development efforts.

Any sale of common stock by us in a future private placement offering could result in dilution to the existing stockholders as a direct result of our issuance of additional shares of our capital stock. In addition, our business strategy may include expansion through internal growth, by acquiring subscribers email lists, or by establishing strategic relationships with targeted customers and vendor. In order to do so, or to finance the cost of our other activities, we may issue additional equity securities that could dilute our stockholders' stock ownership. We may also assume additional debt and incur impairment losses related to goodwill and other tangible assets if we acquire another company and this could negatively impact our earnings and results of operations.

The filing of our Registration Statement on Form S-1 on March 15, 2013 could have potentially affected our exemption from registration with the SEC for the share exchange that commenced on December 28, 2012, in connection with our exchange of common stock with the shareholders of Actinium Corporation (fka, Actinium Pharmaceuticals, Inc.).

On December 28, 2012, we completed a share exchange, that was approved by 78% of our shareholders (100% of those voting approved the share exchange), with Cactus Ventures, Inc. ("Cactus"), whereby Cactus acquired 21% of the issued and outstanding capital stock of Actinium Corporation from the shareholders of Actinium Corporation (the "Actinium Shareholders") in exchange for the issuance of 4,309,015 shares of Common Stock of the Company to the Actinium Shareholders (the "Share Exchange"). We continued the physical process of exchanging shares with the Actinium Shareholders with closings on March 11, 2013 (with a total of 55.5% shares of Actinium Corporation exchanged) and August 22, 2013 (with a total of 93.7% shares of Actinium Corporation exchanged). On September 25, 2013 all of the remaining Actinium Shareholders shares were exchanged for our common stock pursuant to a merger under Delaware law whereby we merged into our self Actinium Corporation (our subsidiary that was 93.7% owned by us). Under Section 5 of the Securities Act of 1933, unless there is a valid exemption from registration of the securities sold in an offering, all issuers must register non-exempt securities with the SEC. The securities in the Share Exchange were offered and sold in reliance upon exemptions from registration pursuant to Section 4(2) of the Securities Act and Rule 506 of Regulation D ("Regulation D") promulgated under the Securities Act. On March 15, 2013, we filed a Registration Statement on Form S-1 (the "Registration Statement") with SEC to register shares of certain selling shareholders who had purchased shares of the Company in various private placements (the "2013 offering"). If the 2013 Offering were deemed integrated with the Share Exchange we may not be able to rely upon the exemptions from registration pursuant to Section 4(2) of the Securities Act and/or Regulation D, since the filing of the Registration Statement may be deemed general solicitation, which is prohibited for reliance on an exemption from registration under Regulation D. As a result, any Actinium Shareholder who exchanged his or her Actinium Corporation shares for the Company shares until September 25, 2013 may potentially be entitled to bring suit against the Company for offering a non-exempt security without registering it, and such investor may be able to obtain rescission with interest, or damages if the investor sold the securities for less than he or she purchased them.

Future sales of our common stock in the public market could lower the price of our common stock and impair our ability to raise funds in future securities offerings.

Future sales of a substantial number of shares of our common stock in the public market, or the perception that such sales may occur, could adversely affect the then prevailing market price of our common stock and could make it more difficult for us to raise funds in the future through a public offering of our securities. We believe we need up to \$25 million in cash to finance research and development and to cover our ongoing working capital needs through the first quarter of 2016, and we have not completed efforts to establish a stable recurring source of revenues sufficient to cover our operating costs for the next twelve months. We have financed our operations primarily through sales of stock and the issuance of convertible promissory notes. It is likely that during the next twelve months we will continue to finance our operations through sales of stock and/or issuance of convertible promissory notes.

Our Common Stock is quoted on the OTCQB which may have an unfavorable impact on our stock price and liquidity.

Our common stock is quoted on the OTCQB, which is a significantly more limited trading market than the New York Stock Exchange or The NASDAQ Stock Market. The quotation of the Company's shares on the OTCQB may result in a less liquid market available for existing and potential stockholders to trade shares of our common stock, could depress the trading price of our common stock and could have a long-term adverse impact on our ability to raise capital in the future.

There is limited liquidity on the OTCQB which may result in stock price volatility and inaccurate quote information.

When fewer shares of a security are being traded on the OTCQB, volatility of prices may increase and price movement may outpace the ability to deliver accurate quote information. Due to lower trading volumes in shares of our common stock, there may be a lower likelihood of one's orders for shares of our common stock being executed, and current prices may differ significantly from the price one was quoted at the time of one's order entry.

Our common stock is extremely thinly traded, so you may be unable to sell at or near asking prices or at all if you need to sell your shares to raise money or otherwise desire to liquidate your shares.

Currently, the Company's common stock is quoted in the OTCQB and future trading volume may be limited by the fact that many major institutional investment funds, including mutual funds, as well as individual investors follow a policy of not investing in OTCQB stocks and certain major brokerage firms restrict their brokers from recommending OTCQB stocks because they are considered speculative, volatile and thinly traded. The OTCQB market is an inter-dealer market much less regulated than the major exchanges and our common stock is subject to abuses, volatility and shorting. Thus, there is currently no broadly followed and established trading market for the Company's common stock. An established trading market may never develop or be maintained. Active trading markets generally result in lower price volatility and more efficient execution of buy and sell orders. Absence of an active trading market reduces the liquidity of the shares traded there.

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Our Common Stock is subject to price volatility unrelated to our operations.

The trading volume of our common stock has been and may continue to be extremely limited and sporadic. As a result of such trading activity, the quoted price for the Company's common stock on the OTCQB may not necessarily be a reliable indicator of its fair market value. Further, if we cease to be quoted, holders would find it more difficult to dispose of our common stock or to obtain accurate quotations as to the market value of the Company's common stock and as a result, the market value of our common stock likely would decline.

We expect the market price of our Common Stock to fluctuate substantially due to a variety of factors, including market perception of our ability to achieve our planned growth, quarterly operating results of other companies in the same industry, trading volume in our common stock, changes in general conditions in the economy and the financial markets or other developments affecting the Company's competitors or the Company itself. In addition, the OTCQB is subject to extreme price and volume fluctuations in general. This volatility has had a significant effect on the market price of securities issued by many companies for reasons unrelated to their operating performance and could have the same effect on our common stock.

We are an "emerging growth company" under the JOBS Act of 2012 and we cannot be certain if the reduced disclosure requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company", as defined in the Jumpstart Our Business Startups Act of 2012 ("JOBS Act"), and we may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including, but not limited to, not being required to comply with the auditor attestation requirements of section 404 of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

In addition, Section 107 of the JOBS Act also provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We are choosing to take advantage of the extended transition period for complying with new or revised accounting standards.

We will remain an "emerging growth company" for up to five years, although we will lose that status sooner if our revenues exceed \$1 billion, if we issue more than \$1 billion in non-convertible debt in a three year period, or the date on which the issuer qualifies as a large accelerated filer under SEC rules.

Our status as an "emerging growth company" under the JOBS Act of 2012 may make it more difficult to raise capital as and when we need it.

Because of the exemptions from various reporting requirements provided to us as an "emerging growth company" and because we will have an extended transition period for complying with new or revised financial accounting standards, we may be less attractive to investors and it may be difficult for us to raise additional capital as and when we need it. Investors may be unable to compare our business with other companies in our industry if they believe that our financial accounting is not as transparent as other companies in our industry. If we are unable to raise additional capital as and when we need it, our financial condition and results of operations may be materially and adversely

affected.

We are subject to penny stock regulations and restrictions and you may have difficulty selling shares of our common stock.

We are subject to the provisions of Section 15(g) and Rule 15g-9 of the Exchange Act, commonly referred to as the “penny stock rule.” Section 15(g) sets forth certain requirements for transactions in penny stock, and Rule 15g-9(d) incorporates the definition of “penny stock” that is found in Rule 3a51-1 of the Exchange Act. The SEC generally defines a penny stock to be any equity security that has a market price less than \$5.00 per share, subject to certain exceptions. We will be subject to the SEC’s penny stock rules.

Since our Common Stock is deemed to be penny stock, trading in the shares of our common stock is subject to additional sales practice requirements on broker-dealers who sell penny stock to persons other than established customers and accredited investors. “Accredited investors” are persons with assets in excess of \$1,000,000 (excluding the value of such person’s primary residence) or annual income exceeding \$200,000 or \$300,000 together with their spouse. For transactions covered by these rules, broker-dealers must make a special suitability determination for the purchase of such security and must have the purchaser’s written consent to the transaction prior to the purchase. Additionally, for any transaction involving a penny stock, unless exempt the rules require the delivery, prior to the first transaction of a risk disclosure document, prepared by the SEC, relating to the penny stock market. A broker-dealer also must disclose the commissions payable to both the broker-dealer and the registered representative and current quotations for the securities. Finally, monthly statements must be sent disclosing recent price information for the penny stocks held in an account and information to the limited market in penny stocks. Consequently, these rules may restrict the ability of broker-dealer to trade and/or maintain a market in our common stock and may affect the ability of the Company’s stockholders to sell their shares of common stock.

There can be no assurance that our shares of common stock will qualify for exemption from the Penny Stock Rule. In any event, even if our common stock was exempt from the Penny Stock Rule, we would remain subject to Section 15(b)(6) of the Exchange Act, which gives the SEC the authority to restrict any person from participating in a distribution of penny stock if the SEC finds that such a restriction would be in the public interest.

Because we do not intend to pay dividends, stockholders will benefit from an investment in our Common Stock only if it appreciates in value.

We have never declared or paid any cash dividends on our Preferred Stock or Common Stock. For the foreseeable future, it is expected that earnings, if any, generated from our operations will be used to finance the growth of our business, and that no dividends will be paid to holders of the Company’s Preferred Stock or Common Stock. As a result, the success of an investment in our Preferred Stock or Common Stock will depend upon any future appreciation in its value. There is no guarantee that our Preferred Stock or Common Stock will appreciate in value.

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Certain provisions of our Articles of Incorporation and Bylaws and Delaware law make it more difficult for a third party to acquire us and make a takeover more difficult to complete, even if such a transaction were in the stockholders' interest.

Our Articles of Incorporation and Bylaws and certain provisions of Delaware State law could have the effect of making it more difficult or more expensive for a third party to acquire, or from discouraging a third party from attempting to acquire, control of the Company, even when these attempts may be in the best interests of our stockholders. For example, we are governed by Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A "business combination" includes mergers, asset sales or other transactions resulting in a financial benefit to the stockholder. An "interested stockholder" is a person who, together with affiliates and associates, owns, or within three years, did own, 15% or more of the corporation's outstanding voting stock. These provisions may have the effect of delaying, deferring or preventing a change in our control.

Compliance with the reporting requirements of federal securities laws can be expensive.

We are subject to the information and reporting requirements of the Exchange Act and other federal securities laws, and the compliance obligations of the Sarbanes-Oxley Act. The costs of preparing and filing annual and quarterly reports and other information with the SEC and furnishing audited reports to stockholders are substantial. In addition, we will incur substantial expenses in connection with the preparation of registration statements and related documents with respect to the registration of resale of the Common Stock.

Applicable regulatory requirements, including those contained in and issued under the Sarbanes-Oxley Act, may make it difficult for us to retain or attract qualified officers and directors, which could adversely affect the management of its business and its ability to obtain or retain listing of our Common Stock.

We may be unable to attract and retain those qualified officers, directors and members of board committees required to provide for effective management because of the rules and regulations that govern publicly held companies, including, but not limited to, certifications required by principal executive officers. The enactment of the Sarbanes-Oxley Act has resulted in the issuance of a series of related rules and regulations and the strengthening of existing rules and regulations by the SEC, as well as the adoption of new and more stringent rules by the stock exchanges. The perceived increased personal risk associated with these changes may deter qualified individuals from accepting roles as directors and executive officers.

Further, some of these changes heighten the requirements for board or committee membership, particularly with respect to an individual's independence from the corporation and level of experience in finance and accounting matters. We may have difficulty attracting and retaining directors with the requisite qualifications. If we are unable to attract and retain qualified officers and directors, the management of our business and our ability to obtain or retain listing of our shares of Common Stock on any stock exchange (assuming we elect to seek and are successful in obtaining such listing) could be adversely affected.

If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results or detect fraud. Investors could lose confidence in our financial reporting and this may decrease the trading price of our Common Stock.

We must maintain effective internal controls to provide reliable financial reports and detect fraud. We have been assessing our internal controls to identify areas that need improvement. Failure to maintain an effective system of

internal controls could harm our operating results and cause investors to lose confidence in our reported financial information. Any such loss of confidence would have a negative effect on the trading price of our Common Stock.

At December 31, 2012, management concluded that our disclosure controls and procedures and our internal control over financial reporting were not effective due to several material weaknesses. To address these weaknesses, management is seeking a full time Chief Financial Officer who is familiar with the public company reporting rules. The Company in December 2012 also established an Audit Committee to address these issues. In September 2013, we hired a VP of Finance who has served in a variety of core finance and business development functions over the span of 12 years at three NASDAQ listed biopharmaceutical companies who is being tasked with remediating such weaknesses. We expect to remediate such weaknesses by the end of the fiscal year 2013. In May 2013, we also engaged an outside third party financial reporting consulting firm to assist with our public company reporting requirements. We expect to incur costs of \$200,000 in connection with our remediation plan.

The price of our common stock may become volatile, which could lead to losses by investors and costly securities litigation.

The trading price of our Common Stock may be highly volatile and could fluctuate in response to factors such as:

- actual or anticipated variations in our operating results;
- announcements of developments by us or our competitors;
- the timing of IND and/or NDA approval, the completion and/or results of our clinical trials;
- regulatory actions regarding our products;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- adoption of new accounting standards affecting the our industry;
- additions or departures of key personnel;
- introduction of new products by us or our competitors;
- sales of the our Common Stock or other securities in the open market; and
- other events or factors, many of which are beyond our control.

The stock market is subject to significant price and volume fluctuations. In the past, following periods of volatility in the market price of a company's securities, securities class action litigation has often been initiated against such a company. Litigation initiated against us, whether or not successful, could result in substantial costs and diversion of our management's attention and Company resources, which could harm our business and financial condition.

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### CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward looking statements that involve risks and uncertainties, principally in the sections entitled “Description of Business,” “Risk Factors,” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” All statements other than statements of historical fact contained in this prospectus, including statements regarding future events, our future financial performance, business strategy and plans and objectives of management for future operations, are forward-looking statements. We have attempted to identify forward-looking statements by terminology including “anticipates,” “believes,” “can,” “continue,” “could,” “estimates,” “expects,” “intend,” “plans,” “potential,” “predicts,” “should,” or “will” or the negative of these terms or other comparable terminology. Although we do not make forward looking statements unless we believe we have a reasonable basis for doing so, we cannot guarantee their accuracy. These statements are only predictions and involve known and unknown risks, uncertainties and other factors, including the risks outlined under “Risk Factors” or elsewhere in this prospectus, which may cause our or our industry’s actual results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time and it is not possible for us to predict all risk factors, nor can we address the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause our actual results to differ materially from those contained in any forward-looking statements. All forward-looking statements included in this document are based on information available to us on the date hereof, and we assume no obligation to update any such forward-looking statements.

You should not place undue reliance on any forward-looking statement, each of which applies only as of the date of this prospectus. Before you invest in our securities, you should be aware that the occurrence of the events described in the section entitled “Risk Factors” and elsewhere in this prospectus could negatively affect our business, operating results, financial condition and stock price. Except as required by law, we undertake no obligation to update or revise publicly any of the forward-looking statements after the date of this prospectus to conform our statements to actual results or changed expectations.

### DIVIDEND POLICY

We plan to retain any earnings for the foreseeable future for our operations. We have never paid any dividends on our common stock and do not anticipate paying any cash dividends in the foreseeable future. Any future determination to pay cash dividends will be at the discretion of our Board of Directors and will depend on our financial condition, operating results, capital requirements and such other factors as our Board of Directors deems relevant. In addition, our credit facility restricts our ability to pay dividends.

### USE OF PROCEEDS

We will not receive any proceeds from the sale of the common stock by the selling stockholders. However, we may receive up to approximately \$14.8 million in the aggregate upon the exercise of the warrants if the holders exercise them for cash. However, as these warrants also include a cashless exercise feature there can be no assurance that we will receive any capital from the exercise of such warrants. The registration of common stock pursuant to this prospectus does not necessarily mean that any of those shares will ultimately be offered or sold by the selling stockholders. We intend to use the proceeds received from any cash exercise of the warrants for working capital and general corporate purposes.

### DILUTION

We are not selling any of the shares of our common stock in this offering. All of the shares sold in this offering will be held by the selling stockholders at the time of the sale, so that no dilution will result from the sale of the shares.

### PENNY STOCK CONSIDERATIONS

Our common stock will be a penny stock, therefore, trading in our securities is subject to penny stock considerations. Broker-dealer practices in connection with transactions in “penny stocks” are regulated by certain penny stock rules adopted by the SEC.

Penny stocks generally are equity securities with a price of less than \$5.00 (other than securities registered on certain national securities exchanges or quoted on the NASDAQ system). Penny stock rules require a broker-dealer, prior to a transaction in a penny stock not otherwise exempt from the rules, to deliver a standardized risk disclosure document that provides information about penny stocks and the risks in the penny stock market. The broker-dealer also must provide the customer with current bid and offer quotations for the penny stock, the compensation of the broker-dealer and its salesperson in the transaction, and monthly account statements showing the market value of each penny stock held in the customer’s account. The broker-dealer must also make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser’s written agreement to the transaction. These requirements may have the effect of reducing the level of trading activity, if any, in the secondary market for a security that becomes subject to the penny stock rules. The additional burdens imposed upon broker-dealers by such requirements may discourage broker-dealers from effecting transactions in our securities, which could severely limit their market price and liquidity of our securities. These requirements may restrict the ability of broker-dealers to sell our common stock and may affect your ability to resell our common stock.

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## SELLING STOCKHOLDERS

The common shares being offered for resale by the selling stockholders consist of 25,735,497 shares of our common stock that are issued and outstanding, including up to (i) 16,162,319 shares of common stock, par value \$0.001 per share, held by the selling stockholders, (ii) 1,559,438 shares of our common stock issuable upon exercise of Series B warrants held by the selling stockholders at an exercise price of \$2.48 per share, (iii) 2,673,652 shares of our common stock issuable upon exercise of the Stock Offering warrants held by the selling stockholders at an exercise price of \$0.78 per share, (iv) 3,755,562 shares of our common stock issuable upon exercise of consulting firm warrants held by the selling stockholders at an exercise price of \$0.01 per share, (v) 1,120,499 shares of our common stock issuable upon exercise of placement agent warrants held by the selling stockholders at an exercise price of \$0.78 per share, (vi) 464,027 shares of our common stock issuable upon exercise of placement agent warrants held by the selling stockholders at an exercise price of \$2.48 per share. Our common stock issuable upon the exercise of Series A Warrants are not being offered because they have been either exercised and converted into common stock or expired as of May 28, 2013. These holders include investors in private placement and notes offerings of our subsidiary Actinium that closed (A) on December 19, 2012 for the sale of units consisting of an aggregate of (i) 3,118,968 shares of common stock, (ii) Series A warrants to purchase 3,118,968 shares of common stock, and (iii) Series B warrants to purchase up to 1,559,484 shares of common stock, (B) during 2011 and January 2012 for the sale of units consisting of an aggregate of (i) 15,922,760 shares of common stock (after conversion of preferred stock and dividends), and (ii) Stock Offering warrants to purchase 2,682,140 shares of common stock, and (C) on December 27, 2011, whereby Actinium completed a private offering of 8% Senior Subordinated Unsecured Convertible Promissory Notes in the amount of \$900,000 and received net proceeds of \$750,000, and the notes have converted to 1,148,275 shares of common stock.

The following table sets forth certain information regarding the selling stockholders and the shares offered by them in this prospectus. Each selling stockholder's percentage of ownership is based upon 23,656,583 shares of common stock outstanding as of October 25, 2013 and all securities which the person has the right to acquire within 60 days through the exercise of any option or warrant or through the conversion of a convertible security.

| Name of Selling Stockholder  | Shares Beneficially Owned prior to Offering | Percentage Beneficially Owned prior to Offering (%) | Shares to Offer (1) | Percentage Beneficially Owned after Offering | Percentage Beneficially Owned After Offering |
|--|---|---|---------------------|--|--|
| Adam Baker   | 111,300                                     | *   | 111,300 (1 )        | -  | -  |
| Alan Aranha  | --  | *   | 22,533 (2 )         | -  | -  |
| Albert H. Konetzni, Jr. and Shirley A. Konetzni (JTEN)                         | 94,764                                      | *   | 94,764 (3 )         | -  | -  |
| Alexander Sepulveda IRA (Sterne Agee & Leach Inc. C/F Alexander Sepulveda IRA) | 90,817                                      | *   | 90,817 (4 )         | -  | -  |
| Amrosan LLC  | 99,617                                      | *   | 475,173 (5 )        | -  | -  |
| Andrew Bellamy   | 55,409                                      | *   | 55,409 (6 )         | -  | -  |

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|   |         |        |   |         |       |   |   |
|---|---------|--------|---|---------|-------|---|---|
| Andrew Chandler   | 43,073  | *      |   | 43,073  | (7 )  | - | - |
| Andrew Charles Good & Fiona McPhee (JTWROS)   | 27,244  | *      |   | 27,244  | (8 )  | - | - |
| Anthony D'Amato   | 64,198  | *      |   | 64,198  | (9 )  | - | - |
| Aparna Beeram   | 30,657  | *      |   | 30,657  | (10 ) | - | - |
| Benjamin Hasty  | 103,434 | *      |   | 103,434 | (11 ) | - | - |
| Billy W. Harris   | 22,704  | *      |   | 22,704  | (12 ) | - | - |
| Bioche Asset Management LLC   | --      | *      |   | 721,068 | (13 ) | - | - |
| Bohdan Chaban   | 85,588  | *      |   | 85,588  | (14 ) | - | - |
| Brendan Sullivan  | 33,129  | *      |   | 33,129  | (15 ) | - | - |
| Brian E. Jones and Peggy A. Jones (JTWROS)  | 342,351 | 1.4472 | % | 342,351 | (16 ) | - | - |
| Brian Miller IRA, (Robert W. Baird & Co., Inc. TTEE, FBO Brian Miller IRA Acct # 6144 2867) | 173,400 | *      |   | 173,400 | (17 ) | - | - |
| Brian Murray  | 3,636   | *      |   | 3,636   | (18 ) | - | - |
| Brian Robertson   | 27,116  | *      |   | 105,983 | (19 ) | - | - |
| Bruce Porter  | 30,420  | *      |   | 30,420  | (20 ) | - | - |
| Bruno Donnou  | 90,817  | *      |   | 90,817  | (21 ) | - | - |
| Bruno J. Casatelli  | 137,380 | *      |   | 137,380 | (22 ) | - | - |

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|  |         |        |   |         |       |   |   |
|--|---------|--------|---|---------|-------|---|---|
| Buff Trust   | 274,091 | 1.1586 | % | 274,091 | (23 ) | - | - |
| Burton Mark Paull  | 86,699  | *      |   | 86,699  | (24 ) | - | - |
| C.S. Leslie, Malcolm   | 75,682  | *      |   | 75,682  | (25 ) | - | - |
| Carl F. Muckenhin  | 43,349  | *      |   | 43,349  | (26 ) | - | - |
| Carnegie Hill Asset Partners                                 | --      | *      |   | 353,023 | (27 ) | - | - |
| Chad A. Elms   | 121,120 | *      |   | 121,120 | (28 ) | - | - |
| Charles J. Magolske  | 17,339  | *      |   | 17,339  | (29 ) | - | - |
| Charles L. Vinn  | 37,840  | *      |   | 37,840  | (30 ) | - | - |
| Charles W. Ganse   | 42,409  | *      |   | 42,409  | (31 ) | - | - |
| Chris Marshall   | 18,163  | *      |   | 18,163  | (32 ) | - | - |
| Chris McHugh   | 237,491 | *      |   | 237,491 | (33 ) | - | - |
| Sterne Agee & Leach Inc C/F                                  |         |        |   |         |       |   |   |
| Christina G. Einstein IRA                                    | 85,784  | *      |   | 85,784  | (34 ) | - | - |
| Christopher J. Mehos   | 85,784  | *      |   | 85,784  | (35 ) | - | - |
| Christopher Kane   | 1,435   | *      |   | 1,435   | (36 ) | - | - |
| Christopher M. Johnston                                      | 43,349  | *      |   | 43,349  | (37 ) | - | - |
| Christopher Oppito   | 26,355  | *      |   | 26,355  | (38 ) | - | - |
| Clayton A. and Stephanie S., Reed                            | 43,349  | *      |   | 43,349  | (39 ) | - | - |
| Clint N. Duty  | 86,699  | *      |   | 86,699  | (40 ) | - | - |
| Conor Gilligan   | 7,567   | *      |   | 7,567   | (41 ) | - | - |
| Conor Stanley  | 138,005 | *      |   | 138,005 | (42 ) | - | - |
| Craig Bonn   | 3,382   | *      |   | 3,382   | (43 ) | - | - |
| Daniel P. Wikel  | 86,699  | *      |   | 86,699  | (44 ) | - | - |
| Daniel W. Kuhar  | 2,392   | *      |   | 2,392   | (45 ) | - | - |
| David A. Kuhar   | 26,009  | *      |   | 26,009  | (46 ) | - | - |
| David Cantwell   | 181,176 | *      |   | 181,176 | (47 ) | - | - |
| David Hicks Pension Fund                                     | 18,163  | *      |   | 18,163  | (48 ) | - | - |
| David Patterson  | 22,704  | *      |   | 22,704  | (49 ) | - | - |
| David W. Frost   | 241,228 | *      |   | 241,228 | (50 ) | - | - |
| David W. Frost IRA - Sterne Agee & Leach Inc. C/F            | 6,052   | *      |   | 6,052   | (51 ) | - | - |
| Dean L. Fox  | 346,800 | 1.4660 | % | 346,800 | (52 ) | - | - |
| Deborah L. Katz  | 42,663  | *      |   | 42,663  | (53 ) | - | - |
| Denis O'Brien  | 867,043 | 3.6651 | % | 867,043 | (54 ) | - | - |
| Dianne M. Scheck   | 173,400 | *      |   | 173,400 | (55 ) | - | - |
| Donald K. Coffey   | 37,840  | *      |   | 37,840  | (56 ) | - | - |
| Douglas A. Alcott  | 37,840  | *      |   | 37,840  | (57 ) | - | - |
| Douglas E. Eckert  | 43,349  | *      |   | 43,349  | (58 ) | - | - |
| Douglas J Amos & Carol A. Amos (JTWROS)                      | 67,655  | *      |   | 67,655  | (59 ) | - | - |
| Douglas R. Holroyd & Jill K. Holroyd (JTWROS)                | 67,854  | *      |   | 67,854  | (60 ) | - | - |
| Dr. John M. Ferriter   | 42,891  | *      |   | 42,891  | (61 ) | - | - |
| Dr. Richard & Anita Matter (JTWROS)                          | 94,551  | *      |   | 94,551  | (62 ) | - | - |
| Earl R. Richardson   | 130,049 | *      |   | 130,049 | (63 ) | - | - |
| Edward C. Moore  | 60,560  | *      |   | 60,560  | (64 ) | - | - |
| Edwin A. Schermerhorn Roth IRA -Sterne Agee & Leach Inc. C/F | 37,840  | *      |   | 37,840  | (65 ) | - | - |

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|  |         |          |         |       |   |   |
|--|---------|----------|---------|-------|---|---|
| Eitner Family Trust                          | --      | *        | 174,634 | (66 ) |   |   |
| Eliana Cardenas and Roberto Mendez, (JTWROS) | 43,136  | *        | 43,136  | (67 ) | - | - |
| Enguerrand de Ponteves                       | 24,163  | *        | 24,163  | (68 ) | - | - |
| Eugene E. Eubank                             | 37,840  | *        | 37,840  | (69 ) | - | - |
| Evan Stern                                   | 287     | *        | 287     | (70 ) | - | - |
| Francis Smith                                | 30,548  | *        | 30,548  | (71 ) | - | - |
| Frank Davis                                  | 43,349  | *        | 43,349  | (72 ) | - | - |
| Garnett Trust                                | 274,091 | 1.1586 % | 274,091 | (73 ) | - | - |
| Gary M. Higdem                               | 37,840  | *        | 37,840  | (74 ) | - | - |
| Gary A. Washauer                             | 43,349  | *        | 43,349  | (75 ) | - | - |

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| Gene R. Carlson & Cynthia L<br>Carlson ( JTWROS)   | 51,253  | *      |   | 51,253    | (76 )  | - | - |
| George Elefther & Karin Alexa<br>Elefther (JTWROS)                                       | 75,682  | *      |   | 75,682    | (77 )  | - | - |
| Sterne Agee & Leach Inc. C/F<br>George Elefther IRA                                      | 213,281 | *      |   | 213,281   | (78 )  | - | - |
| George M Zelinski  | 233,945 | *      |   | 233,945   | (79 )  | - | - |
| Gerhard Plaschka   | 47,235  | *      |   | 47,235    | (80 )  | - | - |
| Gonzalo A Salgueiro  | 102,830 | *      |   | 102,830   | (81 )  | - | - |
| Grant L. Hanby   | 37,840  | *      |   | 37,840    | (82 )  | - | - |
| Gregory F. Sullivan MD & Gene M.<br>Sullivan (JTWROS)                                    | 168,280 | *      |   | 168,280   | (83 )  | - | - |
| Harold O. LaFlash and Greta G.<br>LaFlash (JTWROS)                                       | 43,349  | *      |   | 43,349    | (84 )  | - | - |
| Harvest Financial Services Ltd. as<br>Qualifying Fund Manager of the<br>Chris McHugh ARF | 212,131 | *      |   | 212,131   | (85 )  | - | - |
| Helmut Koehler   | 45,409  | *      |   | 45,409    | (86 )  | - | - |
| Hicks Foods Ltd.   | 29,970  | *      |   | 29,970    | (87 )  | - | - |
| Hochman Family LLP   | 27,244  | *      |   | 27,244    | (88 )  | - | - |
| Hugh J. Marasa Jr.   | 25,306  | *      |   | 25,306    | (89 )  | - | - |
| Hugh Regan   | 44,045  | *      |   | 44,045    | (90 )  | - | - |
| Ian H. Murray  | 400,489 | 1.6929 | % | 400,489   | (91 )  | - | - |
| Immotrend Inc.   | 408,772 | 1.7279 | % | 408,772   | (92 )  | - | - |
| Island Capital Nominees Ltd.   | 416,250 | 1.7595 | % | 416,250   | (93 )  | - | - |
| J. Brian Boulter   | 151,362 | *      |   | 151,362   | (94 )  | - | - |
| James Ahern  | 128,436 | *      |   | 1,001,604 | (95 )  | - | - |
| James G. Markey and Carolyn L.<br>Markey (JTWROS)  | 15,135  | *      |   | 15,135    | (96 )  | - | - |
| James L. Payne   | 60,545  | *      |   | 60,545    | (97 )  | - | - |
| James M. Wimberly  | 43,349  | *      |   | 43,349    | (98 )  | - | - |
| James Payne  | 102,507 | *      |   | 102,507   | (99 )  | - | - |
| James Provenzano   | 531     | *      |   | 531       | (100 ) | - | - |
| James T. Dietz & Barbara J. Dietz<br>(JTWROS)  | 22,704  | *      |   | 22,704    | (101 ) | - | - |
| Holly J. Thompson  | 1,913   | *      |   | 1,913     | (102 ) | - | - |
| James W. Lees  | 103,909 | *      |   | 103,909   | (103 ) | - | - |
| Jan J. Laskowski and Sofia M.<br>Laskowski (JTWROS)                                      | 86,699  | *      |   | 86,699    | (104 ) | - | - |
| Jared Sullivan & Shannan Sullivan<br>(JTWROS)  | 32,253  | *      |   | 32,253    | (105 ) | - | - |
| Jason Russo  | 10,789  | *      |   | 10,789    | (106 ) | - | - |
| Jeff C. Kleinschmidt   | 151,362 | *      |   | 151,362   | (107 ) | - | - |
| Jeff L. Stevens  | 90,817  | *      |   | 90,817    | (108 ) | - | - |
| Sterne Agee & Leach Inc. C/F<br>Jimmy R. Hasley IRA                                      | 243,980 | *      |   | 243,980   | (109 ) | - | - |
| John Pimpinella & Bernadette<br>Mueller (JTWROS)   | 17,339  | *      |   | 17,339    | (110 ) | - | - |
|  | 42,663  | *      |   | 42,663    | (111 ) | - | - |

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|  |         |        |   |         |        |   |   |
|--|---------|--------|---|---------|--------|---|---|
| Sterne Agee & Leach Inc. C/F John H. Welsh Roth IRA              |         |        |   |         |        |   |   |
| John L. Sommer IRA, SAL C/F                                      | 260,099 | 1.0995 | % | 260,099 | (112 ) | - | - |
| John M. Duffy  | 43,162  | *      |   | 43,162  | (113 ) | - | - |
| John M. Harrington   | --      | *      |   | 15,022  | (114 ) |   |   |
| John Malfer & Toni Malfer (JTWROS)                               |         |        |   |         |        |   |   |
|  | 121,120 | *      |   | 121,120 | (115 ) | - | - |
| John W. Eilers, Jr   | 43,136  | *      |   | 43,136  | (116 ) | - | - |
| John-Paul Eitner   | 12,738  | *      |   | 91,605  | (117 ) | - | - |
| Joseph Fedorko   | 4,306   | *      |   | 4,306   | (118 ) | - | - |
| Joseph P. Acquavella   | 7,567   | *      |   | 7,567   | (119 ) | - | - |
| Joseph Rozof   | 5,550   | *      |   | 5,550   | (120 ) | - | - |
| Joseph T. Oppito   | 26,009  | *      |   | 26,009  | (121 ) | - | - |
| Justin McKenna   | 22,702  | *      |   | 22,702  | (122 ) | - | - |
| Keith A. Zar   | 124,539 | *      |   | 124,539 | (123 ) | - | - |
| Ken. R. Klimitchek   | 85,325  | *      |   | 85,325  | (124 ) | - | - |
| Kenneth G. Williamson  | 102,507 | *      |   | 102,507 | (125 ) | - | - |
| Kenneth N. Larsen Trust U/A/D 9/25/09, Kenneth N. Larsen Trustee |         |        |   |         |        |   |   |
|  | 86,699  | *      |   | 86,699  | (126 ) | - | - |
| Kevin J. Poor  | 21,796  | *      |   | 21,796  | (127 ) | - | - |
| Kevin Lynch  | 12,108  | *      |   | 12,108  | (128 ) | - | - |
| Kevin O'Connor   | 22,913  | *      |   | 22,913  | (129 ) | - | - |
| Kevin P. McCarthy  | 189,529 | *      |   | 189,529 | (130 ) | - | - |
| Kevin R. Wilson  | 17,868  | *      |   | 62,935  | (131 ) | - | - |

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|--|---------|--------|---|---------|--------|---|---|
| Kimberly J. Macurdy IRA - Sterne Agee & Leach Inc. C/F                       | 22,702  | *      |   | 22,702  | (132 ) | - | - |
| Lachewitz Jr. IRA (Sterne Agee & Leach Inc. C/F Walter J. Lachewitz Jr. IRA) | 37,840  | *      |   | 37,840  | (133 ) | - | - |
| Laidlaw Holdings Limited   | 86,612  | *      |   | 86,612  | (134 ) | - | - |
| Lance Ziaks & Janet Ziaks JTWROS   | 16,963  | *      |   | 16,963  | (135 ) | - | - |
| Lark Enterprises, Ltd.   | 85,325  | *      |   | 85,325  | (136 ) | - | - |
| Larry G. Majerus   | 64,129  | *      |   | 64,129  | (137 ) | - | - |
| Laurence B. Jacobs   | 36,327  | *      |   | 36,327  | (138 ) | - | - |
| Lindsay Aranha   | --      | *      |   | 15,022  | (139 ) |   |   |
| Jon H. Lytle and Carrie M. Lytle (JTWROS)                                    | 85,325  | *      |   | 85,325  | (140 ) | - | - |
| Gary J Mabie, Janelle L Mabie (JTWROS)                                       | 18,509  | *      |   | 18,509  | (141 ) | - | - |
| Maree Casatelli  | 9,081   | *      |   | 9,081   | (142 ) | - | - |
| Maree Casatelli SEP IRA - Sterne Agee & Leach Inc. C/F Maree                 | 13,621  | *      |   | 13,621  | (143 ) | - | - |
| Mark A. Maki & Sara L. Maki (JTWROS)   | 75,682  | *      |   | 75,682  | (144 ) | - | - |
| Mark C. Jasek  | 22,704  | *      |   | 22,704  | (145 ) | - | - |
| Mark Suwyn Roth IRA - Sterne Agee & Leach Inc. C/F                           | 225,317 | *      |   | 225,317 | (146 ) | - | - |
| Marvin S. Rosen  | 46,818  | *      |   | 46,818  | (147 ) | - | - |
| Matthew Eitner   | 128,436 | *      |   | 826,970 | (148 ) | - | - |
| Matthew Reid   | 86,699  | *      |   | 86,699  | (149 ) | - | - |
| Michael Ahern  | 2,145   | *      |   | 2,145   | (150 ) | - | - |
| Michael B. Carroll & Sheila J. Carroll (JTWROS)                              | 471,515 | 1.9932 | % | 471,515 | (151 ) | - | - |
| Michael D. Watson  | 31,794  | *      |   | 31,794  | (152 ) | - | - |
| Michael E. Whitley   | 43,349  | *      |   | 43,349  | (153 ) | - | - |
| Michael Engdall & Susan Engdall (JTWROS)                                     | 139,665 | *      |   | 139,665 | (154 ) | - | - |

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|---|---------|--------|---|---------|--------|---|---|
| Michael K. Barber & Julia Barber<br>(JTWROS)                                    | 127,701 | *      |   | 127,701 | (155 ) | - | - |
| Michael L. Turner   | 34,679  | *      |   | 34,679  | (156 ) | - | - |
| Michael M. Hart   | 17,199  | *      |   | 17,199  | (157 ) | - | - |
| Michael Murray  | 22,058  | *      |   | 100,925 | (158 ) | - | - |
| Michael R. Chambers   | 43,349  | *      |   | 43,349  | (159 ) | - | - |
| Michael Stanley   | 51,470  | *      |   | 51,470  | (160 ) | - | - |
| Minta Group LLC   | 42,663  | *      |   | 42,663  | (161 ) | - | - |
| Nabil M. Yazgi  | 73,955  | *      |   | 73,955  | (162 ) | - | - |
| Nabil Yazgi MD PA 401(K) Profit<br>Sharing Plan and Trust                       | 13,621  | *      |   | 13,621  | (163 ) | - | - |
| Nabil Yazgi MD PA Cash Balance<br>Plan & Trust 12-28-2008                       | 7,567   | *      |   | 7,567   | (164 ) | - | - |
| Nicholas Gupta  | 909     | *      |   | 909     | (165 ) | - | - |
| Patrick Maddren   | 455     | *      |   | 455     | (166 ) | - | - |
| Patrick S. Thomas   | 37,840  | *      |   | 37,840  | (167 ) | - | - |
| Paul A. Wildberger & Janice<br>Wildberger (JTWROS)                              | 151,362 | *      |   | 151,362 | (168 ) | - | - |
| Peter H. Colettis   | 37,840  | *      |   | 37,840  | (169 ) | - | - |
| Peter H. Silverman  | 1,637   | *      |   | 1,637   | (170 ) | - | - |
| Peter J. and Tiffany B. Zaborowski,<br>(JTWROS)                                 | 249,082 | *      |   | 249,082 | (171 ) | - | - |
| Peter Malone  | 287     | *      |   | 287     | (172 ) | - | - |
| Philip Stephenson   | 37,840  | *      |   | 37,840  | (173 ) | - | - |
| Phillip Todd Herndon  | 127,989 | *      |   | 127,989 | (174 ) | - | - |
| Rafael Penunuri   | 30,272  | *      |   | 30,272  | (175 ) | - | - |
| Raja Appachi  | 45,407  | *      |   | 45,407  | (176 ) | - | - |
| Randall L & Kathy S Payne<br>(JTWROS)   | 51,253  | *      |   | 51,253  | (177 ) | - | - |
| Randy Payne IRA (Sterne Agee &<br>Leach Inc. C/F Randy Payne IRA)               | 37,840  | *      |   | 37,840  | (178 ) | - | - |
| Ray Sinnott   | 58,665  | *      |   | 58,665  | (179 ) | - | - |
| Ray Sinnott Pension Fund  | 22,053  | *      |   | 22,053  | (180 ) | - | - |
| Reed Family Trust DTD 06-24-1999<br>Clayton A Reed & Stephanie S.<br>Reed TTEES | 45,409  | *      |   | 45,409  | (181 ) | - | - |
| Rex A. Jones  | 343,136 | 1.4505 | % | 343,136 | (182 ) | - | - |
| Richard A. Levine   | 950,291 | 4.0170 | % | 950,291 | (183 ) | - | - |
| Richard Brewster  | 22,913  | *      |   | 22,913  | (184 ) | - | - |
| Richard Burgess   | 22,702  | *      |   | 22,702  | (185 ) | - | - |
| Richard Buttine   | 3,136   | *      |   | 3,136   | (186 ) | - | - |
| Richard G. Michalski  | 25,412  | *      |   | 250,746 | (187 ) | - | - |
| Richard L. Herweck  | 17,339  | *      |   | 17,339  | (188 ) | - | - |
| Rikin Jobanputra  | 7,318   | *      |   | 7,318   | (189 ) | - | - |

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| Rippee Mineral Management LLC                             | 50,905  | *      |   | 50,905  | (190 ) |   |   |
| Robert Bonaventura  | 35,458  | *      |   | 35,458  | (191 ) | - | - |
| Robert Dunn   | 173,400 | *      |   | 173,400 | (192 ) | - | - |
| Robert H. Krauch  | 346,800 | 1.4660 | % | 346,800 | (193 ) | - | - |
| Robert Hair   | 22,704  | *      |   | 22,704  | (194 ) | - | - |
| Robert J Laubenthal                                       | 51,415  | *      |   | 51,415  | (195 ) | - | - |
| Robert LeBoyer  | 1,665   | *      |   | 1,665   | (196 ) | - | - |
| Robert N. Blank   | 43,349  | *      |   | 43,349  | (197 ) | - | - |
| Robert Rotunno  | 2,255   | *      |   | 2,255   | (198 ) | - | - |
| Robert T. Stapell   | 43,349  | *      |   | 43,349  | (199 ) | - | - |
| Roger Conan   | 242,630 | *      |   | 242,630 | (200 ) | - | - |
| Sterne Agee & Leach Inc. C/F                              |         |        |   |         |        |   |   |
| Roger K. Cady R/O IRA                                     | 85,658  | *      |   | 85,658  | (201 ) | - | - |
| Ron D. Craig  | 345,393 | 1.4600 | % | 345,393 | (202 ) | - | - |
| Ron Zuckerman   | 7,090   | *      |   | 7,090   | (203 ) | - | - |
| Ronald J. Woodward  | 37,840  | *      |   | 37,840  | (204 ) | - | - |
| Ronald A. Soicher   | 60,689  | *      |   | 60,689  | (205 ) | - | - |
| Ryan Turcotte   | 26,609  | *      |   | 26,609  | (206 ) | - | - |
| Sandesh Seth  | 121,958 | *      |   | 121,958 | (207 ) | - | - |
| Sandra F. Tomlinson                                       | 64,402  | *      |   | 64,402  | (208 ) | - | - |
| Sterne Agee & Leach Inc. C/F Pat                          |         |        |   |         |        |   |   |
| Schneider IRA   | 61,504  | *      |   | 61,504  | (209 ) | - | - |
| Scott L. Byer   | 43,349  | *      |   | 43,349  | (210 ) | - | - |
| Seal Rock 1, LLC  | 60,545  | *      |   | 60,545  | (211 ) | - | - |
| Sepulveda Roth IRA (Sterne Agee & Leach Inc. C/F Mercedes |         |        |   |         |        |   |   |
| Sepulveda Roth IRA)                                       | 90,817  | *      |   | 90,817  | (212 ) | - | - |
| Sharon M. Smith   | 16,874  | *      |   | 16,874  | (213 ) | - | - |
| Simon C. Guscott  | 51,353  | *      |   | 51,353  | (214 ) | - | - |
| Sohin Shah  | 832     | *      |   | 832     | (215 ) | - | - |
| Srinivasa Rajan   | 8,481   | *      |   | 8,481   | (216 ) | - | - |
| Stephen and Tracy Park, (JTWROS)                          | 51,764  | *      |   | 51,764  | (217 ) | - | - |
| Stephen Fischgrund  | 26,009  | *      |   | 26,009  | (218 ) | - | - |

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| Stephen Hamilton  | 90,798  | *      |   | 90,798  | (219 ) | - | - |
| Sterne Agee & Leach Inc. C/F JB<br>Trahern Bene Owner Ann Trahern<br>DCSD IRA | 44,614  | *      |   | 44,614  | (220 ) | - | - |
| Steven De Decker & Diop Diatou<br>(JTWROS)                                    | 75,682  | *      |   | 75,682  | (221 ) | - | - |
| Steven K. Nelson  | 37,840  | *      |   | 37,840  | (222 ) | - | - |
| Steven W. Poe and Judith L. Poe<br>(JTWROS)                                   | 17,118  | *      |   | 17,118  | (223 ) | - | - |
| Sterne Agee & Leach Inc. C/F<br>Gregory F. Sullivan II Roth IRA               | 8,481   | *      |   | 8,481   | (224 ) | - | - |
| Susan H. Lu   | 18,163  | *      |   | 18,163  | (225 ) | - | - |
| Syntec Scientific Ltd. by Ray<br>Sinnott                                      | 167,987 | *      |   | 167,987 | (226 ) | - | - |
| Thomas and Lillian Murray,<br>(JTWROS)  | 17,156  | *      |   | 17,156  | (227 ) | - | - |
| Thomas C Pugh   | 51,253  | *      |   | 51,253  | (228 ) | - | - |
| Thomas G. Hoffman   | 178,512 | *      |   | 178,512 | (229 ) | - | - |
| Thomas J. Moore & Cathleen<br>Moore (JTWROS)                                  | 89,093  | *      |   | 89,093  | (230 ) | - | - |
| Timothy A. Kippenhan  | 75,682  | *      |   | 75,682  | (231 ) | - | - |
| Timothy C. Behr   | 6,171   | *      |   | 6,171   | (232 ) | - | - |
| Timothy E. Lemaster   | 95,369  | *      |   | 95,369  | (233 ) | - | - |
| Timothy J. and Catherine A.<br>Pellegrini (JTWROS)                            | 43,349  | *      |   | 43,349  | (234 ) | - | - |
| Timothy J. Kane & Annette K.<br>Kane (JTWROS)                                 | 51,353  | *      |   | 51,353  | (235 ) | - | - |
| Timothy J. Rinker   | 43,349  | *      |   | 43,349  | (236 ) | - | - |
| Timothy P. Johnston   | 82,364  | *      |   | 82,364  | (237 ) | - | - |
| Timothy Wieghaus  | 126,599 | *      |   | 126,599 | (238 ) | - | - |
| Tracy N. Poe  | 93,155  | *      |   | 93,155  | (239 ) | - | - |
| Sterne Agee & Leach Inc. C/F<br>Tracy N. Poe Roth IRA                         | 50,890  | *      |   | 50,890  | (240 ) | - | - |
| Uday Dandamudi  | 22,704  | *      |   | 22,704  | (241 ) | - | - |
| Variety Investments Limited   | 515,980 | 2.1811 | % | 515,980 | (242 ) | - | - |
| Velcro LLC  | 90,817  | *      |   | 90,817  | (243 ) | - | - |
| Vinod Moras   | 832     | *      |   | 832     | (244 ) | - | - |
| Willard L Simons  | 32,802  | *      |   | 32,802  | (245 ) | - | - |
| Willard L. Simons IRA - Sterne<br>Agee & Leach Inc. C/F                       | 31,794  | *      |   | 31,794  | (246 ) | - | - |
| William A. and Barbara B. Valka,<br>(JTWROS)                                  | 43,349  | *      |   | 43,349  | (247 ) | - | - |
| William H. Hieronymus   | 151,362 | *      |   | 151,362 | (248 ) | - | - |
| William J. Diamond & Andrea<br>Sullivan (JTWROS)                              | 18,163  | *      |   | 18,163  | (249 ) | - | - |
| William L. Lane & Leann Lane<br>(JTWROS)                                      | 37,840  | *      |   | 37,840  | (250 ) | - | - |
| William Wade Brawley  | 43,349  | *      |   | 43,349  | (251 ) | - | - |
| William Woodford  | 22,704  | *      |   | 22,704  | (252 ) | - | - |

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|  |                   |   |                   |        |   |   |
|--|-------------------|---|-------------------|--------|---|---|
| Wilson, William, III and Wilson,<br>Patricia White COTTEE of The<br>Wilson Family Restated Living<br>Trust UTA dtd 04/2004 | 173,400           | * | 173,400           | (253 ) | - | - |
| Wojciech Rybacki   | 24,975            | * | 24,975            | (254 ) | - | - |
| Xiaowei Zhou   | 18,359            | * | 18,359            | (255 ) | - | - |
| Yogesh Desai   | 45,407            | * | 45,407            | (256 ) | - | - |
| <b>TOTAL</b>   | <b>20,838,703</b> |   | <b>24,594,265</b> |        |   |   |

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- 1 Includes (i) 89,367 shares of common stock and (ii) 21,953 shares of common stock issuable upon the exercise of the Stock Offering warrants (Adam Baker).
- 2 Includes (i) 22,533 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. (Alan Aranha).
- 3 Includes (i) 76,525 shares of common stock and (ii) 18,239 shares of common stock issuable upon the exercise of the Stock Offering warrants. Albert H. Konetzni, Jr. and Shirley A. Konetzni may be deemed to be the beneficial owner of the shares of our common stock held by Albert H. Konetzni Jr. and Shirley A. Konetzni JT TEN. (Albert H. Konetzni Jr. & Shirley A. Konetzni JT TEN).
- 4 Includes (i) 60,545 shares of common stock and (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants. Alexander Sepulveda may be deemed to be the beneficial owner of the shares of our common stock held by the Sterne Agee & Leach Inc. C/F Alexander Sepulveda IRA. (Sterne Agee & Leach Inc. C/F Alexander Sepulveda IRA),
- 5 Includes (i) 99,617 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78, exercisable on a cashless basis issued to Amrosan, LLC, a partnership in which the majority member interest is owned by the family of Mr. Seth, a Director of Actinium and (ii) 375,556 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. Mr. Alan Aranha has voting and/or investment power over the common stock of Actinium owned by Amrosan, LLC. (Amrosan, LLC).
- 6 Includes (i) 40,273 shares of common stock and (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants (Andrew Bellamy).
- 7 Includes (i) 34,458 shares of common stock and (ii) 8,615 shares of common stock issuable upon the exercise of the Stock Offering warrants (Andrew Chandler).
- 8 Includes (i) 18,163 shares of common stock and (ii) 9,081 shares of common stock issuable upon exercise of the Series B warrants. Andrew Charles Good & Fiona McPhee may be deemed to be the beneficial owner of the shares of our common stock held by Andrew Charles Good & Fiona McPhee (JTWROS). (Andrew Charles Good & Fiona McPhee (JTWROS)).
- 9 Includes (i) 51,359 shares of common stock, (ii) 6,054 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 6,785 shares of common stock issuable upon exercise of the Stock Offering warrants (Anthony D'Amato).
- 10 Includes (i) 11,305 shares of common stock and (ii) 19,352 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Ms. Beeram is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Aparna Beeram).
- 11 Includes (i) 83,461 shares of common stock and (ii) 19,973 shares of common stock issuable upon the exercise of the Stock Offering warrants. (Benjamin Hasty).
- 12 Includes (i) 15,136 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Billy W. Harris).
- 13 Includes (i) 721,068 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. Ms. Lindsay Aranha has voting and/or investment power over the common stock of Actinium owned by Bioche Asset Management, LLC (Bioche Asset Management LLC).

- 14 Includes (i) 68,470 shares of common stock and (ii) 17,118 shares of common stock issuable upon the exercise of the Stock Offering warrants (Bohdan Chaban).
- 15 Includes (i) 31,616 shares of common stock and (ii) 1,513 shares of common stock issuable upon exercise of the Series B warrants (Brendan Sullivan).
- 16 Includes (i) 273,881 shares of common stock and (ii) 68,470 shares of common stock issuable upon the exercise of the Stock Offering warrants. Brian E. Jones and Peggy A. Jones may be deemed to be the beneficial owner of the shares of our common stock held by Brian E. Jones and Peggy A. Jones (JTWROS). (Brian E. Jones and Peggy A. Jones).
- 17 Includes (i) 138,720 shares of common stock and (ii) 34,680 shares of common stock issuable upon exercise of the Stock Offering warrants. Brian Miller may be deemed to be the beneficial owner of the shares of our common stock held by Miller, Brian IRA (Robert W. Baird & Co., Inc. TTEE, FBO Brian Miller IRA Acct # 6144 2867. (Robert W. Baird & Co., Inc. TTEE, FBO Brian Miller IRA Acct # 6144 2867)).
- 18 Includes (i) 3,636 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. Murray is affiliated with the Placement Agent of the Stock Offering (Brian Murray).
- 19 Includes (i) 20,874 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. (ii) 78,867 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. and (iii) 6,242 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Robertson is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering. (Brian Robertson).
- 20 Includes (i) 30,420 shares of common stock. Mr. Porter is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Bruce Porter).
- 21 Includes (i) 60,545 shares of common stock and (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants (Bruno Donnou).
- 22 Includes (i) 110,761 shares of common stock, (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 11,483 shares of common stock issuable upon the exercise of the Stock Offering warrants (Bruno J. Casatelli).
- 23 Includes (i) 199,236 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. (ii) 74,855 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Buff Trust is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Buff Trust). John Tesse has voting and/or investment power over the common stock of Actinium owned by the Buff Trust.
- 24 Includes (i) 69,359 shares of common stock and (ii) 17,340 shares of common stock issuable upon exercise of the Stock Offering warrants (Burton Mark Paull).
- 25 Includes (i) 60,546 shares of common stock and (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants (Malcolm C.S. Leslie).
- 26 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon exercise of the Stock Offering warrants (Carl F. Muckenhin).
- 27 Includes (i) 353,023 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. Mr. Alan Aranha has voting and/or investment power over the common stock of Actinium owned by Carnegie Hill Asset Partners (Carnegie Hill Asset Partners).
- 28 Includes (i) 90,848 shares of common stock and (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants (Chad A. Elms).
- 29 Includes (i) 13,871 shares of common stock and (ii) 3,468 shares of common stock issuable upon exercise of the Stock Offering warrants (Charles J. Magolske).

- 30 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Charles L. Vinn).
- 31 Includes (i) 33,927 shares of common stock and (ii) 8,482 shares of common stock issuable upon the exercise of the Stock Offering warrants (Charles W. Ganse).
- 32 Includes (i) 12,109 shares of common stock and (ii) 6,054 shares of common stock issuable upon exercise of the Series B warrants (Chris Marshall).

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- 33 Includes (i) 189,993 shares of common stock and (ii) 47,498 shares of common stock issuable upon exercise of the Stock Offering warrants (Chris McHugh).
- 34 Includes (i) 68,627 shares of common stock and (ii) 17,157 shares of common stock issuable upon the exercise of the Stock Offering warrants. Christina Einstein may be deemed to be the beneficial owner of the shares of our common stock held by Sterne Agee & Leach Inc. C/F Christina G. Einstein IRA. (Sterne Agee & Leach Inc C/F Christina G. Einstein IRA).
- 35 Includes (i) 68,627 shares of common stock and (ii) 17,157 shares of common stock issuable upon exercise of the Stock Offering warrants (Christopher J. Mehos).
- 36 Includes (i) 1,435 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. Kane is affiliated with the Placement Agent of the Stock Offering Offering (Christopher Kane).
- 37 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon the exercise of the Stock Offering warrants (Christopher M. Johnston).
- 38 Includes (i) 23,627 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78 and (ii) 2,728 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Oppito is affiliated with the Placement Agent of the Stock Offering Offering and the 2012 Common Stock Offering. (Christopher Oppito.).
- 39 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon exercise of the Stock Offering warrants (Clayton A. and Stephanie S., Reed).
- 40 Includes (i) 69,359 shares of common stock and (ii) 17,340 shares of common stock issuable upon the exercise of the Stock Offering warrants (Clint N. Duty).
- 41 Includes (i) 6,054 shares of common stock and (ii) 1,513 shares of common stock issuable upon exercise of the Series B warrants (Conor Gilligan).
- 42 Includes (i) 110,404 shares of common stock and (ii) 27,601 shares of common stock issuable upon exercise of the Stock Offering warrants (Conor Stanley).
- 43 Includes (i) 3,382 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Bonn is affiliated with the Placement Agent of the 2012 Common Stock Offering (Craig Bonn).
- 44 Includes (i) 69,359 shares of common stock and (ii) 17,340 shares of common stock issuable upon exercise of the Stock Offering warrants (Daniel P. Wikel).
- 45 Includes (i) 69,359 shares of common stock and (ii) 17,340 shares of common stock issuable upon exercise of the Stock Offering warrants (Daniel P. Wikel).
- 46 Includes (i) 20,807 shares of common stock and (ii) 5,202 shares of common stock issuable upon the exercise of the Stock Offering warrants (David A. Kuhar).
- 47 Includes (i) 144,941 shares of common stock and (ii) 36,235 shares of common stock issuable upon the exercise of the Stock Offering warrants (David Cantwell).
- 48 Includes (i) 12,109 shares of common stock and (ii) 6,054 shares of common stock issuable upon exercise of the Series B warrants. David Hicks may be deemed to be the beneficial owner of the shares of our common stock held by the David Hicks Pension Fund. (David Hicks Pension Fund).
- 49 Includes (i) 15,136 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (David Patterson).
- 50 Includes (i) 193,331 shares of common stock, (ii) 28,759 shares of common stock issuable upon exercise of the Series B warrants and (iii) 19,138 shares of common stock issuable upon exercise of the Stock Offering Warrants (David W. Frost).
- 51 Includes (i) 4,842 shares of common stock and (ii) 1,210 shares of common stock issuable upon exercise of the Series B warrants. David Frost may be deemed to be the beneficial owner of the shares of our common stock held by Frost IRA - Sterne Agee & Leach Inc. C/F David W. (David W. Frost IRA - Sterne Agee & Leach Inc. C/F David W.).
- 52 Includes (i) 277,440 shares of common stock and (ii) 69,360 shares of common stock issuable upon the exercise of the Stock Offering warrants (Dean L. Fox).

- 53 Includes (i) 34,130 shares of common stock and (ii) 8,533 shares of common stock issuable upon the exercise of the Stock Offering warrants (Deborah L. Katz).
- 54 Includes (i) 693,634 shares of common stock and (ii) 173,409 shares of common stock issuable upon the exercise of the Stock Offering warrants (Denis O'Brien).
- 55 Includes (i) 138,720 shares of common stock and (ii) 34,680 shares of common stock issuable upon exercise of the Stock Offering warrants (Dianne M. Scheck).
- 56 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Donald K. Coffey).
- 57 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Douglas A. Alcott).
- 58 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon the exercise of the Stock Offering warrants (Douglas E. Eckert).
- 59 Includes (i) 55,024 shares of common stock and (ii) 12,631 shares of common stock issuable upon the exercise of the Stock Offering warrants (Douglas J Amos & Carol A Amos, JTWROS).
- 60 Includes (i) 54,283 shares of common stock and (ii) 13,571 shares of common stock issuable upon the exercise of the Stock Offering warrants. Douglas R. Holroyd & Jill K. Holroyd may be deemed to be the beneficial owner of the shares of our common stock held by Douglas R. Holroyd & Jill K. Holroyd (JTWROS). (Douglas R. Holroyd & Jill K. Holroyd (JTWROS)).
- 61 Includes (i) 34,313 shares of common stock and (ii) 8,578 shares of common stock issuable upon the exercise of the Stock Offering warrants (Dr. John M. Ferriter).
- 62 Includes (i) 76,355 shares of common stock and (ii) 18,196 shares of common stock issuable upon exercise of the Stock Offering warrants. Dr. Richard and Anita Matter may be deemed to be the beneficial owner of the shares of our common stock held by Dr. Richard and Anita Matter (JTWROS). (Dr. Richard and Anita Matter (JTWROS)).
- 63 Includes (i) 104,039 shares of common stock and (ii) 26,010 shares of common stock issuable upon exercise of the Stock Offering warrants (Earl R. Richardson).
- 64 Includes (i) 45,424 shares of common stock and (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants (Edward C. Moore).
- 65 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants. Edwin A. Schermerhorn may be deemed to be the beneficial owner of the shares of our common stock held by the Schermerhorn Roth IRA -Sterne Agee & Leach Inc. C/F Edwin A. (Edwin A. Schermerhorn Roth IRA -Sterne Agee & Leach Inc. C/F).
- 66 Includes (i) 174,634 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. John Coolong has voting and/or investment power over the common stock of Actinium owned by the Eitner Family Trust (Eitner Family Trust).

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- 67 Includes (i) 34,509 shares of common stock and (ii) 8,627 shares of common stock issuable upon exercise of the Stock Offering warrants. Eliana Cardenas Mendez and Roberto Mendez may be deemed to be the beneficial owner of the shares of our common stock held by Mendez, Eliana Cardenas and Roberto (JTWROS). (Eliana Cardenas and Roberto Mendez, (JTWROS)).
- 68 Includes (i) 18,109 shares of common stock and (ii) 6,054 shares of common stock issuable upon exercise of the Series B warrants (Enguerrand de Ponteves).
- 69 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Eugene E. Eubank).
- 70 Includes (i) 287 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. Stern is affiliated with the Placement Agent of the Stock Offering (Evan Stern).
- 71 Includes (i) 20,174 shares of common stock and (ii) 10,374 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Smith is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Francis Smith.).
- 72 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon the exercise of the Stock Offering warrants (Frank Davis).
- 73 Includes (i) 199,236 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. (ii) 74,855 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Garnett Trust is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Garnett Trust.). John Tesse has voting and/or investment power over the common stock of Actinium owned by the Garnett Trust.
- 74 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Gary M. Higdem).
- 75 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon exercise of the Stock Offering warrants (Gary A. Washauer).
- 76 Includes (i) 41,684 shares of common stock and (ii) 9,569 shares of common stock issuable upon the exercise of the Stock Offering warrants (Gene R Carlson & Cynthia L Carlson (JTWROS)).
- 77 Includes (i) 60,546 shares of common stock and (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants. George Elefther & Karin Alexa Elefther may be deemed to be the beneficial owner of the shares of our common stock held by George Elefther & Karin Alexa Elefther (JTWROS). (George Elefther & Karin Alexa Elefther (JTWROS)).
- 78 Includes (i) 170,625 shares of common stock and (ii) 42,656 shares of common stock issuable upon the exercise of the Stock Offering warrants (Sterne Agee & Leach Inc. C/F George Elefther IRA).
- 79 Includes (i) 184,129 shares of common stock, (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 34,680 shares of common stock issuable upon exercise of the Stock Offering warrants (George M Zelinski).
- 80 Includes (i) 37,788 shares of common stock, (ii) 6,054 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 3,393 shares of common stock issuable upon exercise of the Stock Offering warrants (Gerhard Plaschka).
- 81 Includes (i) 83,692 shares of common stock and (ii) 19,138 shares of common stock issuable upon the exercise of the Stock Offering warrants (Gonzalo A Salgueiro).
- 82 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Grant L. Hanby).
- 83 Includes (i) 134,624 shares of common stock, (ii) 13,017 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 20,639 shares of common stock issuable upon exercise of the Stock Offering warrants. Gregory F. Sullivan & Gene M. Sullivan may be deemed to be the beneficial owner of the shares of our common stock held by Gregory F. Sullivan MD & Gene M. Sullivan (JTWROS). (Gregory F. Sullivan MD & Gene M. Sullivan (JTWROS)).
- 84 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon the exercise of the Stock Offering warrants. Harold O. LaFlash and Greta G. LaFlash may be deemed to be the beneficial owner

of the shares of our common stock held by Harold O. LaFlash and Greta G. LaFlash (JTWROS). (Harold O. LaFlash and Greta G. LaFlash (JTWROS)).

- 85 Includes (i) 169,705 shares of common stock and (ii) 42,426 shares of common stock issuable upon the exercise of the Stock Offering warrants. Chris McHugh may be deemed to be the beneficial owner of the shares of our common stock held by Harvest Financial Services Ltd. as Qualifying Fund Manager of the Chris McHugh ARF (Harvest Financial Services Ltd as Qualifying Fund Manager of the Chris McHugh ARF ).
- 86 Includes (i) 30,273 shares of common stock and (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants (Helmut Koehler).
- 87 Includes (i) 19,980 shares of common stock and (ii) 9,990 shares of common stock issuable upon exercise of the Series B warrants. David Hicks may be deemed to be the beneficial owner of the shares of our common stock held by the Hicks Foods Ltd. (Hicks Foods Ltd.).
- 88 Includes (i) 18,163 shares of common stock and (ii) 9,081 shares of common stock issuable upon exercise of the Series B warrants. Lawrence Hochman may be deemed to be the beneficial owner of the shares of our common stock held by the Hochman Family LLP . Lawrence D. Hochman has voting/and or investment power over the common stock of Actinium owned by Hochman Family LLP. (Hochman Family LLP).
- 89 Includes (i) 19,988 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78 and (ii) 5,318 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Marasa is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Hugh J. Marasa Jr.).
- 90 Includes (i) 23,607 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78 and (ii) 20,438 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Regan is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Hugh Regan).
- 91 Includes (i) 312,528 shares of common stock, (ii) 37,840 shares of common stock issuable upon exercise of the Series B warrants and (iii) 50,121 shares of common stock issuable upon exercise of the Stock Offering warrants (Ian H. Murray).
- 92 Includes (i) 302,818 shares of common stock and (ii) 105,954 shares of common stock issuable upon exercise of the Series B warrants. Stephan Herrmann may be deemed to be the beneficial owner of the shares of our common stock held by Immotrend Inc. (Immotrend Inc.).
- 93 Includes (i) 333,000 shares of common stock and (ii) 83,250 shares of common stock issuable upon exercise of the Series B warrants. David Sykes may be deemed to be the beneficial owner of the shares of our common stock held by Island Capital Nominees Ltd. David Sykes has voting and/or investment power over the common stock of Actinium owned by Island Capital Nominees Ltd. (Island Capital Nominees Ltd.).
- 94 Includes (i) 121,090 shares of common stock and (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants (J. Brian Boulter).

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- 95 Includes (i) 97,001 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78 (ii) 873,168 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. and (iii) 31,435 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Ahern is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (James Ahern.).
- 96 Includes (i) 12,108 shares of common stock and (ii) 3,027 shares of common stock issuable upon exercise of the Series B warrants (James G. Markey and Carolyn L. Markey (JTWROS)).
- 97 Includes (i) 48,436 shares of common stock and (ii) 12,109 shares of common stock issuable upon exercise of the Series B warrants (James L. Payne).
- 98 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon exercise of the Stock Offering warrants (James M. Wimberly).
- 99 Includes (i) 83,369 shares of common stock from notes conversion and (ii) 19,138 shares of common stock issuable upon the exercise of the Stock Offering warrants (James Payne).
- 100 Includes (i) 531 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. Provenzano is affiliated with the Placement Agent of the Stock Offering (James Provenzano).
- 101 Includes (i) 15,136 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants. James T. Dietz & Barbara J. Dietz may be deemed to be the beneficial owner of the shares of our common stock held by James T. Dietz & Barbara J. Dietz (JTWROS).
- 102 Includes (i) 1,913 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. Thompson is affiliated with the Placement Agent of the Stock Offering (Holly J. Thompson).
- 103 Includes (i) 80,103 shares of common stock, (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants and (iii) 8,670 shares of common stock issuable upon exercise of the Stock Offering warrants (James W. Lees).
- 104 Includes (i) 69,359 shares of common stock and (ii) 17,340 shares of common stock issuable upon the exercise of the Stock Offering warrants. Jan J. Laskowski & Sofia M. Laskowski may be deemed to be the beneficial owner of the shares of our common stock held by Jan J. Laskowski and Sofia M. Laskowski (JTWROS (Jan J. Laskowski and Sofia M. Laskowski (JTWROS))).
- 105 Includes (i) 25,802 shares of common stock, (ii) 3,027 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 3,424 shares of common stock issuable upon exercise of the Stock Offering warrants (Jared Sullivan & Shannan Sullivan (JTWROS)).
- 106 Includes (i) 10,789 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Russo is affiliated with the Placement Agent of the 2012 Common Stock Offering (Jason Russo).
- 107 Includes (i) 121,090 shares of common stock and (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants (Jeff C. Kleinschmidt).
- 108 Includes (i) 60,545 shares of common stock and (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants (Jeff L. Stevens).
- 109 Includes (i) 196,411 shares of common stock and (ii) 47,569 shares of common stock issuable upon the exercise of the Stock Offering warrants (Sterne Agee & Leach Inc. C/F Jimmy R. Hasley IRA).
- 110 Includes (i) 13,871 shares of common stock and (ii) 3,468 shares of common stock issuable upon exercise of the Stock Offering warrants. John Pimpinella and Bernadette Mueller may be deemed to be beneficial owner of the shares of our common stock held by John Pimpinella & Bernadette Mueller (JTWROS). (John Pimpinella & Bernadette Mueller (JTWROS)).
- 111 Includes (i) 34,130 shares of common stock and (ii) 8,533 shares of common stock issuable upon exercise of the Stock Offering warrants. John H. Welsh may be deemed to be the beneficial owner of the shares of our common

stock held by the Sterne Agee & Leach Inc. C/F John H. Welsh Roth IRA. (Sterne Agee & Leach Inc. C/F John H. Welsh Roth IRA).

- 112 Includes (i) 208,079 shares of common stock and (ii) 52,020 shares of common stock issuable upon exercise of the Stock Offering warrants (John L. Sommer IRA, SAL C/F).
- 113 Includes (i) 33,318 shares of common stock, (ii) 3,027 shares of common stock issuable upon exercise of the Series B warrants and (iii) 6,817 shares of common stock issuable upon the exercise of the Stock Offering warrants (John M. Duffy).
- 114 Includes (i) 15,022 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Excluded from calculation of beneficial ownership as such. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. (John M. Harrington).
- 115 Includes (i) 90,848 shares of common stock and (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants. John Malfer & Toni Malfer may be deemed to be the beneficial owner of the shares of our common stock held by the John Malfer & Toni Malfer (JTWROS). (John Malfer & Toni Malfer (JTWROS)).
- 116 Includes (i) 34,509 shares of common stock and (ii) 8,627 shares of common stock issuable upon the exercise of the Stock Offering warrants (John W. Eilers, Jr.).

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- 117 Includes (i) 10,334 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. (ii) 78,867 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. and (iii) 2,404 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Eitner is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (John-Paul Eitner.).
- 118 Includes (i) 4,306 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. Fedorko is affiliated with the Placement Agent of the Stock Offering (Joseph Fedorko.).
- 119 Includes (i) 6,054 shares of common stock and (ii) 1,513 shares of common stock issuable upon exercise of the Series B warrants (Joseph P. Acquavella).
- 120 Includes (i) 5,550 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. Rozof is affiliated with the Placement Agent of the Stock Offering (Joseph Rozof).
- 121 Includes (i) 20,807 shares of common stock and (ii) 5,202 shares of common stock issuable upon exercise of the Stock Offering warrants (Joseph T. Oppito).
- 122 Includes (i) 18,162 shares of common stock and (ii) 4,540 shares of common stock issuable upon exercise of the Series B warrants. (Justin McKenna).
- 123 Includes (i) 99,631 shares of common stock, (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 17,340 shares of common stock issuable upon exercise of the Stock Offering warrants (Keith A. Zar).
- 124 Includes (i) 68,260 shares of common stock and (ii) 17,065 shares of common stock issuable upon the exercise of the Stock Offering warrants (Ken R. Klimitchek).
- 125 Includes (i) 83,369 shares of common stock and (ii) 19,138 shares of common stock issuable upon the exercise of the Stock Offering warrants (Kenneth G. Williamson).
- 126 Includes (i) 69,359 shares of common stock and (ii) 17,340 shares of common stock issuable upon the exercise of the Stock Offering warrants (Kenneth N. Larsen Trust U/A/D 9/25/09, Kenneth N. Larsen Trustee).
- 127 Includes (i) 14,531 shares of common stock and (ii) 7,265 shares of common stock issuable upon exercise of the Series B warrants (Kevin J. Poor).
- 128 Includes (i) 9,081 shares of common stock and (ii) 3,027 shares of common stock issuable upon exercise of the Series B warrants (Kevin Lynch).
- 129 Includes (i) 22,913 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. O'Connor is affiliated with the Placement Agent of the Stock Offering (Kevin O'Connor.).
- 130 Includes (i) 153,051 shares of common stock and (ii) 36,478 shares of common stock issuable upon exercise of the Stock Offering warrants (Kevin P. McCarthy).
- 131 Includes (i) 12,477 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. (ii) 45,067 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. and (iii) 5,391 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Wilson is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering. (Kevin R. Wilson).
- 132 Includes (i) 18,162 shares of common stock and (ii) 4,540 shares of common stock issuable upon exercise of the Series B warrants. Kimberly J. Macurdy may be deemed to be the beneficial owner of the shares of our common stock held by Macurdy IRA - Sterne Agee & Leach Inc. C/F Kimberly J. (Kimberly J. Macurdy IRA - Sterne Agee & Leach Inc. C/F ).

- 133 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants. Walter J. Lachewitz Jr. may be deemed to be the beneficial owner of the shares of our common stock held by Sterne Agee & Leach Inc. C/F Walter J. Lachewitz Jr. IRA. (Sterne Agee & Leach Inc. C/F Walter J. Lachewitz Jr. IRA).
- 134 Includes (i) 62,958 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. (ii) 23,654 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. The stakeholders of Laidlaw Holdings Limited may be deemed to be the beneficial owners of the shares of our common stock held by Laidlaw Holdings Limited. Laidlaw Holdings Limited is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering. The chairman of Laidlaw Holdings Limited has voting and/or investment power over the common stock of Actinium owned by Laidlaw Holdings Limited. (Laidlaw Holdings Limited).
- 135 Includes (i) 13,570 shares of common stock and (ii) 3,393 shares of common stock issuable upon exercise of the Stock Offering warrants (Lance Ziaks & Janet Ziaks JTWROS).
- 136 Includes (i) 68,260 shares of common stock and (ii) 17,065 shares of common stock issuable upon the exercise of the Stock Offering warrants. Ralph W. Kettell may be deemed to be the beneficial owner of the shares of our common stock held by Lark Enterprises, Ltd. (Lark Enterprises, Ltd.).
- 137 Includes (i) 50,322 shares of common stock (ii) 4,238 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 9,569 shares of common stock issuable upon the exercise of the Stock Offering warrants (Larry G. Majerus).
- 138 Includes (i) 24,218 shares of common stock and (ii) 12,109 shares of common stock issuable upon exercise of the Series B warrants (Laurence B. Jacobs).
- 139 Includes (i) 15,022 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. (Lindsay Aranha).
- 140 Includes (i) 68,260 shares of common stock and (ii) 17,065 shares of common stock issuable upon exercise of the Stock Offering warrants. Jon H. Lytle and Carrie M. Lytle may be deemed to be the beneficial owner of the shares of our common stock held by Jon H. Lytle and Carrie M. Lytle (JTWROS). (Jon H. Lytle and Carrie M. Lytle (JTWROS)).
- 141 Includes (i) 15,064 shares of common stock and (ii) 3,445 shares of common stock issuable upon exercise of the Stock Offering warrants ( Gary J Mabie, Janelle L Mabie (JTWROS)).
- 142 Includes (i) 6,054 shares of common stock and (ii) 3,027 shares of common stock issuable upon exercise of the Series B warrants (Maree Casatelli).
- 143 Includes (i) 9,081 shares of common stock and (ii) 4,540 shares of common stock issuable upon exercise of the Series B warrants. Maree Casatelli may be deemed to be the beneficial owner of the shares of our common stock held by Casatelli SEP IRA - Sterne Agee & Leach Inc. C/F Maree. (Maree Casatelli SEP IRA - Sterne Agee & Leach Inc. C/F Maree).
- 144 Includes (i) 60,546 shares of common stock and (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants. Mark A. Maki & Sara L. Maki may be deemed to be the beneficial owner of the shares of our common stock held by Mark A. Maki & Sara L. Maki (JTWROS). (Mark A. Maki & Sara L. Maki (JTWROS)).

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- 145 Includes (i) 15,136 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Mark C. Jasek).
- 146 Includes (i) 179,908 shares of common stock and (ii) 45,409 shares of common stock issuable upon exercise of the Series B warrants. Mr. Suwyn may be deemed to be the beneficial owner of the shares of our common stock held by the Mark Suwyn Roth IRA - Sterne Agee & Leach Inc. C/F. (Mark Suwyn Roth IRA - Sterne Agee & Leach Inc. C/F).
- 147 Includes (i) 37,454 shares of common stock and (ii) 9,364 shares of common stock issuable upon exercise of the Stock Offering warrants (Marvin S. Rosen).
- 148 Includes (i) 97,001 shares of common stock issuable upon exercise of the warrants at an exercise price of 0.78 (ii) 698,534 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. and (iii) 31,435 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Eitner is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Matthew Eitner).
- 149 Includes (i) 69,359 shares of common stock and (ii) 17,340 shares of common stock issuable upon exercise of the Stock Offering warrants (Matthew Reid).
- 150 Includes (i) 2,145 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Ahern is affiliated with the Placement Agent of the 2012 Common Stock Offering (Michael Ahern).
- 151 Includes (i) 372,985 shares of common stock, (ii) 37,840 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 60,690 shares of common stock issuable upon the exercise of the Stock Offering warrants. Michael B. Carroll & Sheila J. Carroll may be deemed to be the beneficial owner of the shares of our common stock held by Michael B. Carroll & Sheila J. Carroll (JTWROS). (Michael B. Carroll & Sheila J. Carroll (JTWROS)).
- 152 Includes (i) 24,226 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Michael D. Watson).
- 153 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon exercise of the Stock Offering warrants (Michael E. Whitley).
- 154 Includes (i) 111,730 shares of common stock and (ii) 10,595 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 17,340 shares of common stock issuable upon the exercise of the Stock Offering warrants. Michael Engdall & Susan Engdall may be deemed to be the beneficial owner of the shares of our common stock held by Michael Engdall & Susan Engdall (JTWROS). (Michael Engdall & Susan Engdall (JTWROS)).
- 155 Includes (i) 102,161 shares of common stock, (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 10,404 shares of common stock issuable upon the exercise of the Stock Offering warrants. Michael K. Barber & Julia Barber may be deemed to be the beneficial owner of the shares of our common stock held by Michael K. Barber & Julia Barber (JTWROS). (Michael K. Barber & Julia Barber (JTWROS)).
- 156 Includes (i) 27,743 shares of common stock and (ii) 6,936 shares of common stock issuable upon exercise of the Stock Offering warrants (Michael L. Turner).
- 157 Includes (i) 13,759 shares of common stock and (ii) 3,440 shares of common stock issuable upon the exercise of the Stock Offering warrants (Michael M. Hart)
- 158 Includes (i) 17,802 shares of common stock, (ii) 78,867 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65

days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. and (iii) 4,256 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Murray is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Michael Murray).

- 159 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon the exercise of the Stock Offering warrants (Michael R. Chambers).
- 160 Includes (i) 41,176 shares of common stock and (ii) 10,294 shares of common stock issuable upon exercise of the Stock Offering warrants (Michael Stanley).
- 161 Includes (i) 34,130 shares of common stock and (ii) 8,533 shares of common stock issuable upon exercise of the Stock Offering warrants. Howard S. Ziment may be deemed to be the beneficial owner of the shares of our common stock held by Minta Group LLC. Howard Ziment has voting and/or investment power over the common stock of Actinium owned by Minta Group LLC. (Minta Group LLC).
- 162 Includes (i) 59,846 shares of common stock, (ii) 4,540 shares of common stock issuable upon exercise of the Series B warrants and (iii) 9,569 shares of common stock issuable upon exercise of the Stock Offering warrants (Nabil M. Yazgi).
- 163 Includes (i) 9,081 shares of common stock and (ii) 4,540 shares of common stock issuable upon exercise of the Series B warrants. Nabil Yazgi may be deemed to be the beneficial owner of the shares of our common stock held by the Nabil Yazgi MD PA 401(K) Profit Sharing Plan and Trust. (Nabil Yazgi MD PA 401(K) Profit Sharing Plan and Trust).

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- 164 Includes (i) 6,054 shares of common stock and (ii) 1,513 shares of common stock issuable upon exercise of the Series B warrants. Nabil Yazgi may be deemed to be the beneficial owner of the shares of our common stock held by the Nabil Yazgi MD PA Cash Balance Plan & Trust 12-28-2008. (Nabil Yazgi MD PA Cash Balance Plan & Trust 12-28-2008).
- 165 Includes (i) 909 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Gupta is affiliated with the Placement Agent of the 2012 Common Stock Offering (Nicholas Gupta).
- 166 Includes (i) 455 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Maddren is affiliated with the Placement Agent of the 2012 Common Stock Offering (Patrick Maddren).
- 167 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Patrick Thomas).
- 168 Includes (i) 121,090 shares of common stock and (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants. Paul A. Wildberger & Janice Wildberger may be deemed to be the beneficial owner of the shares of our common stock held by Paul A. Wildberger & Janice Wildberger (JTWROS). (Paul A. Wildberger & Janice Wildberger (JTWROS)).
- 169 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Peter H. Colettis).
- 170 Includes (i) 1,637 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Silverman is affiliated with the Placement Agent of the 2012 Common Stock Offering (Peter Silverman).
- 171 Includes (i) 199,266 shares of common stock, (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants and (iii) 34,680 shares of common stock issuable upon the exercise of the Stock Offering warrants. (Peter J. and Tiffany B. Zaborowski, (JTWROS)).
- 172 Includes (i) 287 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. Malone is affiliated with the Placement Agent of the Stock Offering (Peter Malone).
- 173 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Philip Stephenson).
- 174 Includes (i) 102,391 shares of common stock and (ii) 25,598 shares of common stock issuable upon the exercise of the Stock Offering warrants (Phillip Todd Herndon).
- 175 Includes (i) 24,218 shares of common stock and (ii) 6,054 shares of common stock issuable upon exercise of the Series B warrants (Rafael Penunuri).
- 176 Includes (i) 36,326 shares of common stock and (ii) 9,081 shares of common stock issuable upon exercise of the Series B warrants (Raja Appachi).
- 177 Includes (i) 41,684 shares of common stock and (ii) 9,569 shares of common stock issuable upon the exercise of the Stock Offering warrants (Randall L & Kathy S Payne, JTWROS)).
- 178 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants. Randy Payne may be deemed to be the beneficial owner of the shares of our common stock held by the Sterne Agee & Leach Inc. C/F Randy Payne IRA. (Sterne Agee & Leach Inc. C/F Randy Payne IRA).
- 179 Includes (i) 46,932 shares of common stock, (ii) 6,652 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 5,081 shares of common stock issuable upon exercise of the Stock Offering warrants (Ray Sinnott).
- 180 Includes (i) 17,642 shares of common stock and (ii) 4,411 shares of common stock issuable upon exercise of the Stock Offering warrants. Ray Sinnott may be deemed to be the beneficial owner of the shares of our common stock held by the Ray Sinnott Pension Fund. (Ray Sinnott Pension Fund).
- 181 Includes (i) 30,273 shares of common stock and (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants. Clayton A Reed & Stephanie S. Reed may be deemed to be the beneficial owner of the shares of our common stock held by the Reed Family Trust DTD 06-24-1999 Clayton A Reed & Stephanie S. Reed

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TTEES (Reed Family Trust DTD 06-24-1999 Clayton A Reed & Stephanie S. Reed TTEES).

- 182 Includes (i) 274,509 shares of common stock and (ii) 68,627 shares of common stock issuable upon the exercise of the Stock Offering warrants (Rex A. Jones).
- 183 Includes (i) 748,124 shares of common stock, (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 171,895 shares of common stock issuable upon exercise of the Stock Offering warrants (Richard A. Levine).
- 184 Includes (i) 22,913 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. Brewster is affiliated with the Placement Agent of the Stock Offering (Richard Brewster).

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- 185 Includes (i) 18,162 shares of common stock and (ii) 4,540 shares of common stock issuable upon exercise of the Series B warrants (Richard Burgess).
- 186 Includes (i) 3,136 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Buttine is affiliated with the Placement Agent of the 2012 Common Stock Offering (Richard Buttine).
- 187 Includes (i) 21,156 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. (ii) 225,334 shares of common stock issuable upon exercise of the warrants pursuant to the transaction management agreement with Jamess Capital Group, LLC. Warrant may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. Excluded from calculation of beneficial ownership as such. and (iii) 4,256 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Michalski is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Richard G. Michalski).
- 188 Includes (i) 13,871 shares of common stock and (ii) 3,468 shares of common stock issuable upon the exercise of the Stock Offering warrants (Richard L. Herweck).
- 189 Includes (i) 7,318 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Jobanputra is affiliated with the Placement Agent of the 2012 Common Stock Offering (Rikin Jobanputra).
- 190 Includes (i) 41,336 shares of common stock and (ii) 9,569 shares of common stock issuable upon exercise of the Stock Offering warrants. David and Mimi Rippee have voting and/or investment power over the common stock of Actinium owned by Rippee Mineral Management LLC (Rippee Mineral Management LLC).
- 191 Includes (i) 19,988 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. and (ii) 15,470 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Bonaventura is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Robert Bonaventura.).
- 192 Includes (i) 138,720 shares of common stock and (ii) 34,680 shares of common stock issuable upon the exercise of the Stock Offering warrants (Robert Dunn).
- 193 Includes (i) 277,440 shares of common stock and (ii) 69,360 shares of common stock issuable upon the exercise of the Stock Offering warrants (Robert A. Krauch).
- 194 Includes (i) 15,136 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Robert Hair).
- 195 Includes (i) 41,846 shares of common stock and (ii) 9,569 shares of common stock issuable upon the exercise of the Stock Offering warrants (Robert J Laubenthal).
- 196 Includes (i) 1,665 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. LeBoyer is affiliated with the Placement Agent of the Stock Offering (Robert LeBoyer).
- 197 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon the exercise of the Stock Offering warrants (Robert N. Blank).
- 198 Includes (i) 2,255 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Rotunno is affiliated with the Placement Agent of the 2012 Common Stock Offering. (Robert Rotunno).
- 199 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon exercise of the Stock Offering warrants (Robert T. Stapell).
- 200 Includes (i) 194,104 shares of common stock, (ii) 22,704 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 25,822 shares of common stock issuable upon the exercise of the Stock Offering warrants. (Roger Conan).
- 201 Includes (i) 68,470 shares of common stock and (ii) 17,188 shares of common stock issuable upon the exercise of the Stock Offering warrants (Sterne Agee & Leach Inc. C/F Roger K. Cady R/O IRA).

- Includes (i) 276,314 shares of common stock and (ii) 69,079 shares of common stock issuable upon the exercise of the Stock Offering warrants (Ron D. Craig).
- 203 Includes (i) 7,090 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Zuckerman is affiliated with the Placement Agent of the 2012 Common Stock Offering. (Ron Zuckerman).
- 204 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Ronald J. Woodward).
- 205 Includes (i) 48,551 shares of common stock and (ii) 12,138 shares of common stock issuable upon exercise of the Stock Offering warrants (Ronald A. Soicher).
- 206 Includes (i) 16,235 shares of common stock and (ii) 10,374 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Turcotte is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Ryan Turcotte).
- 207 Includes (i) 64,746 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. (ii) 57,212 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Seth is affiliated with the Placement Agent of the Stock Offering, the 2012 Common Stock Offering and is also a Director of the Company (Sandesh Seth.).
- 208 Includes (i) 51,522 shares of common stock and (ii) 6,054 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 6,826 shares of common stock issuable upon exercise of the Stock Offering warrants (Sandra F. Tomlinson).
- 209 Includes (i) 50,021 shares of common stock and (ii) 11,483 shares of common stock issuable upon exercise of the Stock Offering warrants (Sterne Agee & Leach Inc. C/F Pat Schneider IRA).

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- 210 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon the exercise of the Stock Offering warrants (Scott L. Byer).
- 211 Includes (i) 60,545 shares of common stock. Brian M. Miller may be deemed to be the beneficial owner of the shares of our common stock held by Seal Rock 1, LLC. Brian M. Miller has voting and/or investment power over the common stock of Actinium owned by Seal Rock 1, LLC. (Seal Rock 1, LLC).
- 212 Includes (i) 60,545 shares of common stock and (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants. Alexander Sepulveda may be deemed to be the beneficial owner of the shares of our common stock held by the Sterne Agee & Leach Inc. C/F Mercedes Sepulveda Roth IRA. (Sterne Agee & Leach Inc. C/F Mercedes Sepulveda Roth IRA),
- 213 Includes (i) 16,874 shares of common stock (Sharon M. Smith).
- 214 Includes (i) 41,082 shares of common stock and (ii) 10,271 shares of common stock issuable upon the exercise of the Stock Offering warrants (Simon C. Guscott).
- 215 Includes (i) 832 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. Shah is affiliated with the Placement Agent of the Stock Offering (Sohin Shah).
- 216 Includes (i) 6,785 shares of common stock, (ii) 1,696 shares of common stock issuable upon exercise of the Stock Offering warrants (Srinivasa Rajan).
- 217 Includes (i) 41,411 shares of common stock, and (ii) 10,353 shares of common stock issuable upon exercise of the Stock Offering warrants. Stephen Park and Tracy Park may be deemed to be beneficial owner of the shares of our common stock held by Park, Stephen and Tracy (JTWROS). (Stephen and Tracy Park, (JTWROS)).
- 218 Includes (i) 20,807 shares of common stock and (ii) 5,202 shares of common stock issuable upon the exercise of the Stock Offering warrants (Stephen Fischgrund).
- 219 Includes (i) 77,535 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78 and (ii) 13,263 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Hamilton is affiliated with the Placement Agent of the Stock Offering Offering and the 2012 Common Stock Offering. (Stephen Hamilton).
- 220 Includes (i) 35,691 shares of common stock and (ii) 8,923 shares of common stock issuable upon exercise of the Stock Offering warrants. JB Trahern and/or Ann Trahern may be deemed to be the beneficial owner of the shares of our common stock held by the Sterne Agee & Leach Inc. C/F JB Trahern Bene Owner Ann Trahern DCSD IRA. (Sterne Agee & Leach Inc. C/F JB Trahern Bene Owner Ann Trahern DCSD IRA).
- 221 Includes (i) 60,546 shares of common stock and (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants. Steven De Decker & Diop Diatou may be deemed to be the beneficial owner of the shares of our common stock held by Steven De Decker & Diop Diatou (JTWROS). (Steven De Decker & Diop Diatou (JTWROS)).
- 222 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Steven K. Nelson).
- 223 Includes (i) 13,694 shares of common stock and (ii) 3,424 shares of common stock issuable upon exercise of the Stock Offering warrants (Steven W. Poe and Judith L. Poe (JTWROS)).
- 224 Includes (i) 6,785 shares of common stock and (ii) 1,696 shares of common stock issuable upon exercise of the Stock Offering warrants. Gregory F. Sullivan may be deemed to be the beneficial owner of the shares of our common stock held by the Sterne Agee & Leach Inc. C/F Gregory F. Sullivan II IRA (Sterne Agee & Leach Inc. C/F Gregory F. Sullivan II Roth IRA).
- 225 Includes (i) 12,109 shares of common stock and (ii) 6,054 shares of common stock issuable upon exercise of the Series B warrants (Susan H. Lu).
- 226 Includes (i) 134,390 shares of common stock, (ii) 16,642 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 16,955 shares of common stock issuable upon exercise of the Stock Offering warrants. Ray Sinott may be deemed to be the beneficial owner of the shares of our common stock held by Syntec Scientific LTD. (Syntec Scientific LTD).
- 227 Includes (i) 13,725 shares of common stock and (ii) 3,431 shares of common stock issuable upon exercise of the Stock Offering warrants. Thomas Murray and Lillian Murray may be deemed to be the beneficial owner of the

- shares of our common stock held by Murray, Thomas and Lillian (JTWROS). (Thomas and Lillian Murray, (JTWROS)).
- 228 Includes (i) 41,684 shares of common stock and (ii) 9,569 shares of common stock issuable upon exercise of the Stock Offering warrants. (Thomas C. Pugh).
- 229 Includes (i) 144,238 shares of common stock, (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants and (iii) 19,138 shares of common stock issuable upon exercise of the Stock Offering warrants (Thomas G. Hoffman).
- 230 Includes (i) 71,956 shares of common stock, (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants and (iii) 9,569 shares of common stock issuable upon exercise of the Stock Offering warrants. Thomas J. Moore & Cathleen Moore may be deemed to be the beneficial owner of the shares of our common stock held by the Thomas J. Moore & Cathleen Moore (JTWROS). (Thomas J. Moore & Cathleen Moore (JTWROS)).
- 231 Includes (i) 60,546 shares of common stock and (ii) 15,136 shares of common stock issuable upon exercise of the Series B warrants (Timothy A. Kippenhan).
- 232 Includes (i) 3,444 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. (ii) 2,727 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Mr. Behr is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Timothy C. Behr).
- 233 Includes (i) 76,295 shares of common stock and (ii) 19,074 shares of common stock issuable upon exercise of the Stock Offering warrants (Timothy E. Lemaster).
- 234 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon exercise of the Stock Offering warrants. Timothy J. Pellegrini and Catherine A. Pellegrini may be deemed to be beneficial owner of the shares of our common stock held by Pellegrini, Timothy J. and Catherine A. (JTWROS) (Pellegrini, Timothy J. and Catherine A. (JTWROS)).

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- 235 Includes (i) 41,082 shares of common stock and (ii) 10,271 shares of common stock issuable upon the exercise of the Stock Offering warrants. Timothy J. Kane and Annette K. Kane may be deemed to be the beneficial owner of the shares of our common stock held by Timothy J. Kane and Annette K. Kane (JTWROS). (Timothy J. Kane and Annette K. Kane (JTWROS)).
- 236 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon exercise of the Stock Offering warrants (Timothy J. Rinker).
- 237 Includes (i) 65,891 shares of common stock and (ii) 16,473 shares of common stock issuable upon the exercise of the Stock Offering warrants (Timothy P. Johnston).
- 238 Includes (i) 101,279 shares of common stock, (ii) 16,650 shares of common stock issuable upon exercise of the Series B warrants, and (iii) 8,670 shares of common stock issuable upon exercise of the Stock Offering warrants (Timothy Wieghaus).
- 239 Includes (i) 74,524 shares of common stock, (ii) 1,513 shares of common stock issuable upon exercise of the Series B warrants and (iii) 17,118 shares of common stock issuable upon exercise of the Stock Offering warrants (Tracy N. Poe).
- 240 Includes (i) 40,712 shares of common stock and (ii) 10,178 shares of common stock issuable upon the exercise of the Stock Offering warrants (Sterne Agee & Leach Inc. C/F Tracy N. Poe Roth IRA)
- 241 Includes (i) 15,136 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (Uday Dandamudi).
- 242 Includes (i) 412,784 shares of common stock and (ii) 103,196 shares of common stock issuable upon exercise of the Stock Offering warrants. Xiongwei Ju may be deemed to be the beneficial owner of the shares of our common stock held by Variety Investments Limited. Xiongwei Ju has voting and/or investment power over the common stock of Actinium owned by Variety Investments Ltd. (Variety Investments Limited).
- 243 Includes (i) 60,545 shares of common stock and (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants. Brian M. Miller may be deemed to be the beneficial owner of the shares of our common stock held by Velcro LLC. Brian M. Miller has sole voting and/or investment power over the common stock owned by Velcro LLC (Velcro LLC).
- 244 Includes (i) 832 shares of common stock issuable upon exercise of the placement agent warrants at an exercise price of 0.78. Mr. Moras is affiliated with the Placement Agent of the Stock Offering (Vinod Moras.).
- 245 Includes (i) 26,678 shares of common stock and (ii) 6,124 shares of common stock issuable upon the exercise of the Stock Offering warrants (Willard L Simons).
- 246 Includes (i) 24,226 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants Willard L. Simons may be deemed to be the beneficial owner of the shares of our common stock held by the Simons IRA - Sterne Agee & Leach Inc. C/F Willard L. (Willard L. Simons IRA - Sterne Agee & Leach Inc. C/F).
- 247 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon exercise of the Stock Offering warrants. William A. Valka and Barbara B. Valka may be deemed to be the beneficial owner of the shares of our common stock held by Valka, William A. and Barbara B. (JTWROS). (William A. and Barbara B. Valka, (JTWROS)).
- 248 Includes (i) 121,090 shares of common stock and (ii) 30,272 shares of common stock issuable upon exercise of the Series B warrants (William H. Hieronymus).
- 249 Includes (i) 12,109 shares of common stock and (ii) 6,054 shares of common stock issuable upon exercise of the Series B warrants. William J. Diamond & Andrea Sullivan may be deemed to be the beneficial owner of the shares of our common stock held by William J. Diamond & Andrea Sullivan (JTWROS). (William J. Diamond & Andrea Sullivan (JTWROS)).
- 250 Includes (i) 30,272 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants. William L. Lane & Leann Lane may be deemed to be the beneficial owner of the shares of our common stock held by the William L. Lane & Leanne Lane (JTWROS). (William L. Lane & Leanne Lane (JTWROS)).



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- 251 Includes (i) 34,679 shares of common stock and (ii) 8,670 shares of common stock issuable upon the exercise of the Stock Offering warrants (William Wade Brawley).
- 252 Includes (i) 15,136 shares of common stock and (ii) 7,568 shares of common stock issuable upon exercise of the Series B warrants (William Woodford).
- 253 Includes (i) 138,720 shares of common stock and (ii) 34,680 shares of common stock issuable upon exercise of the Stock Offering warrants. Patricia White and/or William Wilson III may be deemed to be the beneficial owner of the shares of our common stock held by Wilson, William, III and Wilson, Patricia White COTTEE of The Wilson Family Restated Living Trust UTA dtd 04/2004. (Wilson, William, III and Wilson, Patricia White COTTEE of The Wilson Family Restated Living Trust UTA dtd 04/2004).
- 254 Includes (i) 19,980 shares of common stock and (ii) 4,995 shares of common stock issuable upon exercise of the Series B warrants (Wojciech Rybacki).
- 255 Includes (i) 11,305 shares of common stock and (ii) 7,054 shares of common stock issuable upon exercise of the 2012 Common Stock placement agent warrants at an exercise price of 2.48. Ms. Zhou is affiliated with the Placement Agent of the Stock Offering and the 2012 Common Stock Offering (Xiaowei Zhou.).
- 256 Includes (i) 36,326 shares of common stock and (ii) 9,081 shares of common stock issuable upon exercise of the Series B warrants (Yogesh Desai).

Except as disclosed in the table above, to our knowledge, none of the selling stockholders or beneficial owners:

has had a material relationship with us other than as a stockholder at any time within the past three years;

has ever been one of our officers or directors or an officer or director of our affiliates; or

are broker-dealers or affiliated with broker-dealers.

With respect to those selling stockholders noted above who are or were affiliated with registered broker-dealers, each has represented to us that the shares being registered for resale were purchased in the ordinary course of business and, at the time of purchase, such selling stockholder had no agreements or understandings, directly or indirectly, with any person to distribute the shares.

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### DESCRIPTION OF BUSINESS

#### Business Overview

We are a biopharmaceutical company focused on the \$50 billion market for cancer drugs. Our most advanced products are Actimab™-A, an antibody-drug construct containing actinium 225 (Ac-225), currently in human clinical trials for acute myeloid leukemia (AML) and Iomab™-B, an antibody-drug construct containing iodine 131 (I-131), used in myeloconditioning for hematopoietic stem cells transplantation (HSCT) in various indications. The Company is currently designing a trial which the Company intends to submit for registration approval in HSCT in the settings of refractory and relapsed acute myeloid leukemia in older patients. The Company is developing its cancer drugs using its expertise in radioimmunotherapy. In addition, the Ac-225 based drugs development relies on the patented Alpha Particle Immunotherapy Technology (APIT) platform technology co-developed with Memorial Sloan-Kettering Cancer Center, whose indirect subsidiary, Actinium Holdings Ltd., is a significant stockholder of the Company. The APIT technology couples monoclonal antibodies (mAb) with extremely potent but comparatively safe alpha particle emitting radioactive isotopes, in particular actinium 225 and bismuth 213. The final drug construct is designed to specifically target and kill cancer cells while minimizing side effects. The Company intends to develop a number of products for different types of cancer and derive revenue from partnering relationships with large pharmaceutical companies and/or direct sales of its products in specialty markets in the U.S.

#### Our Corporate History and Background

We were formed as a Nevada corporation on October 6, 1997, originally under the name Zurich U.S.A., Inc. On July 10, 2006, we changed our name to Cactus Ventures, Inc. and began pursuing our business of marketing sunglasses. The Company encountered numerous problems with various vendors and ceased its operations. The Company shifted its efforts to seeking a business combination opportunity with a business entity, and negotiated a merger of a target company into the Company. Upon ceasing its operations, the Company was considered a “blank check” or “Shell” company as such term is defined under the Securities Act. Upon completing the Share Exchange (as defined below), the Company ceased being considered a “blank check” or “Shell” company and is now a clinical-stage biopharmaceutical company developing certain cancer treatments.

On April 11, 2013, the change of domicile from the State of Nevada to the State of Delaware and the change of Cactus Ventures, Inc.’s name from Cactus Ventures, Inc. to Actinium Pharmaceuticals, Inc. became effective in accordance with Articles of Merger filed with the State of Nevada and a Certificate of Merger filed with the State of Delaware. In connection with the name change we also changed the name of our subsidiary Actinium Pharmaceuticals, Inc. to Actinium Corporation. Effective April 18, 2013 our new trading symbol became ATNM. On September 25, 2013, we merged into our self our subsidiary, Actinium Corporation.

#### Acquisition of Actinium

On December 28, 2012, Actinium Pharmaceuticals, Inc. (“Actinium”) completed a share exchange with Cactus, whereby Cactus acquired 21% of the issued and outstanding capital stock of Actinium Corporation from the shareholders of Actinium Corporation (the “Actinium Shareholders”) in exchange for the issuance of 4,309,015 shares of Common Stock of the Company to the Actinium Shareholders (the “Share Exchange”). As part of the Share Exchange, Actinium Corporation paid \$250,000 to the shareholders of Cactus before the consummation of the Share Exchange.

The Share Exchange was treated as a recapitalization effected through a share exchange, with Actinium Corporation as the accounting acquirer and the Company the accounting acquiree. Unless the context suggests otherwise, when we refer in this Registration Statement to business and financial information for periods prior to the consummation of the

Share Exchange, we are referring to the business and financial information of Actinium Corporation.

Effective following the expiration of the ten day period following the mailing of the information statement required by Rule 14f-1 under the Exchange Act, Diane S. Button resigned from her position as member of the Board of Directors of the Company. Effective upon the closing of the Share Exchange, Diane S. Button resigned as an officer of the Company. Also effective upon the closing of the Share Exchange, Jack V. Talley was appointed to our Board of Directors. Effective as of the expiration of the ten day period following the mailing of the information statement required by Rule 14f-1 under the Exchange Act Dr. Rosemary Mazanet, David Nicholson, Sandesh Seth and Sergio Traversa were appointed to our Board of Directors. In addition, our Board of Directors appointed Jack V. Talley to serve as our President and Chief Executive Officer, Dragan Cicic to serve as our Chief Operating Officer and Chief Medical Officer, and Enza Guagenti to serve as our Chief Financial Officer, effective immediately upon the closing of the Share Exchange. On February 28, 2013, Mr. Talley resigned as the President and Chief Executive Officer, and Director of the Company and Actinium. On March 1, 2013, the Board of Directors of the Company unanimously approved the appointment of Dr. Sergio Traversa as the Company's interim President and Chief Executive Officer. Dr. Traversa is also currently a member of the Board of the Company. On September 16, 2013 Dr. Kaushik J. Dave was appointed by the Board of Directors as President, Chief Executive Officer and Director of the Company and at that time Dr. Traversa reverted back his role to as being a Director and interim Chief Financial Officer.

On March 9, 2013, Ms. Guagenti resigned as the Chief Financial Officer of the Company and Actinium. On March 11, 2013, the Board of Directors of the Company unanimously approved the appointment of Sergio Traversa as the Company's interim Chief Financial Officer. The Board is actively looking for a candidate to fill the Chief Financial Officer position of the Company. On March 13, 2013, the Board approved the appointment of Brio Financial Group as the Company's interim Controller, responsible for the Company's treasury and accounting functions. On September 16, 2013 Corey Sohmer was hired as the Company's Vice President of Finance.

As a result of the Share Exchange, the Company assumed the business and operations of Actinium Corporation. On April 11, 2013, the change of domicile from the State of Nevada to the State of Delaware and the change of Cactus Ventures, Inc.'s name from Cactus Ventures, Inc. to Actinium Pharmaceuticals, Inc. became effective in accordance with Articles of Merger filed with the State of Nevada and a Certificate of Merger filed with the State of Delaware. Effective April 18, 2013 the Company's new trading symbol is ATNM.

As the Company is a "reporting company" under the Exchange Act of 1934, it is required to file periodic filings with the SEC, which include Actinium Corporation's quarterly and annual financial information.

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On March 11, 2013, Actinium Corporation continued its Share Exchange with the Company, whereby the Company acquired an additional 36% of the issued and outstanding capital stock of Actinium Corporation from the Actinium Corporation Shareholders in exchange for the issuance of 7,344,390 shares of Common Stock of the Company to the Actinium Shareholders. On August 22, 2013, Actinium Corporation continued its Share Exchange with the Company, whereby the Company acquired an additional 38.2% of the issued and outstanding capital stock of Actinium Corporation from the Actinium Corporation Shareholders in exchange for the issuance of 8,009,550 shares of Common Stock of the Company to the Actinium Shareholders. On September 25, 2013 in accordance with a Certificate of Ownership Merging Actinium Corporation into the Company, the Company merged into itself Actinium Corporation, and Actinium Corporation ceased to exist. As a result of the merger, Actinium Corporation stock owned by the Company has been cancelled and each share of Actinium Corporation not owned by the Company was exchanged for 0.333 shares of Company common stock.

### Corporate History of Actinium

Actinium Corporation was incorporated in 2000 in the state of Delaware. Until the Share Exchange, Actinium Corporation was a clinical-stage, privately held biopharmaceutical company with:

- Two clinical-stage products, Iomab™-B and Actimab™-A, in development for blood borne cancers;
- Preclinical data in additional cancer indications;
- A proprietary technology platform for novel radioimmunotherapy cancer treatments; and
- A proprietary process for manufacturing of the alpha particle emitting radioactive isotope actinium 225 (Ac-225).

Iomab™-B has completed a Phase I/II design trial as a preparatory regimen in conjunction with fludarabine and reduced intensity radiation conditioning in patients who are ineligible for standard myeloablative conditioning for hematopoietic stem cell transplantation (HSCT) and the Company expects it to enter a regulatory approval trial in 2014, subject to input from the FDA concerning the design and conduct of a pivotal trial. This trial was conducted in 68 human subjects at the Fred Hutchinson Cancer Research Center in Seattle, WA, USA. Currently, the IND for this drug is held by the licensor, Fred Hutchinson Cancer Research Center. The Company intends to file its own separate IND for the purpose of conducting a Phase III trial in 2014. Actimab™-A is currently in a Phase I/II trial in newly diagnosed elderly acute myeloid leukemia (AML). In addition, using its patented Alpha Particle Immunotherapy Technology (APIT) platform and via its collaboration with the Memorial Sloan Kettering Cancer Center (MSKCC), the Company has preclinical data on potential drug candidates in several other cancer indications and expects to further develop these into clinical stage drug candidates.

Actinium Corporation has one wholly owned subsidiary, MedActinium, Inc., a Delaware corporation, which is party to certain isotope related licenses and contracts on which the Company relies.

Upon Actinium Corporation's formation in 2000, it acquired Pharmactinium, Inc. and MedActinium, Inc., and through Pharmactinium, Inc. acquired certain rights to the APIT platform. Core technology patents were in-licensed from N.V. Organon which also provided seed funding. Pharmactinium, Inc. was party to a research and development agreement with MSKCC beginning in 1996. In 2002, this agreement and relationship was significantly expanded and now includes research and development, preclinical development, clinical trials and commercial technology licenses. In 2007, Pharmactinium, Inc. was merged with and into the Company. In 2007, the Company also acquired its sister company, Actinium Pharmaceuticals, Limited (Bermuda) (the "Bermuda Company"), by a merger of the Bermuda Company into the Company and thereby also acquired certain patent licenses relating to APIT previously licensed by the Bermuda Company to the Company.

In 2000, the Company also began what has become a long term relationship with General Atlantic Investments Limited (GAIL), an entity which provided most of the Company's investment capital since 2000, totaling \$50.7 million. In 2010, the parent of GAIL contributed and transferred its ownership of GAIL (now renamed Actinium Holdings, Limited), whose only asset at that time was the shares of API, to an indirect subsidiary of Memorial Sloan-Kettering Cancer Center. In January 2012, the Company closed on \$6,685,418 in net funding through the sale of the Company's stock and a Senior Convertible Note financing. On December 19, 2012, Actinium completed a private offering of units, consisting of common stock, Series A warrants and Series B warrants. The price per unit was \$1.65 for aggregate net proceeds of \$4,469,776. The Series A Warrants had a 120 day term from January 28, 2013 and were exercisable for an aggregate of up to 3,118,968 shares of the Company's common stock at an initial per share exercise price of \$1.65, subject to adjustment. The Series A Warrants expired on May 28, 2013. The Series B Warrants have a five year term from January 28, 2013 and are exercisable for an aggregate of up to 1,59,484 shares of the Company's common stock at an initial per share exercise price of \$2.48, subject to adjustment. In the second quarter of 2013, we issued shares of common stock pursuant to the exercise of A-Warrants originally issued in connection with a private placement that closed in January 2013. The warrants were exercised at \$1.65 per share, resulting in gross proceeds of \$3,457,087 for the Company.

On September 25, 2013 in accordance with a Certificate of Ownership Merging Actinium Corporation into the Company, the Company merged into itself Actinium Corporation, and Actinium Corporation ceased to exist. As a result of the merger, Actinium Corporation stock owned by the Company has been cancelled and each share of Actinium Corporation not owned by the Company was exchanged for 0.333 shares of Company common stock.

Our executive office is located at 501 Fifth Avenue, 3rd Floor, New York, NY 10017 and our telephone number is (212) 300-2131. Our website address is <http://www.actiniumpharmaceuticals.com>. Except as set forth below, the information on our website is not part of this Registration Statement.

#### Summary of Scientific and Business Achievements:

The Company's scientific and business achievements to date include:

- In-licensing a Phase II clinical stage monoclonal antibody, BC8, with safety and efficacy data in more than 250 patients in need of Hematopoietic Stem Cell Transplantation (HSCT), currently in 7 active Phase I and Phase II clinical trials;

- Commencing a Company sponsored multi-center Phase I/II clinical trial for Actimab<sup>TM</sup>-A in elderly Acute Myeloid Leukemia;

- Developing and organizing manufacturing of Actinium's lead drug candidate Actimab<sup>TM</sup>-A which was accepted by the FDA for multi-center human use;

- Supporting three physician sponsored clinical trials, including a Phase I and a Phase I/II trial with the alpha emitting radioactive isotope bismuth 213 (Bi-213) based AML drug and a Phase I clinical trial with the alpha emitting radioactive isotope actinium 225 (Ac-225) based AML drug;

- In-licensing the AML targeting monoclonal antibody known as HuM195 or Lintuzumab;

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Establishing clinical and preclinical development relationships with world-class institutions such as MSKCC, Fred Hutchinson Cancer Research Center (FHCRC) and University of Texas MD Anderson Cancer Center (the MD Anderson Cancer Center relationship includes clinical trials only), as well as leading clinical experts in the fields of AML and HSCT;  
Securing rights to an intellectual property estate that covers key aspects of the Company's proprietary technology platform;  
Supporting a number of pipeline projects, including preclinical experiments in metastatic prostate cancer, metastatic colon cancer, antiangiogenesis and breast cancer models;  
Maintaining contractual relationship with Oak Ridge National Laboratory (ORNL) of the Department of Energy (DOE) which gives API access to most of the current world supply of Ac-225; and  
Successfully developing commercial production methods for actinium 225.

### Business Strategy

API intends to potentially develop its most advanced clinical stage drug candidates through approval in the case of Iomab™-B and up to and including a Phase II proof of concept human clinical trial (a trial designed to provide data on the drug's efficacy) in the case of Actimab™-A. If these efforts are successful, API may elect to commercialize Iomab™-B on its own or with a partner in the United States and/or outside of the U.S. to out-license the rights to develop and commercialize the product to a strategic partner. In the case of Actimab™-A, API will most likely seek to enter into strategic partnerships whereby the strategic partner(s) co-fund(s) further human clinical trials of the drug that are needed to obtain regulatory approvals for commercial sale within and outside of the U.S. In parallel, the Company intends to identify and begin initial human trials with additional actinium-225 drug candidates in other cancer indications. API intends to retain marketing rights for its products in the United States whenever possible and outlicense marketing rights to its partners for the rest of the world.

### Market Opportunity

API is competing in the marketplace for cancer treatments estimated at over \$54 billion in 2011 sales per IMS Health and projected to exceed \$76 billion per year by 2015, according to the Global Academy for Medical Education. While surgery, radiation and chemotherapy remain staple treatments for cancer, their use is limited by the fact that they often cause substantial damage to normal cells. On the other hand, targeted monoclonal antibody therapies exert most or all of their effect directly on cancer cells, but often lack sufficient killing power to eradicate all cancer cells with just the antibody. A new approach for treating cancer is to combine the precision of antibody-based targeting agents with the killing power of radiation or chemotherapy by attaching powerful killing agents to precise molecular carriers called monoclonal antibodies (mAb). The Company uses monoclonal antibodies labeled with radioisotopes to deliver potent doses of radiation directly to cancer cells while sparing healthy tissues. The radioisotopes we use are the alpha emitter Ac-225 and the beta emitter I-131. I-131 is among the best known and well characterized radioisotopes. It is used very successfully in treatment of papillary and follicular thyroid cancer as well as other thyroid conditions. It is also attached to a monoclonal antibody in treatment of Non-Hodgkin's Lymphoma (NHL). It is also used experimentally with different carriers in other cancers. Ac-225 has many unique properties and the Company is a leader in developing this alpha emitter for clinical applications using its proprietary APIT technology.

The Company's most advanced products are Actimab™-A, Ac-225 labeled mAb for treatment of newly diagnosed AML, a cancer of the blood, in patients ineligible for currently approved therapies, and Iomab™-B, I-131 labeled mAb for preparation of relapsed and refractory AML patients for hematopoietic stem cell transplantation (HSCT). Iomab™-B offers a potentially curative treatment for these patients most of whom do not survive beyond a year after being diagnosed with this condition. Iomab™-B has also demonstrated efficacy in HSCT preparation for other blood cancer indications, including Myelodysplastic Syndrome (MDS), acute lymphoblastic leukemia (ALL), Hodgkin's Lymphoma, and Non-Hodgkin's Lymphoma (NHL). These are all follow-on indications for which Iomab™-B can be

developed and it is the Companies intention to explore these opportunities.

There are currently no FDA approved treatments for either Actimab™-A or Iomab™-B targeted patients.

Other potential product opportunities in which a significant amount of preclinical work is being undertaken include metastatic colorectal cancer, metastatic prostate cancer and antiangiogenesis which reduces the blood supply to solid tumors.

The Company believes that its biggest market opportunity lies in the applicability of the Company's APIT platform technology to a wide variety of cancers. A broad range of solid and blood borne cancers can be potentially targeted by monoclonal (mAbs) to enable treatment with its APIT technology. The APIT technology could potentially be applied to mAbs that are already FDA approved to create more efficacious and/or safer drugs ("biobetters").

#### Clinical Trials

The Company has completed a Phase I and Phase I/II physician trial in AML at MSKCC using Bismab®-A, The Company's first generation AML drug that consists of bismuth-213 attached to the antibody Lintuzumab™. The Phase II arm of the Bismab®-A drug study has shown signs of the drug's efficacy and safety, including reduction in peripheral blast counts and complete responses in some patients. Bi-213 is a daughter, i.e., product of the degradation of Ac-225, with cancer cell killing properties similar to Ac-225 but is less potent.

The Company has commenced its first company sponsored Phase I/II multi-center trial with fractionated (two) doses of Actimab™-A, Actinium's lead product for treatment of elderly AML that consists of an AML specific monoclonal antibody (HuM195, also known as Lintuzumab™) and the actinium 225 radioactive isotope attached to it. The Company intends to conduct these trials at world-class cancer institutions such as MSKCC, Johns Hopkins Medicine, University of Pennsylvania Health System, Fred Hutchinson Cancer Center and MD Anderson Cancer Center.

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The Company also continues to sponsor a Phase I AML trial at MSKCC with a single-dose administration of Actimab™-A. Initial data shows elimination of leukemia cells from blood in 67% of all evaluable patients who received a full dose and in 83% of those treated at dose levels above 0.5 microcuries ( $\mu\text{Ci}/\text{kg}$ ), and eradication of leukemia cells in both blood and bone marrow in 20% of all evaluable patients and 25% of those treated at dose levels above 0.5  $\mu\text{Ci}/\text{kg}$ . Dose levels in that trial have been reduced as we continue our work on establishing a maximum tolerated dose.

This Phase I trial builds on the experience with Company's first generation drug Bismab®-A that contains the same antibody used in Actimab™-A but labeled with bismuth 213, a less potent alpha emitting daughter of actinium 225 used in Actimab™-A. Bismab®-A trials and the Phase I Actimab™-A trial were focused on relapsed, refractory and other difficult to treat acute myeloid leukemia patients. The new multicenter Phase I/II trial is focused on newly diagnosed AML patients who have historically had better outcomes. In addition, the new trial includes low doses of chemotherapy with the goal of further improving patient outcomes.

### Operations

The Company's current operations are primarily focused on furthering the development of its lead clinical drug candidates Actimab™-A and Iomab™-B. In the case of Actimab™-A, key ongoing activities include progressing a multi-center Phase I/II trial, support for an ongoing Phase I clinical trial at Memorial Sloan Kettering Cancer Center in New York, managing isotope and other materials supply chain, and managing the manufacturing of the finished drug candidate product. The Company has secured access to much of the currently available world reserves of Ac-225 and Bi-213 through a renewable contractual arrangement with the U.S. Department of Energy (DOE). The Company projects that these quantities are sufficient to support early stages of commercialization of alpha isotopes based products. The Company has also developed its own proprietary process for industrial scale Ac-225 production in a cyclotron in quantities adequate to support full product commercialization.

Operations related to Iomab™-B include planning for a registration trial which will include development of commercial scale manufacturing to be suitable for an approval trial and preparation of appropriate regulatory submissions.

For the fiscal years ended December 31, 2012 and December 31, 2011, we spent approximately \$3.4 million \$0.3 million, respectively, on research and development activities. These expenditures consisted of materials maintenance and purchases, supply chain development and implementation, drug candidate manufacturing expenditures, clinical trials costs and intellectual property portfolio related expenses. Since we have no customers, none of the costs of such research and development activities were borne by our customers.

As of the end of the second quarter 2013, we believe that we have sufficient cash to continue our operations for the balance of the year. In the second quarter of 2013 we issued shares of common stock pursuant to the exercise of Series A Warrants originally issued in connection with a private placement that closed in January 2013. The warrants were exercised at \$1.65 per share, resulting in gross proceeds of \$3,457,087 for the Company.

We estimate that we will need approximately up to \$25 million cash for the period of 2014 to 2016, i.e. until we receive our first product approval. We intend to fund these expenses from a combination of equity and/or debt funding raises and payments obtained from licensing partners.

Failure to raise additional equity or debt funding in the amounts necessary to complete our programs and/or failure to out license our programs on the projected terms may result in a slowing down of our projected development plan or our inability to complete one or more of the planned programs.

Our business plan has not been impacted by our accountants' going concern opinion. Due to our receipt of gross proceeds of \$3,457,087 from the exercise of Series A Warrants described above, we believe that we have sufficient funds to fund our operations through 2013 and will seek to raise additional funds through equity and/or debt offerings to fund our operations in 2014 to 2016.

Summary of Material Agreements Related to Our Business

- a. Abbott Biotherapeutics Corp. We entered into a Product Development and Patent License Agreement with Abbott Biotherapeutics Corp. (formerly Facet Biotech formerly known as Protein Design Labs) in 2003 to secure exclusive rights to a specific antibody when conjugated with alpha emitting radioisotopes. Upon execution of the agreement, we made a license fee payment of \$3,000,000.

We agreed to make milestone payments totaling \$7,750,000 for the achievement of the following agreed to and contracted milestones:

| Milestones  | Payments   |
|---|------------|
| (1) when Company initiates a Phase I Clinical Trial of a licensed product   | \$ 750,000 |
| (2) when Company initiates a Phase II Clinical Trial of a licensed product  | 750,000    |
| (3) when Company initiates a Phase III Clinical Trial of a licensed product | 1,500,000  |
| (4) Biological License Application filing with U.S. FDA                     | 1,750,000  |
| (5) First commercial sale   | 1,500,000  |
| (6) after the first \$10,000,000 in net sales                               | 1,500,000  |

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Under the agreement, we agreed to pay to Abbott Biotherapeutics Corp on a country-by-country basis a royalty of up to 12% of net sales of all licensed products until the later of: (1) 12.5 years after the first commercial sale, or (2) when the patents expire.

As of December 31, 2012, we met our first milestone and upon reaching the milestone we paid Abbott Biotherapeutics Corp. a milestone payment of \$750,000 on July 24, 2012.

- b. Memorial Sloan Kettering Cancer Center (MSKCC). In February 2002, we entered into a license agreement with MSKCC that requires a technology access fee of \$50,000 upon execution, an annual maintenance fee of \$50,000 and an annual research funding of \$50,000 for as long as the agreement is in force.

| Milestones   | Payments   |
|--|------------|
| (1) filing of an New Drug Application (“NDA”) or regulatory approval for each licensed product | \$ 750,000 |
| (2) upon the receipt of regulatory approval from the U.S. FDA for each licensed product        | 1,750,000  |

Under the agreement, we agreed to pay to MSKCC on a country-by-country basis a royalty of 2% of net sales of all licensed products until the later of: (1) 10 years from the first commercial sale, or (2) when the patents expire. We expect to file the NDA for regulatory approval in 2016.

- c. Oak Ridge National Laboratory (ORNL) – We have contracted to purchase radioactive material to be used for research and development through December 2012. We contracted to purchase \$233,100 of radioactive material to be used for research and development, with a renewal option at the contract end.
- d. Aptiv Solutions. Aptiv Solutions provides project management services for the study of the drug Ac-225-HuM195 (Actimab™-A) used in our clinical trials, Phase I and Phase II. The total project is estimated to cost \$1,859,333 and requires a 12.5% down payment of the total estimated project cost. The down payment totaling \$239,000 was paid in 2007 and 2012. The agreement was amended to provide for additional services on August 6, 2012, October 22, 2012 and May 16, 2013. The total project is now estimated at \$2,173,955.
- e. Fred Hutchinson Cancer Research Center (FHCRC). On June 15, 2012, we entered into a license and sponsored research agreement with FHCRC. We will build upon previous and ongoing clinical trials, with BC8 (licensed antibody) and eventually develop a clinical trial with Actinium 225. FHCRC has currently completed Phase I and Phase II of the clinical trial and we intend to start preparation for a pivotal trial leading to an FDA approval. We have been granted exclusive rights to the BC8 antibody and related master cell bank developed by FHCRC. The cost to develop the trial will range from \$13.2 million to \$23.5 million, depending on the trial design as required by the FDA. Under the terms of the sponsored research agreement, we will fund the FHCRC lab with \$150,000 per year for the first two years and \$250,000 thereafter. Payments made toward funding the lab will be credited toward royalty payments owed to FHCRC in the given year. A milestone payment of \$1 million will be due to FHCRC upon FDA approval of the first drug. Upon commercial sale of the drug, royalty payments of 2% of net sales will be due to FHCRC.
- f. MSKCC. On March 27, 2012, we entered into a clinical trial agreement with Memorial Sloan Kettering Cancer Center. The Company will pay \$31,185 for each patient that has completed the clinical trial. Upon execution of the agreement, the Company is required to pay a start-up fee of \$79,623. The amount due of \$79,623 was paid on July 10, 2012.



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- g. FHCRC. On July 19, 2012, we entered into a clinical trial agreement with FHCRC. We will pay \$31,366 for each patient that has completed the clinical trial. Upon execution of the agreement, we are required to pay a start-up fee of \$19,749.
- h. The University of Texas M.D. Anderson Cancer Center. On August 28, 2012, we entered into a clinical trial agreement with The University of Texas M.D. Anderson Cancer Center. The total estimated cost of conducting the clinical trial is \$481,204, which includes a non-refundable institutional fee of \$14,500. The estimated cost is based on treating 24 patients through 2013. Upon execution of the agreement, we were required to make a payment of \$33,946.
- i. Johns Hopkins University. On September 26, 2012, we entered into a clinical trial agreement with Johns Hopkins University. The Phase I/II clinical trial will be conducted with Actinium 225. The clinical trial will be conducted under the protocols established by us and pursuant to an Investigational New Drug Exemption (IND 10807) held by us. We will pay \$38,501 per patient, who has completed the clinical trial. We are required to pay a start-up fee of \$22,847, an annual pharmacy fee of \$2,025 and an amendment processing fee of \$500, when applicable.
- j. University of Pennsylvania. On November 21, 2012, we entered into a clinical trial agreement with the University of Pennsylvania. The Phase I/II clinical trial will be conducted with Actinium 225. The clinical trial will be conducted under the protocols established by us and pursuant to an Investigational New Drug Exemption (IND 10807) held by us. We will pay \$31,771 per patient, who has completed the clinical trial. We will be required to pay a start-up fee of \$16,000 and additional administrative fees, when applicable.

## Intellectual Property Portfolio

The Company has a patent portfolio with 8 issued patents and 60 pending patents in various jurisdictions as follows: United States: 17 and international: 51. Most of the patents are in-licensed from third parties and some are held by Actinium Corporation. These patents cover key areas of the Company's activity, including use of the actinium 225 and other alpha emitting isotopes attached (labeled) to cancer specific carriers like monoclonal antibodies, methods for manufacturing key components of the Company's drug candidates including actinium 225 alpha emitting radioisotope and carrier antibodies, methods for manufacturing finished drug candidates for use in cancer treatment, and methods for mitigating potential toxicities of the Company's drug candidates. These patents are classified in families of related patents per the table below:

| Area                                | Claims  | Expiration | Status          | Licensor            |
|-------------------------------------|---|------------|-----------------|---------------------|
| Platform technology                 | Metastases larger than 1 mm                     | 2020       | Allowed         | MSKCC               |
| Platform technology                 | Use of the DOTA chelator for drug manufacturing | 2021       | Issued          | MSKCC               |
| Drug preparation methods            | Actinium 225 labeling method                    | 2029       | Pending         | Owned               |
| Drug preparation methods            | Bismuth 213 labeling method                     | 2017/2020  | Issued          | MSKCC               |
| Isotope production methods          | Actinium 225 manufacturing in a cyclotron       | 2023/2025  | Pending/Allowed | Owned               |
| Monoclonal antibody composition and | Manufacturing of leukemia targeting             | 2015       | Issued          | Abbott Laboratories |

|                      |  |      |         |        |
|----------------------|--|------|---------|--------|
| production           | antibody                                 |      |         |        |
| Methods of treatment | Protection from actinium<br>225 toxicity | 2023 | Pending | MSKjCC |

### Key Strengths

The Company believes that the key elements for its market success include:

Clinical results to date imply lower development risk for its lead drug candidates: The Company's lead drug candidates have been tested in over 300 patients and demonstrated favorable safety and efficacy profiles. Iomab<sup>TM</sup>-B has been administered to more than 250 patients in a number of Phase I and Phase II trials and has shown a clear survival benefit in the indication for which it is being developed. Bismab<sup>®</sup>-A and Actimab<sup>TM</sup>-A, drugs based on the APIT platform have so far been tested in over 60 patients in 3 clinical trials. In each trial they exhibited few side effects and have shown indications of efficacy. The current proof-of-concept Actimab<sup>TM</sup>-A Phase I/II clinical trial is directed at a patient population that is generally easier to treat (newly diagnosed vs. relapsed/refractory in previous trials), and employs a more potent treatment regimen (low dose chemotherapy plus two doses of Actimab<sup>TM</sup>-A plus low dose chemotherapy vs. a single dose of Actimab<sup>TM</sup>-A in the physician sponsored trial).

Additional product opportunities from the APIT platform: The Company's Alpha Particle Immunotherapy technology has the potential for broad applicability for the treatment of many cancer types, which allows the Company to add new product candidates to its pipeline based on well-defined patent protected methods.

Collaboration with Memorial Sloan-Kettering Cancer Center (MSKCC): The Company's collaboration with MSKCC includes licensing, research and clinical trial arrangements involving MSKCC labs and clinicians and included financial support with respect to certain pre-2012 R&D-related expenses.

Scientific backing of leading experts: The Company's clinical advisory board and collaborators include some of the best recognized clinicians and scientists working at some of the highest regarded medical institutions in the U.S. and the world, including MSKCC, Johns Hopkins University, University of Pennsylvania, Fred Hutchinson Cancer Center and MD Anderson Cancer Center. This is expected to be beneficial to the Company both in clinical development and market acceptance assuming its drug candidates are approved.

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Isotope supply secured for clinical trials: The Company has a contractual relationship with ORNL (Oak Ridge National Laboratory of the Department of Energy (DOE)) that provides the Company access to the largest known supply reserves of actinium 225. Iodine 131 is readily available from a number of qualified pharmaceutical supply vendors.

Proprietary alpha emitting isotope manufacturing technology fully developed: The Company has developed its own proprietary technology for commercial scale manufacturing of actinium 225. This is expected to ensure commercial supply of Ac-225 for Actimab™-A, Actimab™-B and other actinium-linked products should they be approved.

cGMP Actimab™-A manufacturing developed: The Company has developed at a contractor's site full cGMP (current good manufacturing practices) manufacturing processes for its drug candidate Actimab™-A.

Substantial IP portfolio: The Company has an intellectual property portfolio in excess of 60 patents and patent applications, both in the U.S. and other countries, which cover clinical applications of the APIT technology and methods of manufacturing actinium 225 thus giving the Company control over both the applications of its technology and a supply chain of its key ingredients, actinium 225 and bismuth 213 alpha emitting isotopes.

### Competition Overview

To the Company's knowledge, there are no other commercial entities that have significant programs in place for developing Ac-225- or Bi-213-based drugs. In the wider field of medical oncology, the Company faces competition from: developers of other alpha emitter based drug candidates, other radioimmunotherapy based technologies, technologies for labeling antibodies with toxic drugs (antibody-drug conjugates), and for each disease indication from all drugs available and/or in development.

For Company's lead indication, acute myeloid leukemia, there are a number of companies developing drugs for AML induction in the elderly. These drugs are most often small molecules. Until recently, our leukemia targeting monoclonal antibody HuM195 was under development as a native i.e. unconjugated mAb by Seattle Genetics, Inc., but its development has been discontinued due to lack of efficacy of the native mAb in that company's pivotal trial in AML. To our knowledge, there are no clinical trials that have shown significant efficacy in this indication.

In the field of hematopoietic stem cell transplantation, pharmaceuticals currently used for bone marrow ablation/conditioning are generic drugs and to our knowledge there are no significant industry efforts to enter this area, especially not in older patients.

### Government Regulation

Governmental authorities in the United States and other countries extensively regulate, among other things, the research, development, testing, manufacture, labeling, promotion, advertising, distribution and marketing of radioimmunotherapy pharmaceutical products such as those being developed by the Company. In the United States, the U.S. Food and Drug Administration (FDA) regulates such products under the Federal Food, Drug and Cosmetic Act (FDCA) and implements regulations. Failure to comply with applicable FDA requirements, both before and after approval, may subject us to administrative and judicial sanctions, such as a delay in approving or refusal by the FDA to approve pending applications, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions and/or criminal prosecution.

### United States FDA Regulation

Our research, development and clinical programs, as well as our manufacturing and marketing operations, are subject to extensive regulation in the United States and other countries. Most notably, all of our products sold in the United States are subject to the FDA as implemented and enforced by the FDA. Certain of our product candidates in the United States require FDA pre-marketing approval of a Biologics License Application (BLA) pursuant to 21 C.F.R. § 314. Foreign countries may require similar or more onerous approvals to manufacture or market these products.

Failure by us or by our suppliers to comply with applicable regulatory requirements can result in enforcement action by the FDA, the Nuclear Regulatory Commission or other regulatory authorities, which may result in sanctions, including but not limited to, untitled letters, warning letters, fines, injunctions, consent decrees and civil penalties; customer notifications or repair, replacement, refunds, recall, detention or seizure of our products; operating restrictions or partial suspension or total shutdown of production; refusing or delaying our requests for BLA premarket approval of new products or modified products; withdrawing BLA approvals that have already been granted; and refusal to grant export.

#### Properties

The Company does not own any property. The Company has office space at 501 Fifth Avenue, 3rd Floor, New York, NY 10017. The space is month to month and pays approximately \$5,600 per month.

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### Employees

As of October 25, 2013, we have 5 full-time employees. None of these employees are covered by a collective bargaining agreement, and we believe our relationship with our employees is good. We also engage consultants on an as-needed basis to supplement existing staff.

### Legal Proceedings

From time to time, we may become involved in various lawsuits and legal proceedings, which arise in the ordinary course of business. Litigation is subject to inherent uncertainties, and an adverse result in these or other matters may arise from time to time that may harm business. We are currently not aware of any such legal proceedings or claims that will have, individually or in the aggregate, a material adverse effect on our business, financial condition or operating results.

## MARKET PRICE OF AND DIVIDENDS ON OUR COMMON STOCK AND RELATED STOCKHOLDER MATTERS

### Market Information

Our Common Stock is listed on OTCQB, under the symbol "ATNM". Our Common Stock ceased trading on the OTCBB on May 29, 2013. However, there is no active market for our Common Stock and trading has been extremely limited. The last quoted price for our Common Stock was \$5.00 for a trade on October 24, 2013, as reported on [www.otcbb.com](http://www.otcbb.com). However, as there is currently little to no market for our Common Stock, we believe that this last reported price does not accurately reflect the value of the Common Stock or the Company, and it may not be possible to sell Common Stock at this price.

### Holdings

As of October 25, 2013 there were 23,656,583 shares of common stock issued and outstanding, which were held by 342 holders of record. There are no shares of preferred stock outstanding.

Of the 23,656,583 shares of common stock issued and outstanding, 23,256,583 of such shares are restricted shares under the Securities Act. None of these restricted shares are eligible for resale absent registration or an exemption from registration under the Securities Act. As of the date hereof, until the provisions of Rule 144 are complied with, the exemption from registration provided by Rule 144 under the Securities Act is not available for these shares pursuant to Rule 144(i).

### Registration Rights

Certain shareholders are entitled to certain registration rights, including piggy-back registration rights, with respect to the shares of common stock purchased in the offerings conducted by Actinium in 2011 and 2012.

The following shares are subject to registration rights:

- 14,281,952 shares of common stock, par value \$0.001 per share, held by the selling stockholders issued pursuant to the 2011 Stock Offering and a private placement that closed on December 28, 2012;
- 3,118,968 shares of our common stock issuable upon exercise of Series A warrants held by the selling stockholders at an exercise price of \$1.65 per share issued pursuant to a private placement that closed on December 28, 2012;

1,559,437 shares of our common stock issuable upon exercise of Series B warrants held by the selling stockholders at an exercise price of \$2.48 per share issued pursuant to a private placement that closed on December 28, 2012;

2,700,971 shares of our common stock issuable upon exercise of the 2011 Stock Offering warrants held by the selling stockholders at an exercise price of \$0.78 per share;

3,755,562 shares of our common stock issuable upon exercise of consulting firm warrants held by the selling stockholders at an exercise price of \$0.001 per share issued pursuant to a consulting firm agreement, dated May 9, 2011;

1,245,210 shares of our common stock issuable upon exercise of placement agent warrants held by the selling stockholders at an exercise price of \$0.78 per share issued pursuant to the 2011 Stock Offering); and

467,845 shares of our common stock issuable upon exercise of placement agent warrants held by the selling stockholders at an exercise price of \$1.65 per share issued pursuant to a private placement that closed on December 28, 2012.

#### Dividends

We have never declared or paid a cash dividend. Any future decisions regarding dividends are made by our Board of Directors. We currently intend to retain and use any future earnings for the development and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future. Our Board of Directors has complete discretion on whether to pay dividends. Even if our Board of Directors decides to pay dividends, the form, frequency and amount will depend upon our future operations and earnings, capital requirements and surplus, general financial condition, contractual restrictions and other factors that the Board of Directors may deem relevant.

#### Securities Authorized for Issuance Under Equity Compensation Plans

In September 2013 the Board approved the Company's 2013 Stock Plan. The expiration date of the plan is September 9, 2023 and the total number of underlying shares of the Company's common stock available for grant to employees, directors and consultants of the Company under the plan is 2,750,000 shares.

In September 2013 the Board approved the Company's 2013 Equity Incentive Plan. The expiration date of the plan is September 9, 2023 and the total number of shares of the Company's common stock available for grant to employees, directors and consultants of the Company under the plan is 450,000 shares.

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MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The information and financial data discussed below is derived from the unaudited consolidated financial statements of the Company for its quarterly period ended June 30, 2013 and of Actinium Corporation for the quarterly period ended June 30, 2012, and audited consolidated financial statements of Actinium Corporation for its fiscal years ended December 31, 2012 and 2011. The consolidated financial statements of the Company and Actinium Corporation were prepared and presented in accordance with generally accepted accounting principles in the United States. The information and financial data discussed below is only a summary and should be read in conjunction with the historical financial statements and related notes contained elsewhere in the Registration Statement of which this prospectus is a part. The financial statements contained elsewhere in the Registration Statement of which this prospectus is a part fully represent the Company's financial condition and results of operations; however, they are not indicative of the Company's future performance. See "Cautionary Note Regarding Forward Looking Statements" above for a discussion of forward-looking statements and the significance of such statements in the context of this Registration Statement.

This discussion contains forward-looking statements reflecting our current expectations that involve risks and uncertainties. Actual results may differ materially from those discussed in these forward-looking statements due to a number of factors, including those set forth in the section entitled "Risk Factors" and elsewhere herein.

Overview

The Company was incorporated under the laws of the State of Nevada on October 6, 1997. The Company was a shell entity that is in the market for a merger with an appropriate operating company.

On December 28, 2012, the Company entered into a transaction (the "Share Exchange"), pursuant to which the Company acquired 21% of the issued and outstanding equity securities of Actinium Pharmaceuticals, Inc. ("Actinium"), in exchange for the issuance of 4,309,015 shares of common stock, par value \$0.001 per share, of the Company (the "Common Stock"), which were issued to the shareholders of Actinium. As a result of the Share Exchange, the former shareholders of Actinium became the controlling shareholders of the Company. The Share Exchange was accounted for as a reverse takeover/recapitalization effected by a share exchange, wherein Actinium is considered the acquirer for accounting and financial reporting purposes.

Actinium, incorporated on June 13, 2000, is a biotechnology company committed to developing breakthrough therapies for life threatening diseases using its alpha particle immunotherapy (APIT) platform and other related and similar technologies. Actinium, together with its wholly owned subsidiary, MedActinium, Inc. (MAI), (hereinafter referred to collectively as "Actinium") has initiated collaborative efforts with large institutions to establish the proof of concept of alpha particle immunotherapy and has supported one Phase I/II clinical trial and one Phase I clinical trial at Memorial Sloan-Kettering Cancer Center (MSKCC) under an MSKCC Physician Investigational New Drug Application. In 2012, Actinium launched a multi-center corporate sponsored trial in acute myeloid leukemia (AML) patients. Actinium's objective, through research and development, is to produce reliable cancer fighting products which utilize monoclonal antibodies linked with alpha particle emitters or other appropriate payloads to provide very potent targeted therapies. The initial clinical trials of Actinium's compounds have been with patients having acute myeloid leukemia and it is believed that Actinium's APIT platform will have wider applicability for different types of cancer where suitable monoclonal antibodies can be found.

As a result of the Share Exchange, the Company is now a holding company operating through Actinium, a clinical-stage biopharmaceutical company developing certain cancer treatments.

We develop drugs for treatment of cancer with intent to cure or significantly improve survival of the affected patients. As of now none of our drugs have been approved for sale in the United States or elsewhere. We have no commercial operations in sales or marketing of our products. All our product candidates are under development. In order to market and sell our products we must conduct clinical trials on patients and obtain regulatory approvals from appropriate regulatory agencies like the Food and Drug Administration (FDA) in the United States and similar agencies elsewhere in the world.

Our products under development are monoclonal antibodies labeled with radioisotopes. We have one program with an antibody labeled with a beta emitter and several programs based on a proprietary patent protected platform technology called alpha particle immunotherapy or APIT. Our APIT technology is based on attaching actinium 225 (Ac-225) or bismuth 213 (Bi-213) alpha emitting radioisotopes to monoclonal antibodies. Alpha emitting radioisotopes are unstable chemical elements that decay by releasing alpha particles. Alpha particles can kill any cell in whose immediate proximity they are released. Monoclonal antibodies are genetically engineered proteins that target specifically certain cells, and can target cancer cells. It is crucial for the success of our drug candidates to contain monoclonal antibodies that can successfully seek cancer cells and can kill them with the attached isotope while not harming nearby normal cells. We do not have technology and operational capabilities to develop and manufacture such monoclonal antibodies and we therefore rely on collaboration with third parties to gain access to such monoclonal antibodies. We have secured rights to two monoclonal antibodies, HuM195 (Lintuzumab), in 2003 through a collaborative licensing agreement with Abbott Laboratories and BC8 in 2012 with the Fred Hutchinson Cancer Research Center. We expect to negotiate collaborative agreements with other potential partners that would provide us with access to additional monoclonal antibodies. Establishing and maintaining such collaborative agreements is a key to our success as a company.

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Under our own sponsorship as well as activity at FHCRC, we have four product candidates in active clinical trials: Actimab™-A (HuM195-Ac-225), Iomab™-B (BC8-I-131), BC8-Y-90 and BC8-SA. At this time, the Company is actively pursuing development of Actimab™-A and Iomab™-B while BC8-Y-90 and BC8-SA are in physician sponsored clinical phase I trials at the Fred Hutchinson Cancer Research Center. Actimab™-A is a combination of the monoclonal antibody we have in-licensed, Lintuzumab (HuM195), and the alpha emitting isotope actinium 225. Actimab™-A has shown promising results throughout preclinical development and an ongoing clinical trial started in 2006 in treating acute myeloid leukemia (AML) in the elderly. We have expanded the number of patients and number of clinical centers by commencing a new AML clinical trial which we have launched in 2012. This trial targets newly diagnosed AML patients over the age of 60. In order to conduct the trial we are engaged in funding, monitoring and quality assurance and control of the Lintuzumab antibody; procurement of actinium 225 isotope; funding, monitoring and quality assurance and control of the drug candidate Actimab™-A manufacturing and organizing and monitoring clinical trials. We estimate that the direct costs to completion of both parts of the ongoing Phase I/II trial will be approximately US \$7 million. Assuming a successful trial we intend to explore out-licensing the Actimab™-A product and potentially receiving payments for co-developing the product with a partner. Iomab™-B is a combination of the in-licensed monoclonal antibody BC8 and the beta emitting radioisotope iodine 131. This construct has been extensively tested in Phase I and Phase II clinical trials in approximately 250 patients with different blood cancer indications who were in need of a hematopoietic stem cell transplantation (HSCT). Iomab™-B is used to condition the bone marrow of these patients by destroying blood cancer cells in their bone marrow and elsewhere thus allowing for a subsequent transplant containing healthy donor bone marrow stem cells. We have decided to develop this drug candidate by initially focusing on the patients over 50 with active acute myeloid leukemia in relapse and/or refractory to existing treatments. Our intention is to request the FDA to allow us to enter into a pivotal trial with Iomab™-B. We estimate the direct costs of such a trial to completion anticipated in 2016 will be approximately US \$15 million, and up to approximately \$25 million for both trials.

We have primarily management position employees and consultants who direct, organize and monitor the activities described above through contractors. Much of the in vivo laboratory and clinical work contracted for by the Company has been conducted at Memorial Sloan-Kettering Cancer Center in New York. The Company has also made clinical trial arrangements with other well known cancer centers.

Our Actimab™-A drug candidate and its components are contract manufactured and maintained under our supervision by specialized contract manufacturers and suppliers in the U.S., including IsoTex Diagnostics, Oak Ridge National Laboratory, Pacific GMP, Fischer Bioservices, BioReliance and others.

We are a development stage company and have never generated revenue. Currently we do not have a stable recurring source of revenues sufficient to cover our operating costs. As of December 31, 2012, we had an accumulated deficit of \$55.7 million. We incurred net losses of \$8.3 million and \$3.4 million in the years ending December 31, 2012 and 2011, respectively.

### Emerging Growth Company

We are an “emerging growth company” under the federal securities laws and will be subject to reduced public company reporting requirements. In addition, Section 107 of the JOBS Act also provides that an “emerging growth company” can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. In other words, an “emerging growth company” can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We are choosing to take advantage of the extended transition period for complying with new or revised accounting standards.

### Opportunities, Challenges and Risks

The market for drugs for cancer treatment is a large market in need of novel products, in which successful products can command multibillion dollars in annual sales. A number of large pharmaceutical and biotechnology company regularly acquire products in development, with preference given to products in Phase II or later clinical trials. These deals are typically structured to include an upfront payment that ranges from several million dollars to tens of million dollars or more and additional milestone payments tied to regulatory submissions and approvals and sales milestones. Our goal is to develop our product candidates through Phase II clinical trials and enter into partnership agreements with one or more large pharmaceutical and/or biotechnology companies.

We believe our future success will be heavily dependent upon our ability to successfully conduct clinical trials and preclinical development of our drug candidates. This will in turn depend on our ability to continue our collaboration with Memorial Sloan-Kettering Cancer Center and our Clinical Advisory Board members plan to continue and expand other research and clinical trial collaborations. In addition, we will have to maintain sufficient supply of actinium 225 and successfully maintain and if and when needed replenish or obtain our reserves of monoclonal antibodies. We will have to maintain and improve manufacturing procedures we have developed for production of our drug candidates from the components that include the iodine 131 and actinium 225 isotopes, monoclonal antibodies and other materials. It is possible that despite our best efforts our clinical trials results may not meet regulatory requirements for approval. If our efforts are successful, we will be able to partner our development stage products on commercially favorable terms only if they enjoy appropriate patent coverage and/or considerable know-how and other protection that ensures market exclusivity. For that reason we intend to continue our efforts to maintain existing and generate new intellectual property. Intellectual property is a key factor in the success of our business as well as market exclusivity.

To achieve the goals discussed above we intend to continue to invest in research and development at high and constantly increasing rates thus incurring further losses until one or more of our products are sufficiently developed to partner them to large pharmaceutical and biotechnology companies.

Since our inception on June 13, 2000, we have not generated any revenues, and that as of December 31, 2012, we have incurred net losses of \$55.7 million. As of December 31, 2012 and March 31, 2013 our cash balance was \$5.6 million and \$3.2 million, respectively, and we need approximately \$25 million in cash to finance research and development and to cover our ongoing working capital needs through the first quarter of 2016. If we do not raise any additional funding, we will be able to continue our operations through August of 2014. If we raise 25% of the needed funds, we will be able to conduct our planned operations through the end of 2014 and into 2015. If we raise 50% of the needed funds, we will be able to conduct our planned development programs through the first half of 2015. If we raise 75% or more of the needed funds, we will be able to accelerate our planned development programs through 2015 and into the first quarter of 2016. Our first product is not expected to be commercialized until at least 2017. In the second quarter of 2013 we issued shares of common stock pursuant to the exercise of Series A Warrants originally issued in connection with a private placement that closed in January 2013. The warrants were exercised at \$1.65 per share, resulting in gross proceeds of \$3,457,087 for the Company. We believe that we have enough cash on hand to fund our business through 2013. In order to fund our business beyond 2013 we will likely need to raise money through private offerings of debt and/or equity.

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## Results of Operations

Six Months Ended June 30, 2013 Compared to the Six Months Ended June 30, 2012

The following table sets forth, for the periods indicated, data derived from our statements of operations:

|  | For the six months ended<br>June 30, |               |
|--|--------------------------------------|---------------|
|  | 2013                                 | 2012          |
| Revenues   | \$-                                  | \$-           |
| Operating expenses:                                    |                                      |               |
| Research and development, net of reimbursements        | 1,594,968                            | 1,046,158     |
| General and administrative                             | 1,899,503                            | 798,184       |
| Other expenses   | 4,122                                | 317           |
| Total operating expenses                               | 3,498,593                            | 1,844,659     |
| Other (income) expense:                                |                                      |               |
| Interest expense                                       | 1,209                                | 633,618       |
| Gain on change in fair value of derivative liabilities | (26,764 )                            | (6,777 )      |
| Total other (income) expense                           | (25,555 )                            | 626,841       |
| Net loss   | \$(3,473,038)                        | \$(2,471,500) |

## Revenues

We recorded no commercial revenues for the six months ended June 30, 2013 and 2012.

## Research and Development Expense

Research and development expenses increased by \$548,810 to \$1,594,968 for the six months ended June 30, 2013 compared to \$1,046,158 for the six months ended June 30, 2012. The increase is primarily attributable to the costs related to continuing the multi-center clinical trial for Actimab™-A which commenced in the third quarter of 2012 and the manufacturing of BC8, the antibody that is the key component of Iomab-B inlicensed by the Company in 2012. The increased expenses also reflect development work on significantly improving the efficacy and cost structure of the Actimab™-A manufacturing and costs related to Iomab-B's clinical development and regulatory submissions.

## General and Administrative Expenses

Overall, total general and administrative expenses increased by \$1,101,319 to \$1,899,503 for the six months ended June 30, 2013 compared to \$798,184 for the six months ended June 30, 2012. The increase was largely attributable to increases in professional fees, financing related fees and the stock-based compensation incurred by the Company as discussed below.

## Other (Income) Expense

Other income increased by \$652,396 for the six months ended June 30, 2013 compared to the six months ended June 30, 2012. The increase is primarily attributable a decrease in interest expense due to the amortization of the

convertible debt discount and deferred financing costs related to the convertible debt during the six months ended June 30, 2012, and an increase in the gain on the change in fair value of the derivative liability.

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## Net Loss

Net loss increased by \$1,001,538 to \$3,473,038 for the six months ended June 30, 2013 compared to \$2,471,500 for the six months ended June 30, 2012. The increase was primarily due to an increase in research and development efforts and in professional fees and payroll related expense, offset by a decrease in interest expense associated with the amortization of debt discount to interest expense and a gain from change in fair value of the derivative liability.

## Liquidity and Capital Resources

We have financed our operations primarily through sales of the Company's stock and the issuance of convertible promissory notes.

We did not have any cash or cash equivalents held in financial institutions located outside of the United States as of June 30, 2013 and December 31, 2012. We do not anticipate this practice will change in the future.

The following tables sets forth selected cash flow information for the periods indicated:

|   | For the six months ended<br>June 30, |                |
|---|--------------------------------------|----------------|
|   | 2013                                 | 2012           |
| Cash provided by (used in) operating activities | \$ (3,327,820)                       | \$ (1,862,232) |
| Cash provided by (used in) investing activities | (1,112)                              | (1,157)        |
| Cash provided by (used in) financing activities | 3,360,591                            | 660,163        |
| Net change in cash                              | \$ 31,659                            | \$ (1,203,226) |

Net cash used in operating activities was \$3,327,820 for the six months ended June 30, 2013 compared to \$1,862,232 used in operations for the same period in 2012. Cash used in operations increased due to the increase in spending related to preparations and eventual launch and conduct of a multicenter trial and an increase in spending related to professional fees combined with an increase in payroll-related expenses.

Net cash provided by financing activities was \$3,360,591 for the six months ended June 30, 2013 compared to net cash provided by financing activities of \$660,163 for the same period in 2012. During the six months ended June 30, 2013, the Company received proceeds from the exercise of warrants as more discussed below. During the six months ended June 30, 2012, the Company received net proceeds of \$660,163 from sale of its stock.

We have experienced cumulative losses of \$59,216,501 from inception (June 13, 2000) through June 30, 2013, and have stockholders' equity of \$1,914,856 at June 30, 2013. In addition, the Company has not completed its efforts to establish a stable recurring source of revenues sufficient to cover its operating costs for the next twelve months. These factors raise substantial doubt regarding the Company's ability to continue as a going concern.

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Year Ended December 31, 2012 Compared to Year Ended December 31, 2011

The following table sets forth, for the periods indicated, data derived from our statements of operations:

|  | For the Years ended<br>December 31, |                | Increase<br>(Decrease) |
|--|-------------------------------------|----------------|------------------------|
|  | 2012                                | 2011           |                        |
| Revenues   | \$ -                                | \$ -           | \$ -                   |
| Operating expenses:                                    |                                     |                |                        |
| Research and development, net of reimbursements        | 3,440,485                           | 323,788        | 3,116,697              |
| General and administrative                             | 4,506,232                           | 2,959,246      | 1,546,986              |
| Depreciation expense                                   | 581                                 | 633            | (52)                   |
| Total operating expenses                               | 7,947,298                           | 3,283,667      | 4,663,631              |
| Other (income) expense:                                |                                     |                |                        |
| Interest expense                                       | 1,099,327                           | 175,094        | 924,233                |
| Gain on change in fair value of derivative liabilities | (685,420)                           | (13,966)       | (671,454)              |
| Total other (income) expense                           | 413,907                             | 161,128        | 252,779                |
| Net loss   | \$ (8,361,205)                      | \$ (3,444,795) | \$ (4,916,410)         |

## Revenues

We recorded no commercial revenues for the year ended December 31, 2012 and 2011.

## Research and Development Expense

Research and development expenses increased by \$3,116,697 to \$3,440,485 for the year ended December 31, 2012 compared to \$323,788 for the year ended December 31, 2011. The increase is attributable to the costs incurred on initiation of the multi-center clinical trial for Actimab™-A. The Company also made its first milestone payment of \$750,000 to Abbott Biotherapeutics Corp. upon reaching the milestone. The increase also reflected an agreement the Company made with MSKCC as of April 2010, in which MSKCC agreed to pay or reimburse the Company for certain costs and expenses related to the Company's drug development and clinical study program. This agreement expired on October 5, 2011. No reimbursement was due for the year ended December 31, 2012 and \$237,834 was due for the year ended December 31, 2011.

## General and Administrative Expenses

Overall, total general and administrative expenses increased by \$1,546,986 to \$4,506,232 for the year ended December 31, 2012 compared to \$2,959,246 for the year ended December 31, 2011. The increase was largely attributable to increases in professional fees and the stock-based compensation incurred by the Company as discussed below.

In connection with the Company's stock offering, in January 2012, we issued warrants to purchase 400,013 shares of common stock to the transaction manager for consulting services related to assisting the Company in preparing to become a publicly traded company. The fair value of \$144,463, or \$0.36 per share, was a noncash charge to general and administrative expenses for the year ended December 31, 2012. In February 2012, the Company granted options

to purchase 2,125,000 shares of common stock to its employees and consultants with a fair value of \$531,913. In July 2012, the Company granted options to purchase 90,000 shares of common stock to its consultants with a fair value of \$23,770. In August 2012, the Company granted options to purchase 2,875,000 shares of common stock to its employees and consultants with a fair value of \$724,784. During the fourth quarter, the Company granted options to purchase 1,085,000 shares of common stock to its employees and consultants with a fair value of \$239,310. For the year ended December 31, 2012, the Company recorded amortization of stock-based compensation of \$266,172 as a noncash charge to general and administrative expenses.

The increase can also be attributed to additional professional fees of \$549,383 related to the year-end audit, the quarterly review, legal fees, and management fees associated with the Company going public. In addition to the professional fees incurred, we increased our personnel. As such, payroll-related expenses for the year ended December 31, 2012 increased compared to the same period in 2011.

#### Interest Expense

Interest expense increased by \$924,233 for the year ended December 31, 2012 compared to the year ended December 31, 2011. The increase in interest expense is directly attributable to interest accrued on the convertible debt, amortization of the convertible debt discount and deferred financing costs related to the convertible debt.

#### Net Loss

Net loss increased by \$4,916,410 to \$8,361,205 for the year ended December 31, 2012 compared to \$3,444,795 for to the year ended December 31, 2011. The increase was primarily due to additional costs incurred by the Company in research and development expenses, non-cash stock-based compensation costs and professional fees as discussed above.

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## Liquidity and Capital Resources

We have financed our operations primarily through sales of the Company's stock and the issuance of Convertible Promissory Notes.

We did not have any cash or cash equivalents held in financial institutions located outside of the United States as of December 31, 2012 and 2011. We do not anticipate this practice will change in the future.

The following tables sets forth selected cash flow information for the periods indicated:

|   | For the years ended<br>December 31, |              |
|---|-------------------------------------|--------------|
|   | 2012                                | 2011         |
| Cash provided by (used in) operating activities | \$ (5,212,710)                      | \$ (517,592) |
| Cash provided by (used in) investing activities | (2,359)                             | -            |
| Cash provided by (used in) financing activities | 5,129,940                           | 6,025,255    |
| Net increase (decrease) in cash                 | \$ (85,129)                         | \$ 5,507,663 |

Net cash used in operating activities was \$5,212,710 for the year ended December 31, 2012 compared to \$517,592 used in operations for the same period in 2011. Cash used in operations increased due to the increase in spending related to preparations and eventual launch and conduct of a multicenter trial and an increase in spending related to professional fees combined with an increase in payroll-related expenses.

Net cash provided by financing activities was \$5,129,940 for the year ended December 31, 2012 compared to \$6,025,255 for the same period in 2011. In January 2012, we sold 968,759 shares of our stock at \$0.78 per share. In 2012, we also sold 3,118,988 shares of our common stock at \$1.65 per share. We raised funds through sale of the Company's stock to finance the expansion of our research and development efforts.

We have experienced cumulative losses of approximately \$55,743,463 from inception (June 13, 2000) through December 31, 2012, and have stockholders' equity of \$1,145,635 at December 31, 2012. In addition, the Company has not completed its efforts to establish a stable recurring source of revenues sufficient to cover its operating costs for the next twelve months. These factors raise substantial doubt regarding the Company's ability to continue as a going concern.

## Recent Debt and Equity Offerings

During 2011, the Company raised \$6,184,967 by selling 7,891,141 shares of the Company's stock and warrants to purchase 19,972,785 shares of the Company's stock through an offering ("Stock Offering"). A net amount of \$5,379,367 was received by the Company in 2011. The Company paid Laidlaw & Company (UK) Ltd. ("Laidlaw & Co."), the placement agent, total cash fees of \$742,196, which consisted of placement agent commission of \$618,497 and expense reimbursement of \$123,699. In addition, the Company paid Laidlaw & Co.'s outside counsel, McCormick & O'Brien LLP, \$60,904 for its services as the placement agent's legal counsel and Signature Bank \$2,500 for the bank escrow fee.

On December 27, 2011, the Company completed a private offering of 8% Senior Subordinated Unsecured Convertible Promissory Notes ("Convertible Notes") in the amount of \$900,000 and received net proceeds of \$750,000. The convertible notes were issued at 83.33% of the principal amount resulting in an original issue discount of \$150,000.

The Convertible Notes mature one year from the date of issuance. Interest accrues at the rate of 8% per year on the outstanding principal amount, accrued semi-annually and to be paid at maturity. On December 19, 2012, in connection with the Share Exchange, the Convertible Notes were converted into 1,252,550 share of common stock.

During 2012, the Company raised \$759,300 by selling 968,759 shares and warrants to purchase 242,190 shares of the Company's common stock under the Company's Stock Offering. A net amount of \$660,164 was received by the Company in 2012. The Company paid Laidlaw & Co. total cash fees of \$91,116, which consisted of placement agent commission of \$75,930 and expense reimbursement of \$15,186. In addition, the Company paid Laidlaw & Co.'s outside counsel, McCormick & O'Brien PLLC, \$8,020 for its services as the placement agent's legal counsel.

In 2012, the Company also raised \$5,151,450 through an offering of 3,118,988 shares of its common stock and "A Warrants" to purchase 3,118,988 shares of the Company's common stock, exercisable at a price of \$1.65 per share for a period of 120 days from the day of the final closing of the offering, and "B Warrants" to purchase 1,559,505 shares of the Company's common stock, exercisable at a price of \$2.48 per share for a period of 5 years from the date of the final closing of the offering. ("2012 Common Stock Offering") A net amount of \$4,469,776 was received by the Company. Pursuant to the 2012 Common Stock Offering agreement, the Company paid Laidlaw & Co. total cash fees of \$618,174, which consisted of placement agent commission of \$515,145 and expense reimbursement of \$103,029. The Company also issued the placement agent warrants to purchase an aggregate of 467,845 shares of the Company's common stock, with an exercise price of \$0.78 per share and a term of 5 years. These placement agent warrants were valued at \$499,707 and recorded as derivative liabilities. In addition, the Company paid the Laidlaw & Co.'s outside counsel, Richardson & Patel, LLP, \$60,000 for its services as the Laidlaw & Co.'s legal counsel and Signature Bank \$3,500 for the bank escrow fee.

Actinium intends to increase funds available to continue our research and development efforts, which include material supply, manufacturing, clinical development and pre-clinical trials and working capital. For the balance of 2013 and in 2014, we expect cash needs of up to \$20,000,000 to finance research and development, which include material supply, manufacturing, clinical trials and pre-clinical trials and to cover our ongoing working capital needs.

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In the second quarter of 2013 we issued shares of common stock pursuant to the exercise of A-Warrants originally issued in connection with a private placement that closed in January 2013. The warrants were exercised at \$1.65 per share, resulting in gross proceeds of \$3,457,087 for the Company. The proceeds from these exercised warrants will be used for the Company's clinical and preclinical programs and for general working capital. This capital will allow us to continue to develop our drug candidates for treatment of the most difficult forms of cancer, including Acute Myeloid Leukemia, where the Company has made significant advances and already helped a number of patients. The Company intends to advance its programs and add new programs by the end of 2013. Shareholders exercised 2,095,204 (67.2%) of the 3,118,988 originally issued A-warrants. The A-warrants expired on May 28, 2013. With exercise of the A-warrants we believe that we have the needed capital for 2013. We do not expect proceeds from the exercise of the outstanding B- warrants, Stock Offering warrants, consulting firm warrants, and placement agent warrants since these warrants contain cash-less exercise provisions. To meet our capital needs beyond 2013 we intend to conduct offerings of either stock and/or debt and also engage in licensing activities. We are currently sponsoring conduct of two clinical trials with Actimab-A (Phase I Physician trial at MSKCC and Phase I/II multicenter trial) and preparing for a Phase III trial with Iomab-B. If we do not raise any additional funding, we will be able to continue our operations through August of 2014. If we raise 25% of the needed funds, we will be able to conduct our planned operations through the end of 2014 and into 2015. If we raise 50% of the needed funds, we will be able to conduct our planned development programs through the first half of 2015. If we raise 75% or more of the needed funds, we will be able to accelerate our planned development programs through 2015 and into the first quarter of 2016. There can be no assurance that we will be successful in obtaining additional capital through offerings of our securities in the future.

In the event we do not meet our cash needs of \$25,000,000 through the first quarter of 2016, it may be necessary for us to delay the timing of various product development efforts.

### Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to investors.

### Seasonality

We do not have a seasonal business cycle. Our revenues and operating results are generally derived evenly throughout the calendar year.

### Critical Accounting Policies

Our financial statements have been prepared in accordance with accounting principles generally accepted in the United States. To prepare these financial statements, we must make estimates and assumptions that affect the reported amounts of assets and liabilities. These estimates also affect our expenses. Judgments must also be made about the disclosure of contingent liabilities. Actual results could be significantly different from these estimates. We believe that the following discussion addresses the accounting policies that are necessary to understand and evaluate our reported financial results.

### Derivatives

All derivatives are recorded at fair value and recorded on the balance sheet. Fair values for securities traded in the open market and derivatives are based on quoted market prices. Where market prices are not readily available, fair values are determined using market based pricing models incorporating readily observable market data and requiring judgment and estimates.

## Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants. A fair value hierarchy has been established for valuation inputs that gives the highest priority to quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. The fair value hierarchy is as follows:

Level 1 Inputs – Unadjusted quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.

Level 2 Inputs – Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. These might include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability (such as interest rates, volatilities, prepayment speeds, credit risks, etc.) or inputs that are derived principally from or corroborated by market data by correlation or other means.

Level 3 Inputs – Unobservable inputs for determining the fair values of assets or liabilities that reflect an entity's own assumptions about the assumptions that market participants would use in pricing the assets or liabilities.

## Income Taxes

The Company uses the asset and liability method in accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and income tax carrying amounts of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company reviews deferred tax assets for a valuation allowance based upon whether it is more likely than not that the deferred tax asset will be fully realized. A valuation allowance, if necessary, is provided against deferred tax assets, based upon management's assessment as to their realization.

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Research and Development Costs

Research and development costs are expensed as incurred. Research and development reimbursements and grants are recorded by the Company as a reduction of research and development costs.

Share-Based Payments

The Company estimates the fair value of each stock option award at the grant date by using the Black-Scholes option pricing model and common shares based on the last common stock valuation done by third party valuation expert of the Company's common stock on the date of the share grant. The fair value determined represents the cost for the award and is recognized over the vesting period during which an employee is required to provide service in exchange for the award. As share-based compensation expense is recognized based on awards ultimately expected to vest, the Company reduces the expense for estimated forfeitures based on historical forfeiture rates. Previously recognized compensation costs may be adjusted to reflect the actual forfeiture rate for the entire award at the end of the vesting period. Excess tax benefits, if any, are recognized as an addition to paid-in capital.

Recent Accounting Pronouncements

There were various accounting standards and interpretations issued during 2012 and 2011, none of which are expected to have a material impact on the Company's financial position, operations or cash flows.

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CHANGES IN REGISTRANT'S CERTIFYING ACCOUNTANT

(a)

On December 28, 2012, we dismissed R.R. Hawkins and Associates International, A PC, ("Hawkins"), as our independent registered public accounting firm. The dismissal was approved by the audit committee ("Audit Committee") of our board of directors.

During the fiscal years ended December 31, 2011 and 2010, Hawkins' reports on our financial statements did not contain an adverse opinion or disclaimer of opinion, and were not qualified or modified as to uncertainty, audit scope or accounting principles.

During the fiscal years ended December 31, 2011 and 2010 and the subsequent periods through December 28, 2012, (i) there were no disagreements between us and Hawkins on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to the satisfaction of Hawkins, would have caused Hawkins to make reference to the subject matter of the disagreements in connection with its reports on the Registrant's financial statements, and (ii) there were no reportable events as that term is described in Item 304(a)(1)(v) of Regulation S-K.

On December 28, 2012, we provided Hawkins with a copy of the disclosures it is making in response to Item 4.01 on Form 8-K, and requested that Hawkins furnish it with a letter addressed to the Securities and Exchange Commission stating whether it agrees with the above statements. A copy of the letter, dated December 28, 2012, was filed as Exhibit 16 to the Current Report on Form 8-K filed on January 2, 2013. A revised letter is attached to this Form S-1 as Exhibit 16.1 that corrects the name of the registrant.

(b)

On December 28, 2012, we engaged GBH CPAs, PC as our new independent registered public accounting firm beginning with our fiscal year ended December 31, 2012. The change in our independent registered public accounting firm was approved by the Audit Committee. During the two most recent fiscal years and through December 28, 2012, neither the Company nor anyone on its behalf consulted with GBH CPAs, PC regarding any of the following:

(i) The application of accounting principles to a specific transaction, either completed or proposed;

(ii) The type of audit opinion that might be rendered on the Company's financial statements, and none of the following was provided to the Company:

(a) a written report; or (b) oral advice that GBH CPAs, PC concluded was an important factor considered by the Company in reaching a decision as to an accounting, auditing or financial reporting issue; or

(iii) Any matter that was subject of a disagreement, as that term is defined in Item 304(a)(1)(iv) of Regulation S-K, or a reportable event, as described in Item 304(a)(1)(v) of Regulation S-K.

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## DIRECTORS AND EXECUTIVE OFFICERS

The following sets forth information about our directors and executive officers:

| Name                      | Age | Position  |
|---------------------------|-----|---|
| Kaushik Dave, PhD,<br>MBA | 52  | President, Chief Executive Officer and Director   |
| Sergio Traversa, MBA      | 52  | Interim Chief Financial Officer and Director      |
| Dragan Cicic, MD          | 49  | Chief Operating Officer and Chief Medical Officer |
| David Nicholson, PhD      | 58  | Director  |
| Sandesh Seth, MS,<br>MBA  | 49  | Director  |

Pursuant to the Company's charter, Mr. Traversa and Mr. Seth were appointed as directors of the Company by the former Series E preferred stock holders of Actinium Corporation. During 2011, Actinium Corporation raised \$6,184,967 through an offering of 23,697,119 shares (pre-Actinium Share Exchange) of the 2011 Series E preferred shares and 5,924,285 warrants (pre-Actinium share exchange). In January 2012, the Actinium Corporation raised \$759,300 through its final offering of the 2011 Series E preferred shares.

There are no other arrangements or understanding between any of our directors and any other persons pursuant to which they were selected as a director.

Kaushik J. Dave, PhD, MBA, President, Chief Executive Officer and Director

Dr. Kaushik J. Dave has been our President, Chief Executive Officer and Director since September 2013. From March 2008 to September 2013, Dr. Dave was the Executive Vice President of Product Development for Antares Pharmaceuticals Inc. (Antares). As part of the core management team at Antares, he was instrumental in setting strategy, vision, product portfolio development and business development. Dr. Dave led the clinical and regulatory approval of Anturo1™ and was also a key contributor to the change in company vision to combination products using Antares' medical device technology which resulted in a robust pipeline that included development and New Drug Application submission for Otrexup, which was approved on October 14, 2013. From January 2001 to June 2006, Dr. Dave was Vice President Product Development at Palatin Technologies Inc. where he obtained approval of NeutroSpec™ (a radiopharmaceutical monoclonal antibody product). From January 1997 to December 2000, Dr. Dave was employed at Schering-Plough Inc. and Merck & Co. Inc., responsible for steering the development of several pharmaceutical product development programs. Dr. Dave received his pharmacy degree from the University of Bath, UK and a Ph.D. in Pharmaceutical Chemistry from the University of Kansas. Dr. Dave also received an MBA from the Wharton School of the University of Pennsylvania.

As President and Chief Executive Officer of the Company, Dr. Dave is the most senior executive of the Company and as such provides our Board of Directors with the greatest insight into the Company's business and the challenges and material risks it faces. Dr. Dave has more than 23 years of healthcare industry experience and is especially qualified to understand the risks and leadership challenges facing a growing pharmaceutical company from a senior management and financial expertise perspective led us to conclude that Dr. Dave should serve as President, Chief Executive Officer and Director of the Company.

Sergio Traversa, Interim Chief Financial Officer and Director

Dr. Traversa has been a Director of the Company since August, 2012. Dr. Traversa is also the Chief Executive Officer of Relmada Therapeutics Inc. Previously, he was the co-founder and CEO of Medeor Inc. a spinoff pharmaceutical company from Cornell University. Dr. Traversa has over 25 years of experience in the healthcare sector in the United States and Europe, ranging from management positions in the pharmaceutical industry to investing and strategic advisory roles. He has held financial analyst, portfolio management and strategic advisory positions at large U.S. investment firms specializing in healthcare, including Mehta and Isaly and Mehta partners, ING Barings, Merlin BioMed and Rx Capital. Dr. Traversa was a founding partner of Ardana Capital, a pharmaceutical and biotechnology investment advisory firm. In Europe, he held the position of Area Manager for Southern Europe (Italy, Spain, Greece and Portugal) of Therakos Inc., a cancer and immunology division of Johnson & Johnson. Prior to Therakos, Dr. Traversa was at Eli Lilly, where he served as Marketing Manager of the Hospital Business Unit. He was also a member of the CNS team at Eli Lilly, where he participated in the launch of Prozac and the early development of Zyprexa and Cymbalta. Dr. Traversa started his career as a sales representative at Farmitalia Carlo Erba, the largest pharmaceutical company in Italy later sold to Pharmacia and now part of Pfizer. Dr. Traversa holds a Laurea degree in Pharmacy from the University of Turin (Italy) and an MBA in Finance and International Business from the New York University Leonard Stern School of Business.

As Interim Chief Financial Officer of the Company, Mr. Traversa is a senior executive of the Company and as such provides our Board of Directors with great insight into the Company's business and the challenges and material risks it faces. That Dr. Traversa serves in such executive officer positions with the Company and has more than 25 years of healthcare and financial industry experience in the United States and Europe and is especially qualified to understand the risks and leadership challenges facing a growing pharmaceutical company from a senior management and financial expertise perspective led us to conclude that Mr. Traversa should serve as a director.

Dr. Traversa devotes a minimum of 40 hours per week to the Company. Relmada Therapeutics, Inc., of which Dr. Traversa also serves as Chief Executive Officer, is not related to the Company and specializes in pain management, which is not related to our business. We do not believe that Dr. Traversa's employment by Relmada Therapeutics, Inc. creates a material risk of conflicts of interest.

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Dragan Cicic, MD, MBA, Chief Operating Officer and Chief Medical Officer

Dragan Cicic is the Chief Operating Officer and Chief Medical Officer of the Company. He joined the Company in 2005 and previously held the position of the CEO and prior to that of the Medical Director at Actinium. Dr. Cicic joined Actinium from the position of Project Director of QED Technologies Inc., a life sciences strategic consulting and transactional group focused on emerging biotech, pharmaceuticals and medical devices companies. Dr. Cicic prepared business and strategic plans on behalf of those clients and assisted them in raising funding. He also represented corporate and private investors in identifying acquisition and/or investment targets and negotiating, structuring and consummating deals. Prior to joining QED Technologies, Dr. Cicic was an investment banker with SG Cowen Securities.

Dr. Cicic graduated as a Medical Doctor from the School of Medicine at The Belgrade University, and received his MBA from Wharton School at The University of Pennsylvania. He was also a Nieman Fellow at Harvard University.

C. David Nicholson, BS, PhD, Director

C. David Nicholson is a Director of the Company and joined the Executive Committee of Bayer CropScience on March 5, 2012 as Head of Research & Development responsible for the integration of the company's R&D activities into one global organization. Dr. Nicholson graduated in pharmacology, earning his B.Sc. from the University of Manchester (1975) and his Ph.D. from the University of Wales (1980). Between 1978 and 1988, Dr. Nicholson worked in the pharmaceutical industry for the British company Beecham-Wülfig in Gronau, Germany. The main emphasis of his activities as group leader in a multidisciplinary project group was the development of cardiovascular drugs.

From 1988-2007, Dr. Nicholson held various positions of increasing seniority in the UK, the Netherlands and the USA with Organon a Business Unit of Akzo Nobel. Ultimately he became Executive Vice President, Research & Development, and member of the Organon Executive Management Committee. He implemented change programs, leading to maximizing effectiveness in research & development, ensuring customer focus and the establishment of a competitive pipeline of innovative drugs. In 2007, Dr. Nicholson transferred to Schering-Plough, Kenilworth, New Jersey as Senior Vice President, responsible for Global Project Management and Drug Safety. From 2009 to December 2011, he was Vice President Licensing and Knowledge Management at Merck in Rahway, New Jersey, reporting to the President of Merck R&D. As an integration team member, David Nicholson played a role in the strategic mergers of Organon BioSciences, the human and animal health business of Dutch chemical giant Akzo-Nobel, and Schering-Plough in 2007 as well as of Schering-Plough and Merck in 2009. Dr. Nicholson is presently on the Board of Directors of multiple biotechnology companies, including Actinium Pharmaceuticals, Inc.

That Dr. Nicholson brings over 25 years of pharmaceutical experience to our Board, Having served in various pharmaceutical research and development executive-level positions over the course of his career, and that Dr. Nicholson has developed significant management and leadership skills relating to the pharmaceutical industry. and is well accustomed to interfacing with investors, analysts, auditors, outside advisors and governmental officials, led us to conclude that Dr. Nicholson should serve as a director.

Sandesh Seth, MS, MBA, Director

Mr. Sandesh Seth is a Director of the Company and also the Head of Healthcare Investment Banking at Laidlaw & Company (UK) Ltd. (the "Placement Agent") which has served as the Company's Placement Agent. Mr. Seth has over 20 years of experience which includes prior investment banking at Cowen & Co., equity research at Bear Stearns and Commonwealth Associates and in the pharmaceutical industry at Pfizer, Warner-Lambert, and SmithKline Beecham in strategic planning, business development and R&D project management respectively. Mr. Seth's financial services

experience includes 100+ completed transactions in which \$5 billion+ in capital was raised. Transactions included venture investments, private placements, IPOs, FOs, PIPEs, Convertible and High-Yield Debt. Mr. Seth was also involved with various strategic initiatives such as mergers and acquisitions, leveraged and management buy-outs, and licensing and joint ventures, including the \$100 billion merger of Pfizer and Warner-Lambert and the \$20 billion merger of Pharmacia & Upjohn with Monsanto. Mr. Seth has an MBA in Finance from New York University; an M.S. in the Pharmaceutical Sciences from the University of Oklahoma Health Center and a B.Sc. in Chemistry from Bombay University. He has published several scientific articles and was awarded the University Regents Award for Research Excellence at the University of Oklahoma. Mr. Seth was designated as Regulatory Affairs Certified by the Regulatory Affairs Professionals Society which signifies proficiency with U.S. FDA regulations. He also holds the following Securities Industry Licenses: Series 7, 79 and 63.

That Mr. Seth has served in various business executive-level positions over the course of his career, has significant investment banking experience, has developed significant management and leadership skills and is well accustomed to interfacing with investors, analysts, auditors, C-level executives, and outside advisors, led us to conclude that Mr. Seth should serve as a director.

#### Corporate Governance

The business and affairs of the Company are managed under the direction of the Board of Directors.

#### Term of Office

Our directors are divided into three classes, designated Class I, Class II and Class III. Class I shall consist of two independent directors, Class II shall consist of two directors that were appointed as directors to Actinium Corporation by the holders of the former Series E preferred stock holders of Actinium Corporation, and Class III shall consist of the chief executive officer. Each director shall serve a term ending on the date of the third annual meeting of shareholders following the annual meeting at which the director was elected. Notwithstanding the foregoing, each director shall serve until his successor is duly elected and qualified, or until his or her retirement, death, resignation or removal. In order to implement a staggered board of directors, Class I shall serve a six month term from the date of incorporation; Class II shall serve an 18 month term from the date of incorporation; and Class III shall serve a 30 month term from the date of incorporation. Directors elected at each annual meeting commencing in 2013 shall be elected for a three year term as specified above.

#### Director Independence

We use the definition of “independence” of The NASDAQ Stock Market to make this determination. We are not listed on NASDAQ, so although we use its definition of “independence”, its “independence” rules are inapplicable to us. NASDAQ Listing Rule 5605(a)(2) provides that an “independent director” is a person other than an officer or employee of the company or any other individual having a relationship which, in the opinion of the Company’s Board, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. The NASDAQ listing rules provide that a director cannot be considered independent if:

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the director is, or at any time during the past three years was, an employee of the company;

the director or a family member of the director accepted any compensation from the company in excess of \$120,000 during any period of 12 consecutive months within the three years preceding the independence determination (subject to certain exclusions, including, among other things, compensation for board or board committee service);

a family member of the director is, or at any time during the past three years was, an executive officer of the company;

the director or a family member of the director is a partner in, controlling stockholder of, or an executive officer of an entity to which the company made, or from which the company received, payments in the current or any of the past three fiscal years that exceed 5% of the recipient's consolidated gross revenue for that year or \$200,000, whichever is greater (subject to certain exclusions);

the director or a family member of the director is employed as an executive officer of an entity where, at any time during the past three years, any of the executive officers of the company served on the compensation committee of such other entity; or

the director or a family member of the director is a current partner of the company's outside auditor, or at any time during the past three years was a partner or employee of the company's outside auditor, and who worked on the company's audit.

Our Common Stock is not currently quoted or listed on any national exchange or interdealer quotation system with a requirement that a majority of our board of directors be independent and, therefore, the Company is not subject to any director independence requirements. Under the following three NASDAQ director independence rules a director is not considered independent: (a) NASDAQ Rule 5605(a)(2)(A), a director is not considered to be independent if he or she also is an executive officer or employee of the corporation, (b) NASDAQ Rule 5605(a)(2)(B), a director is not consider independent if he or she accepted any compensation from the company in excess of \$120,000 during any period of twelve consecutive months within the three years preceding the determination of independence, and (c) NASDAQ Rule 5605(a)(2)(D), a director is not considered to be independent if he or she is a partner in, or a controlling shareholder or an executive officer of, any organization to which the company made, or from which the company received, payments for property or services in the current or any of the past three fiscal years that exceed 5% of the recipient's consolidated gross revenues for that year, or \$200,000. Under such definitions, David Nicholson and Sergio Traversa are the only independent directors.

Committees of the Board of Directors

On December 28, 2012, our board of directors formed two standing committees: audit and compensation. Actions taken by our committees are reported to the full board. Each of our committees has a charter and each charter is posted on our website.

| Audit Committee      | Compensation Committee |
|----------------------|------------------------|
| Dr. Sergio Traversa* | Dr. David Nicholson*   |
| Dr. David Nicholson  | Sandesh Seth           |

\* Indicates committee chair

Audit Committee

Our audit committee, which currently consists of two directors, provides assistance to our board in fulfilling its legal and fiduciary obligations with respect to matters involving the accounting, financial reporting, internal control and compliance functions of the company. Our audit committee employs an independent registered public accounting firm to audit the financial statements of the company and perform other assigned duties. Further, our audit committee

provides general oversight with respect to the accounting principles employed in financial reporting and the adequacy of our internal controls. In discharging its responsibilities, our audit committee may rely on the reports, findings and representations of the company's auditors, legal counsel, and responsible officers. Our board has determined that all members of the audit committee are financially literate within the meaning of SEC rules and under the current listing standards of the Nasdaq Capital Market. Our Board of Directors has also determined that Dr. Traversa qualifies as an "audit committee financial expert."

#### Compensation Committee

Our compensation committee, which currently consists of two directors, establishes executive compensation policies consistent with the company's objectives and stockholder interests. Our compensation committee also reviews the performance of our executive officers and establishes, adjusts and awards compensation, including incentive-based compensation, as more fully discussed below. In addition, our compensation committee generally is responsible for:

establishing and periodically reviewing our compensation philosophy and the adequacy of compensation plans and programs for our directors, executive officers and other employees;

overseeing our compensation plans, including the establishment of performance goals under the company's incentive compensation arrangements and the review of performance against those goals in determining incentive award payouts;

overseeing our executive employment contracts, special retirement benefits, severance, change in control arrangements and/or similar plans;

acting as administrator of any company stock option plans; and

overseeing the outside consultant, if any, engaged by the compensation committee.

Our compensation committee periodically reviews the compensation paid to our non-employee directors and the principles upon which their compensation is determined. The compensation committee also periodically reports to the board on how our non-employee director compensation practices compare with those of other similarly situated public corporations and, if the compensation committee deems it appropriate, recommends changes to our director compensation practices to our board for approval.

Outside consulting firms retained by our compensation committee and management also will, if requested, provide assistance to the compensation committee in making its compensation-related decisions.

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### Family Relationships

There are no family relationships among any of our officers or directors.

### Involvement in Certain Legal Proceedings

To our knowledge, none of our current directors or executive officers has, during the past ten years:

been convicted in a criminal proceeding or been subject to a pending criminal proceeding (excluding traffic violations and other minor offenses);

had any bankruptcy petition filed by or against the business or property of the person, or of any partnership, corporation or business association of which he was a general partner or executive officer, either at the time of the bankruptcy filing or within two years prior to that time;

been subject to any order, judgment, or decree, not subsequently reversed, suspended or vacated, of any court of competent jurisdiction or federal or state authority, permanently or temporarily enjoining, barring, suspending or otherwise limiting, his involvement in any type of business, securities, futures, commodities, investment, banking, savings and loan, or insurance activities, or to be associated with persons engaged in any such activity;

been found by a court of competent jurisdiction in a civil action or by the SEC or the Commodity Futures Trading Commission to have violated a federal or state securities or commodities law, and the judgment has not been reversed, suspended, or vacated;

been the subject of, or a party to, any federal or state judicial or administrative order, judgment, decree, or finding, not subsequently reversed, suspended or vacated (not including any settlement of a civil proceeding among private litigants), relating to an alleged violation of any federal or state securities or commodities law or regulation, any law or regulation respecting financial institutions or insurance companies including, but not limited to, a temporary or permanent injunction, order of disgorgement or restitution, civil money penalty or temporary or permanent cease-and-desist order, or removal or prohibition order, or any law or regulation prohibiting mail or wire fraud or fraud in connection with any business entity; or

been the subject of, or a party to, any sanction or order, not subsequently reversed, suspended or vacated, of any self-regulatory organization (as defined in Section 3(a)(26) of the Exchange Act), any registered entity (as defined in Section 1(a)(29) of the Commodity Exchange Act), or any equivalent exchange, association, entity or organization that has disciplinary authority over its members or persons associated with a member.

Except as set forth in our discussion below in “Certain Relationships and Related Transactions,” none of our directors or executive officers has been involved in any transactions with us or any of our directors, executive officers, affiliates or associates which are required to be disclosed pursuant to the rules and regulations of the SEC.

### Code of Ethics

The Company has adopted a code of ethics, a copy of which is attached as Exhibit 14.1 to the Form 8-K filed on January 2, 2013.

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## EXECUTIVE COMPENSATION

## Summary Compensation Table

The following table provides information regarding the compensation earned during the fiscal years ended December 31, 2012, December 31, 2011 and December 31, 2010 by our Chief Executive Officer and the two next most highly compensated executive officers.

| Name/Position  | Year | Salary     | Bonus  | Option Awards  | All Other Compensation | Total      |
|--|------|------------|--------|----------------|------------------------|------------|
| Jack Talley, former CEO, resigned on February 28, 2013 | 2012 | \$ 250,000 | \$ -   | \$ 58,412      | \$ -                   | \$ 308,412 |
|  | 2011 | -          | -      | -              | -                      | -          |
|  | 2010 | -          | -      | -              | -                      | -          |
| Dragan Cicic, COO                                      | 2012 | \$ 190,658 | \$ -   | \$ 58,426      | \$ -                   | \$ 249,084 |
|  | 2011 | 190,658    | 50,000 | 9,717          | -                      | 250,375    |
|  | 2010 | 190,658    | -      | 9,717(2)(2)(2) | -                      | 200,375    |
| Enza Guagenti, former CFO, resigned on March 9, 2013   | 2012 | \$ 90,000  | \$ -   | \$ 3,394       | \$ -                   | \$ 93,394  |
|  | 2011 | -          | -      | -              | -                      | -          |
|  | 2010 | -          | -      | -              | -                      | -          |
| Diane Button, CEO, CFO (1)                             | 2012 | \$ -       | \$ -   | \$ -           | \$ -                   | \$ -       |
|  | 2011 | \$ -       | \$ -   | \$ -           | \$ -                   | \$ -       |
|  | 2010 | \$ -       | \$ -   | \$ -           | \$ 6,000               | \$ 6,000   |

(1) Ms. Diane Button resigned as the Company's CEO and CFO on December 28, 2012.

(2) Dr. Cicic's options awards were determined by taking into consideration the following factors: (i) Dr Cicic's responsibilities at the Company; (ii) his performance historically and as an incentive for future efforts; (iii) compensation data taken from peer group companies (newly public biotech firms); and (iv) the level of his past awards.

Under the terms of Dr. Cicic's employment contract and the agreed upon written terms of employment for Ms. Guagenti, these employees are entitled to receive severance of twelve months, twelve months and three months base salary, respectively, upon termination by the Company without cause, or upon resignation within thirty days after a change in job responsibilities and a reduction in base salary. On February 28, 2013, Mr. Talley resigned as Chief Executive Officer and Director of the Company and Actinium. On March 9, 2013, Ms. Guagenti resigned as Chief Financial Officer of the Company and Actinium.

As an "emerging growth company" we will not be required to provide information relating to the ratio of total compensation of our Chief Executive Officer to the median of the annual total compensation of all of our employees, as required by the Investor Protection and Securities Reform Act of 2010, which is part of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

## Director Compensation

Historical non-management Directors of the Company do not receive any cash compensation. Commencing October 1, 2012, non-management Directors of Actinium Corporation (and now the Company) began to receive a quarterly cash retainer of \$7,500 per calendar quarter for their service on the Board of Directors. They also receive reimbursement for out-of-pocket expenses and certain directors have received stock option grants for shares of

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Company Common Stock as described below.

The following table sets forth the compensation of our directors for the 2012 fiscal year:

| Name(1)  | Fees Earned or |              |               | All Other<br>Compensation | Total    |
|--|----------------|--------------|---------------|---------------------------|----------|
|  | Paid in Cash   | Stock Awards | Option Awards |                           |          |
| Dr. Rosemary Mazanet (resigned on<br>May 31, 2013) | \$ 7,500       | \$ 0         | 49,950        | - \$                      | \$ 7,500 |
| David Nicholson                                    | \$ 7,500       | \$ 0         | 333,000       | - \$                      | \$ 7,500 |
| Sandesh Seth                                       | \$ 7,500       | \$ 0         | 49,950        | - \$                      | \$ 7,500 |
| Jack Tally (resigned as CEO on March<br>9, 2013)   | \$ 0           | \$ 0         | 0             | - \$                      | \$ 0     |
| Sergio Traversa                                    | \$ 7,500       | \$ 0         | 49,950        | - \$                      | \$ 7,500 |

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Employment Agreements

Effective September 16, 2013, the Company and Dr. Kaushik J. Dave entered into an agreement (the “Employment Agreement”), to employ Dr. Dave as the Company’s Chief Executive Officer. Dr. Dave shall have such responsibilities, duties and authority as are assigned to him by the Board, or its designee. These responsibilities shall include implementation of the overall direction of the Company as set by the Board, including, planning, corporate policies, research and development, staffing, finance and operations. Dr. Dave shall perform such other duties and shall have authority consistent with his position as may be from time to time specified by the Board and subject to the discretion of the Board. Dr. Dave reports directly to the Board. Dr. Dave also agreed to devote his best efforts and substantially all of his business time to advance the interests of the Company and to discharge adequately his duties under the Employment Agreement. Dr. Dave may hold up to two board seats on for-profit and not-for-profit boards that do not represent a conflict with the Company and subject to Board approval after review of the time commitment involved. Dr. Dave may also be employed or enter into a consulting arrangement with Antares Pharma Inc. until December 31, 2013.

Pursuant to the Employment Agreement, Dr. Dave is entitled to the following compensation and benefits:

A base salary at an annual rate of \$350,000.

Upon the six month anniversary of the start date, the Board will review Dr. Dave’s base salary with the help of an independent compensation consultant to adjust the base salary to be competitively aligned to a range between the 25th (twenty-fifth) and 75th (seventy-fifth) percentile of the relevant market data of CEO positions of similarly situated publicly traded Biotech companies. The Board shall review the amount of the base salary and performance bonus, and shall determine the appropriate adjustments to each component of Dr. Dave’s compensation within 60 days of the start of each calendar year.

In addition, for the duration that the Company maintains its primary office in New York City, the Company will reimburse Dr. Dave for up to \$500 per month in travel expenses plus the dollar amount of the difference between Dr. Dave’s New York State and New Jersey State taxes based on income from the Company.

Dr. Dave shall be entitled to participate in an executive bonus program, which shall be established by the Board pursuant to which the Board shall award bonuses to Dr. Dave, based upon the achievement of written individual and corporate objectives such as the Board shall determine. Upon the attainment of such performance objectives, Dr. Dave shall be entitled to a cash bonus in an amount to be determined by the Board with a target of forty percent (40%) of the base salary. Within thirty (30) days after the start date, the Board shall establish written individual and corporate performance objectives for the balance of 2013 and the amount of the performance pro-rata bonus payable upon the attainment of each objective. At least thirty (30) days before each subsequent calendar year, the Board shall establish written individual and corporate performance objectives for such calendar year and the amount of the performance bonus payable upon the attainment of such objectives. Within sixty (60) days after the end of each calendar year, the Board shall determine the amount of any performance bonus payable thereunder. Any such performance bonus shall be due and payable within ninety (90) days after the end of the calendar year to which it relates.

The Board has agreed to grant to Dr. Dave an option to purchase common shares of the Company and restricted stock (the "Grant"). The Grant will consist of (A) an option grant to purchase 675,000 common shares of the Company; (B) 125,000 shares of restricted and (C) 100,000 shares of restricted stock as a sign-on bonus of which fifty percent will vest at the one year anniversary of the start date upon starting work. An additional twenty-five percent each will vest at eighteen months and twenty-four months after the start date.

Stock Options. Such options will have an exercise price equal to the prior day closing price of the Company's common stock which is equal to fair market value as determined by the Board on the date of the grant (the "Grant date"). The Grant Date shall occur no later than 90 days from the start date.

Restricted Stock Grant (excluding the sign-on bonus). One third (33.33%) of the restricted stock shall be granted upon the next closing of a financing of the Company of at least \$5 million, and shall vest per the vesting schedule below. The remaining two thirds (66.66%) of the restricted stock shall be granted upon the treatment of the first patient in 2014 for the Iomab™-B trial and subject to the vesting schedule below.

Vesting Schedule. Twenty-eight percent (28%) of the initial options or restricted stock granted shall vest twelve months after the date of grant and two percent (2%) of the remainder shall vest each month thereafter until fully vested. Such additional options or restricted stock will have an exercise price per share which is equal to fair market value as determined by the Board on the date of the grant. Two percent (2%) of such additional options or stock shall vest each month thereafter until fully vested. The term of all options granted under this Agreement will be for 10 years from the date of grant, subject to Dr. Dave's continuing service with the Company.

Dr. Dave is also eligible to participate in the Company's benefit plans that are generally provided for executive employees.

The employment agreement also contains a non-solicitation provision that provides that during the term of employment and for a period of 24 months following the cessation of employment with the company you Dr. Dave shall not directly or indirectly solicit, induce, recruit or encourage any of the Company's employees or consultants to terminate their relationship with the Company, or attempt any of the foregoing, either for himself or any other person or entity

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On July 23, 2012, Actinium Corporation entered into an employment agreement with Jack Talley, as our, Chief Executive Officer. The initial term of employment was for a period of three (3) years, provided that Mr. Talley's employment with the company will be on an "at will" basis. Actinium Corporation agreed to pay a base salary of \$250,000 per annum. The board will review Mr. Talley's base salary with help of an independent compensation consultant to adjust his base salary to be competitively aligned to a range between the 25th and 75th percentile of the relevant market data of CEO positions of similarly situated publicly traded biotech companies. Mr. Talley was also entitled to participate in an executive bonus program, which shall be established by the board pursuant to which the board shall award bonuses to Mr. Tally, based on achievement of written individual and corporate objectives such as the board shall determine. Upon the attainment of such performance objectives, in addition to base salary, Mr. Talley was entitled to a cash bonus in an amount to be determined by the Board up to fifty percent (50%) of his base salary. Actinium Corporation also agreed to grant to Mr. Talley an option grant to purchase common shares of the Company equal to three percent (3.0%) of the Company's issued and outstanding equity (common and preferred shares) on a fully diluted basis. Such options had an exercise price of \$0.261 cents per share which is equal to fair market value as determined by the board on the date of the grant. Twenty-eight percent (28%) of the initial options granted shall vest twelve months after the date of grant and two percent (2%) of the remainder shall vest each month thereafter until fully vested. Additional options were to be granted upon the final closing of the Company's next financing so that total options granted would equal three percent (3%) of fully diluted shares on that date. Such additional options will have an exercise price per share which is equal to fair market value as determined by the Board on the date of the grant. Two percent (2%) of such additional options shall vest each month thereafter until fully vested. The term of all options granted under this Agreement will be for 10 years from the date of grant, subject to your continuing service with the Company. On February 28, 2013, Mr. Talley resigned as Chief Executive Officer and Director of the Company and Actinium Corporation as per the terms of the Severance Agreement (as described below).

On January 2, 2006, Actinium Corporation entered into an employment agreement with Dragan Cicic, as our, Chief Operating Officer and Chief Medical Officer. The term of the employment agreement is one year; provided that the term shall be automatically extended for successive one year periods thereafter, unless, no later than 60 days prior to the expiration of any successive one-year renewal term, either party thereto provides the other party written notice of its desire not to extend the term. Actinium agreed to pay a base salary of \$144,758 per annum during the term with an annual percentage increase of not less than an amount equal to the aggregate preceding 12 months annual percentage increase of the U.S. Department of Labor Consumer Price Index for All Urban Consumers (CPI-U) for the New York area. Mr. Cicic is also entitled to participate in any incentive compensation or bonus program which is instituted or maintained for company executives generally during the term of the agreement.

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On July 21, 2012, Actinium entered into an employment agreement with Enza Guagenti, as our Chief Financial Officer. Ms. Guagenti's employment with the Company is on an "at will" basis, meaning that either Ms. Guagenti or the Company may terminate your employment at any time for any reason or no reason, without further obligation or liability, except that upon termination of Ms. Guagenti's employment by the Company other than for cause Ms. Guagenti will be entitled to severance equal to 3 months base salary. In the event that a) the Company hires a CFO other than yourself, and 2) within two years thereafter Ms. Guagenti's base salary is reduced below \$115,000 per year, Ms. Guagenti may then within thirty days after the base salary reduction resign her position with the Company and collect the severance. Actinium Corporation agreed to pay an initial base salary of \$90,000. Ms. Guagenti's annual base salary will be increased to one hundred fifteen thousand dollars (\$115,000) on the six month anniversary of the start date. Thereafter, before the beginning of each calendar year during the term of her employment, beginning in January 2014, the board shall review the amount of Ms. Guagenti's base salary and performance bonus, and shall determine the appropriate adjustments to each component of her compensation for the following calendar year. The Company also agreed to grant to Ms. Guagenti an option grant to purchase 75,000 common shares of the Company. Such options will have an exercise price of \$0.261 cents per share which is equal to fair market value as determined by the board on the date of the grant. Two percent (2%) of the options granted shall vest each month after the date of grant until fully vested. The term of all options granted under this Agreement will be for 10 years from the date of initial grant, subject to Ms. Guagenti's continuing service with the Company. On March 9, 2013, Ms. Guagenti resigned as Chief Financial Officer of the Company and Actinium Corporation. Pursuant to the terms of the employment agreement, Ms. Guagenti did not receive any severance payments upon resignation.

Severance Agreement

On February 28, 2013, the Company entered into a Separation and Settlement Agreement with Mr. Talley (the "Separation Agreement"). The Separation Agreement, among other things, provides for a cash payment in two (2) equal installments the aggregate amount of two hundred fifty thousand dollars (\$250,000), with the first payment of \$125,000 occurring on March 8, 2013 and the second payment of \$125,000 occurring on September 1, 2013. The Company will also pay Mr. Talley (i) a discretionary performance bonus of \$60,000 for the period of August 15, 2012 to December 31, 2012 and (ii) COBRA continuation coverage under the Company's group health plan for six months. As part of the settlement Mr. Talley agreed to resign as a director from the Company and Actinium Corporation. The Separation Agreement also includes, subject to limited exceptions, mutual releases.

Agreement with Dr. Mazanet.

On May 31, 2013, Dr. Rosemary Mazanet resigned as a director of the Company and Actinium Corporation, a subsidiary of the Company, to pursue other opportunities. Dr. Mazanet's decision to resign from the board of directors of the Company was not based upon any disagreement with the Company on any matter relating to the Company's operations, policies or practices as contemplated by Item 5.02(a) of Form 8-K.

On May 31, 2013, the Company and Actinium Corporation also entered into an agreement with Dr. Mazanet (the "Agreement") which, among other things, provides for a cash payment to Dr. Mazanet of \$25,000 in full satisfaction for all amounts owed under the Consulting Agreement. The parties also agreed that Dr. Mazanet is entitled to a total of 83,250 vested Company options (the Options") which will be exercisable until the ten year anniversary of the grants, respectively. Dr. Mazanet agreed not to sell or otherwise transfer any shares of Company common stock underlying the Options or other securities of the Company owned by Dr. Mazanet until (i) the date that is the earlier of twelve (12) months from December 28, 2012; or (ii) six (6) months following the effective date of the Registration Statement filed by the Company with the Securities and Exchange Commission on March 15, 2013. Dr. Mazanet also resigned as a director from the Company and Actinium Corporation. The Agreement also includes, subject to limited exceptions, mutual releases, mutual non-disparagement clauses, and a non-solicitation provision.



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## SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table shows the beneficial ownership of our Common Stock as of October 25, 2013 held by (i) each person known to us to be the beneficial owner of more than five percent (5%) of any class of our shares; (ii) each director; (iii) each executive officer; and (iv) all directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the SEC, and generally includes voting power and/or investment power with respect to the securities held. Shares of Common Stock subject to options and warrants currently exercisable or which may become exercisable within 60 days of October 25, 2013, are deemed outstanding and beneficially owned by the person holding such options or warrants for purposes of computing the number of shares and percentage beneficially owned by such person, but are not deemed outstanding for purposes of computing the percentage beneficially owned by any other person. Except as indicated in the footnotes to this table, the persons or entities named have sole voting and investment power with respect to all shares of our Common Stock shown as beneficially owned by them.

The percentages below are based on fully diluted shares of our Common Stock equivalents as of October 25, 2013. Unless otherwise indicated, the principal address of each of the persons below is c/o Actinium Pharmaceuticals, Inc., 501 Fifth Avenue, New York, NY 10017.

| Executive Officers and Directors  | Number of<br>Shares of<br>Common<br>Stock and<br>Preferred<br>Stock<br>Beneficially<br>Owned | Percentage of<br>Ownership(a) |
|---|--|-------------------------------|
| Kaushik Dave, PhD   | 0  | 0%                            |
| Dragan Cicic, MD  | 249,755(1)   | 1.06%                         |
| Dr. David Nicholson   | 55,944(2)  | 0.24%                         |
| Sandesh Seth  | 182,346(3)   | 0.77%                         |
| Dr. Sergio Traversa   | 17,982(4)  | 0.08%                         |
| All Directors and Officers as a Group (4 persons)   | 506,027  | 2.1%                          |
| All other 5% holders  |  |                               |
| Actinium Holdings Ltd. (5)<br>c/o Sterling Management Limited<br>P.O. Box HM 1029<br>Hamilton HM CX | 5,702,387  | 24.1%                         |

(a) Based on 23,656,583 shares of Common Stock outstanding as of October 25, 2013, and includes 400,000 shares of common stock of the Company that remained outstanding after the closing of the Share Exchange.

(1) Options granted to purchase an aggregate of 333,000 shares of Common Stock of the Company at an exercise price of \$0.784 per share, options to purchase an aggregate of 99,900 shares of Common Stock of the Company at an exercise price of \$1.50 per share, and options to purchase an aggregate of 81,784 shares of Common Stock of the Company at an exercise price of \$1.35 per share. All shares are subject to vesting. 249,755 shares of Common Stock will have vested within 60 days of October 25, 2013.

(2) Options to purchase an aggregate of 49,950 shares of Common Stock of the Company at an exercise price of \$0.784 per share and options to purchase an aggregate of 49,950 shares of Common Stock of the Company at an exercise price of \$1.50 per share. All shares are subject to vesting. 55,944 shares of Common Stock will have vested within 60 days of October 25, 2013.

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(3) Warrants to purchase an aggregate of 64,747 shares of Common Stock of the Company at an exercise price of \$0.784 per share, exercisable on a cashless basis and warrants to purchase an aggregate of 99,617 of Common Stock of the Company at an exercise price of \$0.784 per share, exercisable on a cashless basis issued to Amrosan, LLC, a partnership in which the majority member interest is owned by the family of Mr. Seth. Excludes warrants to purchase an aggregate of 375,556 shares of Common Stock of the Company at par value per share, exercisable on a cashless basis issued to Amrosan, LLC as the warrants are not exercisable upon less than 90 days notice. The holder may waive the 90 day exercise notice requirement by giving 65 days prior notice of such waiver. The shares available by exercise of this Warrant are also restricted and may not be sold or otherwise transferred until the earlier of twelve months from December 28, 2012, the closing date of the going Share Exchange; or for six months after the Registration Statement of which this prospectus is a part is declared effective. Excludes 353,023 warrants issued to Carnegie Hill Asset Partners and irrevocable trust linked to Mr. Seth's family and 721,068 warrants issued to Bioche Asset Management, LLC, a partnership in which the majority member interest is owned by the family of Mr. Seth whose terms are the same as those issued to Amrosan LLC. Also excludes warrants held by the Placement Agent or its affiliates in connection with the offering of common stock and Series A and Series B warrants that closed on December 19, 2012 (the "2012 Offering"), the Bridge Notes Financing, the Series E financing and by designees of Jamess Capital Group, LLC in connection with the Share Exchange. Also includes options to purchase an aggregate of 49,950 shares of Common Stock of the Company at an exercise price of \$1.50 per share. All shares are subject to vesting. 17,982 shares of Common Stock will have vested within 60 days of October 25, 2013.

(4) Options to purchase an aggregate of 49,950 shares of Common Stock of the Company at an exercise price of \$1.50 per share. 17,982 shares of Common Stock will have vested within 60 days of October 25, 2013.

(5) Actinium Holdings Ltd., a Bermuda corporation ("AHL"), has entered the Share Exchange and a related Lock-up Agreement and is the record holder of the number of shares of Common Stock of the Company listed opposite its name. Michael Sheffrey has sole voting and investment power over the securities beneficially owned by Actinium Holdings Ltd. AHL is wholly owned by AHLB Holdings, LLC ("AHLB"), which in turn, is wholly owned by MSKCC. AHL, AHLB and MSKCC may be deemed to share investment and voting power and beneficial ownership of such shares. Investment power with respect to such shares is limited by AHL's agreement not to transfer its shares of Common Stock, subject to exceptions for certain related-party transfers, transfers to trusts and other private transfers, until, in general, the earlier of (i) December 28, 2013 (the first anniversary of the closing of the Share Exchange); or (ii) six (6) months following the effective date of the Registration Statement of which this prospectus is a part. AHL is entitled to certain demand and "piggyback" registration rights with respect to its shares of Common Stock. The shares to be registered by AHL will, however, in certain circumstances, be subject to "cutback" (or reduction of the number of shares includible in an underwritten registration) prior to the "cutback" of the shares being registered on behalf of investors in certain recent private placements of the Company.

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CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Transactions with Related Persons

On January 18, 2001, Actinium Corporation entered into a Clinical Trial Agreement with MSKCC and Sloan-Kettering Institute of Cancer Research (SKI), an entity related to MSKCC. Through an indirect subsidiary, Actinium Holdings Ltd. (AHL), MSKCC has been a principal stockholder of the Company since April 2010. The agreement provided for the conduct by SKI/MSKCC of Phase I/II clinical trials of the use of 213Bi-Hu195 and cytarabine for the treatment of acute myeloid leukemia and for Actinium Corporation's partial sponsorship of the study in exchange for access to data resulting from the study. Actinium Corporation was obligated to pay SKI (a) \$10,000 for each completed case report on a completed subject, and (b) \$2,500 for each case report on an incomplete subject. The trial enrolled 31 patients, was completed in 2007 and all the money due to MSKCC and SKI were paid in full.

On February 11, 2002, Actinium Corporation entered into a License, Development and Commercialization Agreement with SKI. The agreement was amended in August 2006. Pursuant to the agreement, Actinium Corporation licenses certain intellectual property from SKI, including critical patents with respect to Actinium Corporation's core technology, and also supports ongoing research and clinical development of Actinium Corporation related drug candidates. Certain amounts due under this agreement were deferred and then forgiven under the forbearance-related arrangements described below. On June 19, 2011, Actinium Corporation nonetheless agreed to pay SKI (a) \$50,000 in 2011, (b) \$200,000 in 2012 and (c) \$250,000 in 2013 under this agreement, in respect of the \$50,000 annual maintenance fees and research payments. Since January 1, 2011, the Company has paid \$100,000 for 2012 under this Agreement and as of December 31, 2012, the Company agreed to pay an additional \$150,000 for research to be conducted in 2013 under this agreement.

On February 25, 2006, Actinium Corporation entered into a Clinical Trial Agreement with MSKCC and SKI. The agreement provides for the conduct by SKI/MSKCC of a Phase I clinical trials of the use of Actinium 225-HuM195 for the treatment of advanced myeloid malignancy and for Actinium Corporation's partial sponsorship of the study in exchange for access to data resulting from the study. Actinium Corporation is obligated to pay SKI (a) \$10,000 for each completed case report on a completed subject, and (b) \$2,500 for each case report on an incomplete subject. As of December 21, 2012, 18 subjects had been enrolled in this study, and the parties intend to attempt to enroll and additional 3 subjects. The maximum compensation for which Actinium Corporation is responsible for under the agreement is \$328,000. Since the inception of the trial in 2006, Actinium Corporation has paid \$180,000 and since January 1, 2011, Actinium Corporation has paid \$70,000 under the agreement. As of December 31, 2012, no monies were due under this agreement. The trial is ongoing and further fees are likely to be accrued as patients are enrolled. In January and February 2012, two additional patients were treated in this trial. We anticipate enrollment of one more additional patient under this agreement in 2013 and closing the trial after that.

In April 2010, SKI agreed, on behalf of itself and its related or affiliated entities, including MSKCC, to forbear from collecting or otherwise enforcing Actinium Corporation's then outstanding obligations to those entities and similar obligations arising during a defined forbearance period. The initial outstanding obligations consisted of approximately \$260,000 due under Actinium Corporation's license and clinical trials agreements with those entities. In June 2011, SKI agreed to forgive all current and future obligations subject to the forbearance in order to facilitate Actinium Corporation's financing efforts. The forbearance period terminated on October 30, 2011, when the Company satisfied a financing condition to the termination of the forbearance period by raising in excess of \$3,000,000 in new equity financing. The total amount forgiven was approximately \$360,000.

MSKCC agreed, subject to certain conditions, to utilize donated funds for certain clinical and preclinical programs and activities related to Actinium Corporation's drug development and clinical study programs, including the payment of certain costs and expenses that would otherwise have been borne by Actinium Corporation. The following is a

summary of activities related to the MSKCC arrangements at December 31, 2011 and 2010:

|  | 2012    | 2011       |
|--|---------|------------|
| Qualified R&D costs incurred by Actinium Corporation | \$ -    | \$ 655,786 |
| Cash received from MSKCC                             | 237,834 | 966,341    |

As of December 31, 2011 and 2010, the Company had reimbursement receivables for costs incurred of \$237,834 and \$279,401 from MSKCC, respectively. These amounts have since been paid.

From July through October 2011, AHL agreed, in connection with Actinium Corporation's Stock offering, to waive its rights to anti-dilution adjustments in respect of its outstanding stock and its preemptive rights to purchase the Company's stock from the Stock Offering. AHL also agreed to the restructuring of its registration rights in favor of the private placement purchasers, the amendment of the stockholders agreement of Actinium Corporation (to permit, among other transactions, the share exchange) and the relinquishment of its rights to Board representation, although one director originally nominated by AHL continued to serve. Actinium agreed (i) not to reduce the indemnification, advancement of expenses and similar rights of present and former directors and officers of Actinium Corporation, (ii) until April 30, 2016 to maintain directors' and officers' liability insurance at least in the same manner and to the same extent as then in effect, and (iii) following any merger, asset transfer and certain other transactions to provide for the parity of such directors and officers in respect of indemnification, advancement of expenses and D&O liability insurance with such rights applicable to the non-continuing directors following such transactions.

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On March 27, 2012, Actinium Corporation entered into an additional clinical trial agreement with Memorial Sloan-Kettering Cancer Center with respect to conducting a Phase I/II trial of combination therapy of low dose cytarabine and fractionated dose of Lintuzumab-Ac225. Actinium Corporation will pay \$31,185 for each patient that has completed the clinical trial. Upon execution of the agreement, Actinium Corporation was required to pay a start-up fee of \$79,623, which was paid on July 10, 2012. The total number of patients anticipated to be enrolled at MSKCC in this trial is 15.

AHL has agreed not to transfer its shares of Common Stock, subject to exceptions for certain related-party transfers, transfers to trusts and other private transfers, until, in general, the earlier of (i) December 28, 2013 (the first anniversary of the closing date of the Share Exchange); or (ii) six (6) months following the effective date of the Registration Statement of which this prospectus is a part. AHL will be entitled to certain demand and “piggyback” registration rights with respect to the shares of Common Stock that it may acquire. The shares to be registered by AHL will, however, in certain circumstances, be subject to “cutback” (or reduction of the number of shares includible in an underwritten registration) prior to the “cutback” of the shares being registered on behalf of investors in certain recent private placements.

On January 1, 2012, Actinium Corporation entered into a Consulting Services Agreement with Dr. Rosemary Mazanet, a former director of Cactus. Pursuant to the agreement, Dr. Mazanet provided, among other things, consulting services in the areas of implementation of the Actimab™-A trial including all aspects of study initiation until first patient in at each clinical site. Dr. Mazanet received compensation of \$100,000 per year. Since January 1, 2011, Dr. Mazanet has received options to purchase 225,000 shares of common stock of Actinium. Dr. Mazanet resigned as a director of the Company on May 31, 2013.

On August 7, 2012, Actinium Corporation entered into an engagement agreement with Laidlaw & Company (UK) Ltd. (the “Placement Agent”) for the 2012 Offering, of which Mr. Seth, a director of the Company, is Head of Healthcare Investment Banking. Pursuant to the agreement, the Placement Agent was engaged as the exclusive agent for the 2012 Offering. None of the Company’s current officers or directors had a prior relationship or affiliation with the Company prior to the closing of the Share Exchange. In consideration for its services, the Placement Agent will receive (a) a cash fee equal to 10% of the gross proceeds raised in the 2012 Offering, (b) a non-accountable expense reimbursement equal to 2% of the gross proceeds raised in the 2012 Offering, and (c) reimbursement of \$100,000 for legal expenses incurred by the Placement Agent. The Placement Agent or its designees have also received warrants to purchase shares of the Company’s Common Stock in an amount equal to 10% of the shares of Common Stock issued as part of the Units sold in the 2012 Offering and the shares of Common Stock issuable upon exercise of the B Warrants included in such Units. The Placement Agent will also receive the same fee and expense schedule for any cash exercise of Warrants within 6 months of the final closing of the 2012 Offering and a 5% solicitation fee for any Warrants exercised as a result of being called for redemption by the Company. Upon the final closing of the 2012 Offering the Placement Agent has been engaged by the Company to provide certain financial advisory services to the Company for a period of at least 6 months for a monthly fee of \$25,000. The agreement also provides that (i) if the Company consummates any merger, acquisition, business combination or other transaction (other than the Share Exchange) with any party introduced to it by the Placement Agent, the Placement Agent would receive a fee equal to 10% of the aggregate consideration in such transactions, and (ii) if, within a period of 12 months after termination of the advisory services described above, the Company requires a financing or similar advisory transaction the Placement Agent will have the right to act as the Company’s financial advisor and investment banker in such financing or transaction pursuant to a set fee schedule set forth in the August 7, 2012 engagement agreement. For a period ending one year after the expiration of all lock-up agreements entered into in connection with the Share Exchange, any change in the size of the Company board of directors must be approved by the Placement Agent. The Placement Agent also was engaged by Actinium Corporation as placement agent for its Stock Offering and notes financing in 2011 and, as a part of the fee for that engagement, designees of the Placement Agent also hold warrants to purchase 1,245,226 shares of the Company’s Common Stock.

On May 9, 2011, Actinium Corporation entered into a transaction management agreement with Jamess Capital Group, LLC. (formerly known as Amerasia Capital Group, LLC), a consulting firm affiliated with Mr. Sandesh Seth, a Director of the Company. Mr. Seth is a Managing Partner of the consulting firm some of whose member interests are held by entities owned by officers and employees of the Placement Agent. None of the Company's current officers or directors had a prior relationship or affiliation with the Company prior to the closing of the Share Exchange. Pursuant to the agreement, the management firm was engaged to provide consulting services to Actinium Corporation related to the consummation of a going public transaction for Actinium. The management firm received a monthly fee of \$12,500 which is terminable by the Company three months after the effective date of the going public transaction and designees of Jamess, including entities affiliated with Mr. Seth, were issued warrants to purchase common stock equal to 10% of the fully-diluted capital stock of the Company as of the effective date of the going public transaction. The fully diluted shares for this calculation included all issued and outstanding shares as well as those reserved under the Employee Stock Option Plan. Jamess Capital Group does not retain beneficial ownership of the warrants as they were issued to designees of the members in amounts which do not qualify either Jamess or the warrant holders for inclusion in the beneficial ownership table. The warrants contain a provision wherein the holder may waive the 90 day exercise notice requirement by giving 65 days prior notice of such waiver. The shares available by exercise of this Warrant are also restricted and may not be sold or otherwise transferred until the earlier of twelve months from December 28, 2012, the closing date of the Share Exchange; or for six months after the Registration Statement of which this prospectus is a party declared effective. The consulting firm is also eligible to be reimbursed upon the submission of proper documentation for ordinary and necessary out-of-pocket expenses not to exceed \$5,000 per month. The transaction management agreement was terminated on March 31, 2013.

In 2010, Actinium Corporation entered into an agreement with Guagenti & Associates LLC ("G&A"). G&A is affiliated with Enza Guagenti, the former Chief Financial Officer of the Company. Pursuant to the agreement, API leases storage space in Newark, NJ from G&A. The rent is \$300 per month. The agreement is on a month-to-month basis and requires a 45-day notice by either party to cancel. Since January 1, 2011, the Company has paid \$7,200 pursuant to this agreement. Ms. Guagenti resigned as our Chief Financial Officer on March 9, 2013.

#### Non-Competition Agreements

Our executive officers have signed non-competition agreements, which provide that all inventions become the immediate property of the Company and require invention assignments. The agreements provide that the executive officers will hold proprietary information in the strictest confidence and not use the confidential information for any purpose not expressly authorized by us.

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DESCRIPTION OF SECURITIES

Authorized Capital Stock

Introduction

In the discussion that follows, we have summarized selected provisions of our certificate of incorporation, bylaws and Delaware law relating to our capital stock. This summary is not complete. This discussion is subject to the relevant provisions of Delaware law and is qualified in its entirety by reference to our articles of incorporation and our bylaws. You should read the provisions of our certificate of incorporation and our bylaws as currently in effect for provisions that may be important to you.

Authorized Capital Stock

The total authorized shares of capital stock of the Company currently consists of 100,000,000 shares of common stock, par value \$0.001 per share, and 10,000,000 shares of preferred stock, par value \$0.001 per share.

Common Stock

Holders of our common stock are entitled to receive notice of and to attend all meetings of our stockholders, and to one vote for each share on all matters submitted to a stockholder vote. Holders of common stock do not have cumulative voting rights. Therefore, holders of a majority of the shares of common stock voting for the election of directors can elect all of the directors. Holders of our common stock representing a majority of the voting power of our capital stock issued, outstanding and entitled to vote, represented in person or by proxy, are necessary to constitute a quorum at any meeting of our stockholders. A vote by the holders of a majority of our outstanding shares is required to effectuate certain fundamental corporate changes such as liquidation, merger or an amendment to our articles of incorporation.

In the event of liquidation, dissolution or winding up, each outstanding share entitles its holder to participate pro rata in all assets that remain after payment of liabilities and after providing for each class of stock, if any, having preference over the common stock. Holders of our common stock have no pre-emptive rights, no conversion rights and there are no redemption provisions applicable to our common stock.

As of October 25, 2013 there were 23,656,583 shares of Common Stock issued and outstanding, which were held by 342 holders of record.

Dividends

Holders of common stock are entitled to share in all dividends that the board of directors, in its discretion, declares from legally available funds. We have not paid any cash dividends on our Common Stock and do not plan to pay any such dividends in the foreseeable future. We currently intend to use all available funds to develop our business. We can give no assurances that we will ever have excess funds available to pay dividends.

Preferred Stock

We are authorized to issue up to 10,000,000 shares of preferred stock, par value \$0.001 per share, in one or more series as may be determined by our Board of Directors, who may establish, from time to time, the number of shares to be included in each series, may fix the designation, powers, preferences and rights of the shares of each such series and any qualifications, limitations or restrictions thereof. Any preferred stock so issued by the Board may rank senior

to the common stock with respect to the payment of dividends or amounts upon liquidation, dissolution or winding up of us, or both. Moreover, while providing desirable flexibility in connection with possible acquisitions and other corporate purposes, under certain circumstances, the issuance of preferred stock or the existence of the unissued preferred stock might tend to discourage or render more difficult a merger or other change of control. We currently do not have any preferred stock outstanding.

#### Warrants

##### Series A & Series B Warrants

The Series A Warrants had a 120 day term from January 28, 2013 and were exercisable for an aggregate of up to 3,118,968 shares of the Company's common stock at an initial per share exercise price of \$1.65, subject to adjustment as set forth below (anti-dilution). The Company also had a right of first refusal on the holder's sale of the warrant shares.

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The Series B Warrants have a five year term from January 28, 2013 and are exercisable for an aggregate of up to 1,59,484 shares of the Company's common stock at an initial per share exercise price of \$2.48, subject to adjustment as set forth below. These warrants have a cashless exercise provision. The Company also has a right of first refusal on the holder's sale of the warrant shares. The Company may also call this warrant for redemption upon written notice to all warrant holders at any time the closing price of the common stock exceeds \$1.50 (as may be adjusted pursuant to warrant agreement) for 20 consecutive trading days, as reported by Bloomberg, provided at such time there is an effective registration statement covering the resale of the shares underlying the warrants. In the 60 business days following the date the redemption notice is deemed given in accordance with the agreement, investors may choose to exercise this warrant or a portion of the warrant by paying the then applicable exercise price per share for every share exercised. Any shares not exercised on the last day of the exercise period will be redeemed by the Company at \$0.001 per share.

The exercise prices of the Series A Warrants and Series B Warrants are subject to adjustment upon certain events. If the Company at any time while the warrants remain outstanding and unexpired shall declare a dividend or make a distribution on the outstanding Common Stock payable in shares of its capital stock, or split, subdivide or combine the securities as to which purchase rights under this Warrant exist into a different number of securities of the same class, the exercise price for such securities shall be proportionately decreased in the case of a dividend, split or subdivision or proportionately increased in the case of a combination.

In addition, for so long as there are any warrants outstanding, if and whenever at any time and from time to time after the warrant issue date, as applicable, the Company shall issue any shares of common stock for no consideration or a consideration per share less than the exercise price, as applicable, then, forthwith upon such issue or sale, the warrants shall be subject to a proportional adjustment determined by multiplying such warrant exercise price by the following fraction:

$$\frac{N(0) + N(1)}{N(0) + N(2)}$$

Where:

N(0) = the number of shares of common stock outstanding (calculated on a Fully Diluted Basis) immediately prior to the issuance of such additional shares of common stock or common stock Equivalents;

N(1) = the number of shares of common stock which the aggregate consideration, if any (including the aggregate Net Consideration Per Share with respect to the issuance of common stock equivalents), received or receivable by the Company for the total number of such additional shares of common stock so issued or deemed to be issued would purchase at the warrant exercise price, as applicable, in effect immediately prior to such issuance; and

N(2) = the number of such additional shares of common stock so issued or deemed to be issued.

#### Stock Offering Warrants

The Stock Offering Warrants have a term ending on January 31, 2019 and are exercisable for an aggregate of up to 2,700,971 shares of the Company's common stock at an initial per share exercise price of \$0.78, subject to adjustment as set forth below (anti-dilution). The Company also has a right of first refusal on the holder's sale of the warrant shares.

These warrants have a cashless exercise provision. The Company also has a right of first refusal on the holder's sale of the warrant shares. The exercise prices of the Stock Offering Warrants are subject to adjustment upon certain events. If the Company at any time while the warrants remain outstanding and unexpired shall declare a dividend or make a distribution on the outstanding Common Stock payable in shares of its capital stock, or split, subdivide or combine the securities as to which purchase rights under this Warrant exist into a different number of securities of the same class, the exercise price for such securities shall be proportionately decreased in the case of a dividend, split or subdivision or proportionately increased in the case of a combination.

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In addition, for so long as there are any warrants outstanding, if and whenever at any time and from time to time after the warrant issue date, as applicable, the Company shall issue any shares of common stock for no consideration or a consideration per share less than the exercise price, as applicable, then, forthwith upon such issue or sale, the warrants shall be subject to a proportional adjustment determined by multiplying such warrant exercise price by the following fraction:

$$\begin{array}{l} N(0) \\ + \\ N(1) \\ N(0) \\ + \\ N(2) \end{array}$$

Where:

N(0) = the number of shares of common stock outstanding (calculated on a Fully Diluted Basis) immediately prior to the issuance of such additional shares of common stock or common stock Equivalents;

N(1) = the number of shares of common stock which the aggregate consideration, if any (including the aggregate Net Consideration Per Share with respect to the issuance of common stock equivalents), received or receivable by the Company for the total number of such additional shares of common stock so issued or deemed to be issued would purchase at the warrant exercise price, as applicable, in effect immediately prior to such issuance; and

N(2) = the number of such additional shares of common stock so issued or deemed to be issued.

Consulting Firm Warrants

The Consulting Firm Warrants have a term ending on December 17, 2019 and are exercisable for an aggregate of up to 3,755,562 shares of the Company's common stock. These warrants may not be exercised by the Holder upon less than 90 days prior written notice of such exercise and provided further that that the Holder may elect, in its sole discretion, to waive the Prior Notice Requirement, in whole or in part, upon 65 days prior written notice of such waiver. These warrants have a cashless exercise provision and were issued at an initial per share exercise price of \$0.001, subject to adjustment as if the Company at any time while the warrants remain outstanding and unexpired shall declare a dividend or make a distribution on the outstanding Common Stock payable in shares of its capital stock, or split, subdivide or combine the securities as to which purchase rights under this Warrant exist into a different number of securities of the same class, the exercise price for such securities shall be proportionately decreased in the case of a dividend, split or subdivision or proportionately increased in the case of a combination. The warrants are also subject to piggy-back registration rights. The holder has also agreed that following the consummation of the pubco transaction (which occurred on December 28, 2012), the holder will not sell or otherwise transfer any shares of common stock of the Company owned by holder, as a result of the exercise of the warrant until the date that is the earlier of (i) twelve (12) months from the closing date of the pubco transaction; or (ii) six (6) months following the effective date of the Registration Statement of which this prospectus is a part.

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Placement Agent Warrants

The Company issued two types of warrants to the Placement Agent, Placement Agent Stock Offering Warrants and Placement Agent Common Stock Warrants.

Placement Agent Stock Offering Warrants

The Placement Agent Stock Offering Warrants have a term ending on January 31, 2019 and are exercisable for an aggregate of up to 1,245,210 shares of the Company's common stock at an initial per share exercise price of \$0.78, subject to adjustment as set forth below (anti dilution). These warrants have a cashless exercise provision. The exercise prices of the warrants are subject to adjustment upon certain events. If the Company at any time while the warrants remain outstanding and unexpired shall declare a dividend or make a distribution on the outstanding Common Stock payable in shares of its capital stock, or split, subdivide or combine the securities as to which purchase rights under this Warrant exist into a different number of securities of the same class, the exercise price for such securities shall be proportionately decreased in the case of a dividend, split or subdivision or proportionately increased in the case of a combination.

In addition, for so long as there are any warrants outstanding, if and whenever at any time and from time to time after the warrant issue date, as applicable, the Company shall issue any shares of common stock for no consideration or a consideration per share less than the exercise price, as applicable, then, forthwith upon such issue or sale, the warrants shall be subject to a proportional adjustment determined by multiplying such warrant exercise price by the following fraction:

$$\frac{N(0) + N(1)}{N(0) + N(2)}$$

Where:

N(0) = the number of shares of common stock outstanding (calculated on a Fully Diluted Basis) immediately prior to the issuance of such additional shares of common stock or common stock Equivalents;

N(1) = the number of shares of common stock which the aggregate consideration, if any (including the aggregate Net Consideration Per Share with respect to the issuance of common stock equivalents), received or receivable by the Company for the total number of such additional shares of common stock so issued or deemed to be issued would purchase at the warrant exercise price, as applicable, in effect immediately prior to such issuance; and

N(2) = the number of such additional shares of common stock so issued or deemed to be issued.

Placement Agent Common Stock Warrants

The Placement Agent Common Stock Warrants have a five year term from January 28, 2013 and are exercisable for an aggregate of up to 467,845 shares of the Company's common stock at an initial per share exercise price of \$2.48, subject to adjustment as set forth below. These warrants have a cashless exercise provision. The Company may also call this warrant for redemption upon written notice to all warrant holders at any time the closing price of the common stock exceeds \$1.50 (as may be adjusted pursuant to warrant agreement) for 20 consecutive trading days, as reported by Bloomberg, provided at such time there is an effective registration statement covering the resale of the shares underlying the warrants. In the 60 business days following the date the redemption notice is deemed given in

accordance with the agreement, investors may choose to exercise this warrant or a portion of the warrant by paying the then applicable exercise price per share for every share exercised. Any shares not exercised on the last day of the exercise period will be redeemed by the Company at \$0.001 per share.

The exercise prices of the warrants are subject to adjustment upon certain events. If the Company at any time while the warrants remain outstanding and unexpired shall declare a dividend or make a distribution on the outstanding Common Stock payable in shares of its capital stock, or split, subdivide or combine the securities as to which purchase rights under this Warrant exist into a different number of securities of the same class, the exercise price for such securities shall be proportionately decreased in the case of a dividend, split or subdivision or proportionately increased in the case of a combination.

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In addition, for so long as there are any warrants outstanding, if and whenever at any time and from time to time after the warrant issue date, as applicable, the Company shall issue any shares of common stock for no consideration or a consideration per share less than the exercise price, as applicable, then, forthwith upon such issue or sale, the warrants shall be subject to a proportional adjustment determined by multiplying such warrant exercise price by the following fraction:

$$\frac{N(0) + N(1)}{N(0) + N(2)}$$

Where:

N(0) = the number of shares of common stock outstanding (calculated on a Fully Diluted Basis) immediately prior to the issuance of such additional shares of common stock or common stock Equivalents;

N(1) = the number of shares of common stock which the aggregate consideration, if any (including the aggregate Net Consideration Per Share with respect to the issuance of common stock equivalents), received or receivable by the Company for the total number of such additional shares of common stock so issued or deemed to be issued would purchase at the warrant exercise price, as applicable, in effect immediately prior to such issuance; and

N(2) = the number of such additional shares of common stock so issued or deemed to be issued.

Anti-takeover Effects of Our Articles of Incorporation and By-laws

Our certificate of incorporation and bylaws include provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us. These provisions encourage persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts.

No Cumulative Voting Rights. According to our Bylaws and Articles of Incorporation, neither the holders of our common stock nor the holders of our preferred stock have cumulative voting rights in the election of our directors. The combination of the present ownership by a few stockholders of a significant portion of our issued and outstanding common stock and lack of cumulative voting makes it more difficult for other stockholders to replace our Board of Directors or for a third party to obtain control of our Company by replacing our Board of Directors.

Undesignated preferred stock. We believe the availability of the preferred stock under our certificate of incorporation provides us with flexibility in addressing corporate issues that may arise. The existence of authorized but unissued shares of preferred stock may enable our board of directors to render more difficult or discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could issue shares of preferred stock without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. Our board of directors will make any determination to issue shares based on its judgment as to our and our stockholders' best interests.

Staggered Board. Pursuant to our Articles of Incorporation our directors are divided into three classes, designated Class I, Class II and Class III. Class I shall consist of two independent directors, Class II shall consist of two directors that were appointed as directors to Actinium Corporation by the holders of the former Series E preferred stock holders of Actinium Corporation, and Class III shall consist of the chief executive officer. Each director shall serve a term ending on the date of the third annual meeting of shareholders following the annual meeting at which the director was elected. Notwithstanding the foregoing, each director shall serve until his successor is duly elected and qualified, or until his or her retirement, death, resignation or removal. In order to implement a staggered board of directors, Class I shall serve a six month term from the date of incorporation; Class II shall serve an 18 month term from the date of incorporation; and Class III shall serve a 30 month term from the date of incorporation. Directors elected at each annual meeting commencing in 2013 shall be elected for a three year term as specified above.

#### Anti-takeover Effects of Delaware Law

We are governed by Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a public Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A “business combination” includes mergers, asset sales or other transactions resulting in a financial benefit to the stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns, or within three years, did own, 15% or more of the corporation’s outstanding voting stock. These provisions may have the effect of delaying, deferring or preventing a change in our control.

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Listing

Our common stock is listed on the OTCQB under the symbol "ATNM."

Transfer Agent

The transfer agent and registrar for our common stock is Action Stock Transfer Corporation. The transfer agent's address is 2469 E. Fort Union Boulevard, Suite 214, Salt Lake City, UT 84121, and its telephone number is (801) 274-1088.

PLAN OF DISTRIBUTION

The common shares being offered for resale by the selling stockholders consist of 25,735,497 shares. We will pay any fees and expenses incurred by us incident to the registration of the securities.

Each selling stockholder of the securities and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their securities covered hereby on the OTCQB or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A selling stockholder may use any one or more of the following methods when selling securities:

ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;

purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

an exchange distribution in accordance with the rules of the applicable exchange;

privately negotiated transactions;

settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;

in transactions through broker-dealers that agree with the selling stockholders to sell a specified number of such securities at a stipulated price per security;

through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;

a combination of any such methods of sale; or

any other method permitted pursuant to applicable law.

The selling stockholders may also sell securities under Rule 144 under the Securities Act, if available, rather than under this prospectus.

Broker-dealers engaged by the selling stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as

agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440.

In connection with the sale of the securities or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The selling stockholders may also sell securities short and deliver these securities to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The selling stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each selling stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

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The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the selling stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of securities of the common stock by the selling stockholders or any other person. We will make copies of this prospectus available to the selling stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

### SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering there has been a limited public market for our common stock, and a significant public market for our common stock may never develop or be sustained after this offering. We cannot predict the effect, if any, that market sales of shares or the availability of shares for sale will have on the market price prevailing from time to time. Only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. However, sales of our common stock in the public market after the restrictions lapse, or the perception that these sales may occur, could adversely affect the market price of our common stock and our ability to raise equity capital in the future.

Upon completion of this offering, we expect to have 35,154,367 shares of common stock outstanding. The 25,735,497 shares of common stock being sold in this offering will be freely tradable without restriction or further registration under the Securities Act, unless the shares are purchased by "affiliates" of our company, as that term is defined in Rule 144 of the Securities Act. All remaining shares were issued and sold by us in private transactions and are eligible for public sale only if registered under the Securities Act, or if they qualify for an exemption from registration, including, among others, the exemption provided by Rules 144 promulgated by the SEC under the Securities Act.

#### Restrictions on the Use of Rule 144 by Shell Companies or Former Shell Companies

Rule 144 is not available for resale of securities issued by any shell companies (other than business combination-related shell companies) or any issuer that has been at any time previously a shell company. The SEC has provided an exception to this prohibition, however, if the following conditions are met:

- the issuer of the securities that was formerly a shell company has ceased to be a shell company;
- the issuer of the securities is subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act;
- the issuer of the securities has filed all Exchange Act reports and materials required to be filed, as applicable, during the preceding 12 months (or such shorter period that the issuer was required to file such reports and materials), other than Form 8-K reports; and
- at least one year has elapsed from the time that the issuer filed current Form 10 type information with the SEC reflecting its status as an entity that is not a shell company.

As a result, none of our stockholders is currently able to sell shares of our common stock in reliance on Rule 144. Assuming we continue to meet the requirements set forth above, Rule 144 will become available to our stockholders one year from the date we filed the information required in SEC Form 10. Our stockholders may currently sell their

shares of our common stock only pursuant to a registration statement that has been declared effective under the Securities Act or pursuant to another exemption from registration.

#### LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus and certain other legal matters as to Delaware law will be passed upon for us by Hiscock & Barclay, LLP, Syracuse, New York.

#### EXPERTS

Our audited consolidated financial statements appearing in this prospectus and registration statement have been audited by GBH CPAs, PC, an independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein and in the registration statement, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

#### WHERE YOU CAN FIND MORE INFORMATION

We filed with the SEC a registration statement under the Securities Act for the common stock in this offering. This prospectus does not contain all of the information in the registration statement and the exhibits and schedule that were filed with the registration statement. For further information with respect to us and our common stock, we refer you to the registration statement and the exhibits that were filed with the registration statement. Statements contained in this prospectus about the contents of any contract or any other document that is filed as an exhibit to the registration statement are not necessarily complete, and we refer you to the full text of the contract or other document filed as an exhibit to the registration statement.

We file annual, quarterly, and current reports and other information with the SEC. Our filings with the SEC are available to the public on the SEC's website at [www.sec.gov](http://www.sec.gov). Those filings are also available to the public on our corporate website at [www.actinium-pharmaceuticals.com](http://www.actinium-pharmaceuticals.com). The information we file with the SEC or contained on, or linked to through, our corporate website or any other website that we may maintain is not part of this prospectus or the registration statement of which this prospectus is a part. You may also read and copy, at the SEC's prescribed rates, any document we file with the SEC, including the registration statement (and its exhibits) of which this prospectus is a part, at the SEC's Public Reference Room located at 100 F Street, N.E., Washington, D.C. 20549. You can call the SEC at 1-800-SEC-0330 to obtain information on the operation of the Public Reference Room.

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FINANCIAL STATEMENTS

Actinium Pharmaceuticals, Inc.  
For period ended June 30, 2013

The accompanying financial statements have been prepared by the Company and are unaudited. In the opinion of management, all adjustments (which include only normal recurring adjustments) necessary to present fairly the financial position, results of operations and cash flows at June 30, 2013 and 2012 and for the periods then ended have been made. Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America have been condensed or omitted. It is suggested that these financial statements be read in conjunction with the financial statements and notes thereto included in the Company's audited financial statements for the year ended December 31, 2012. The results of operations for the period ended June 30, 2013 are not necessarily indicative of the operating results for the full year.

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Actinium Pharmaceuticals, Inc.  
(Formerly Cactus Ventures, Inc.)  
(A Development Stage Company)  
Consolidated Balance Sheets  
(Unaudited)

|  | June 30,<br>2013    | December<br>31,<br>2012 |
|--|---------------------|-------------------------|
| <b>Assets</b>  |                     |                         |
| <b>Current Assets:</b>   |                     |                         |
| Cash and cash equivalents  | \$ 5,650,328        | \$ 5,618,669            |
| Prepaid expenses and other current assets  | 84,270              | 167,143                 |
| <b>Total Current Assets</b>  | <b>5,734,598</b>    | <b>5,785,812</b>        |
| Property and equipment, net of accumulated depreciation  | -                   | 3,010                   |
| <b>Total Assets</b>  | <b>\$ 5,734,598</b> | <b>\$ 5,788,822</b>     |
| <b>Liabilities and Stockholders' Equity</b>  |                     |                         |
| <b>Current Liabilities:</b>  |                     |                         |
| Accounts payable and accrued expenses  | \$ 793,630          | \$ 897,044              |
| Accounts payable and accrued expenses - related party  | 31,185              | 31,185                  |
| Notes payable  | 36,950              | 140,000                 |
| Derivative liabilities   | 2,957,977           | 3,574,958               |
| <b>Total Current Liabilities</b>   | <b>3,819,742</b>    | <b>4,643,187</b>        |
| <b>Total Liabilities</b>   | <b>3,819,742</b>    | <b>4,643,187</b>        |
| <b>Commitments and contingencies</b>   |                     |                         |
| <b>Stockholders' Equity:</b>   |                     |                         |
| Preferred stock, \$0.01 par value; 10,000,000 authorized none issued and outstanding   | -                   | -                       |
| Common stock, \$0.01 par value; 100,000,000 shares authorized; 23,584,424 and 21,391,665 shares issued and outstanding, respectively | 235,844             | 213,916                 |
| Additional paid-in capital   | 60,895,513          | 56,675,182              |
| Deficit accumulated during the development stage   | (59,216,501)        | (55,743,463)            |
| <b>Total Stockholders' Equity</b>  | <b>1,914,856</b>    | <b>1,145,635</b>        |
| <b>Total Liabilities and Stockholders' Equity</b>  | <b>\$ 5,734,598</b> | <b>\$ 5,788,822</b>     |

See accompanying notes to consolidated financial statements.

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Actinium Pharmaceuticals, Inc.  
(Formerly Cactus Ventures, Inc.)  
(A Development Stage Company)  
Consolidated Statements of Operations  
(Unaudited)

|  | For the three months ended |                | For the six months ended |                | For the          |
|--|----------------------------|----------------|--------------------------|----------------|------------------|
|  | June 30,                   |                | June 30,                 |                | Period from      |
|  | 2013                       | 2012           | 2013                     | 2012           | June 13,<br>2000 |
|  |                            |                |                          |                | (Inception) to   |
|  |                            |                |                          |                | June 30,         |
|  |                            |                |                          |                | 2013             |
| Revenue  | \$ -                       | \$ -           | \$ -                     | \$ -           | \$ -             |
| <b>Operating expenses:</b>                                     |                            |                |                          |                |                  |
| Research and development, net of reimbursements                | 509,262                    | 601,272        | 1,594,968                | 1,046,158      | 28,015,488       |
| General and administrative                                     | 966,367                    | 237,908        | 1,899,503                | 798,184        | 26,404,478       |
| Depreciation and amortization expense                          | -                          | 159            | -                        | 317            | 3,262,462        |
| Loss on disposition of equipment                               | -                          | -              | 4,122                    | -              | 554,307          |
| Total operating expenses                                       | 1,475,629                  | 839,339        | 3,498,593                | 1,844,659      | 56,236,735       |
| Loss from operations   | (1,475,629)                | (839,339)      | (3,498,593)              | (1,844,659)    | (56,236,735)     |
| <b>Other Income (Expense):</b>                                 |                            |                |                          |                |                  |
| Interest expense   | (634)                      | (320,728)      | (1,209)                  | (633,618)      | (1,965,916)      |
| Gain on extinguishment of liability                            | -                          | -              | -                        | -              | 260,000          |
| Change in fair value - derivative liabilities                  | (1,307,748)                | (402,524)      | 26,764                   | 6,777          | 726,150          |
| Total other income (expense)                                   | (1,308,382)                | (723,252)      | 25,555                   | (626,841)      | (979,766)        |
| Net loss   | \$ (2,784,011)             | \$ (1,562,591) | \$ (3,473,038)           | \$ (2,471,500) | \$ (59,216,501)  |
| Net loss per common share - basic and diluted                  | \$ (0.13)                  | \$ (0.09)      | \$ (0.16)                | \$ (0.15)      |                  |
| Weighted average common shares outstanding - basic and diluted | 22,178,637                 | 17,020,192     | 21,791,673               | 17,020,192     |                  |

See accompanying notes to consolidated financial statements.

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Actinium Pharmaceuticals, Inc.  
(Formerly Cactus Ventures, Inc.)  
(A Development Stage Company)  
Consolidated Statements of Cash Flows  
(Unaudited)

|   | For the Six<br>Months<br>Ended<br>June 30,<br>2013 | For the Six<br>Months<br>Ended<br>June 30,<br>2012 | For the<br>Period<br>from June<br>13, 2000<br><br>(Inception) to<br>June 30,<br>2013 |
|---|--|--|--|
| <b>Cash Flows From Operating Activities:</b>  |  |  |  |
| Net loss  | \$ (3,473,038)                                     | \$ (2,471,500)                                     | \$ (59,216,501)  |
| Adjustments to reconcile net loss to net cash provided by (used in) operating activities: |  |  |  |
| Stock-based compensation expense  | 188,400  | 240,400  | 6,240,436  |
| Depreciation expense  | -  | 317  | 3,262,462  |
| Loss on disposition of equipment  | 4,122  | -  | 554,307  |
| Amortization of debt discount   | -  | 451,267  | 900,000  |
| Amortization of deferred financing costs  | -  | 145,951  | 292,692  |
| Gain on extinguishment of liability   | -  | -  | (260,000)  |
| Gain on change in fair value of derivative  | (26,764 )  | (6,777)  | (726,150)  |
| Changes in operating assets and liabilities:  |  |  |  |
| (Increase) decrease in:   |  |  |  |
| R&D reimbursable receivable   | (2,126)  | 50,069   | (5,872)  |
| Prepaid expenses and other current assets   | 85,000   | (8,494)  | 61,604   |
| Increase (decrease) in:   |  |  |  |
| Accounts payable and accrued liabilities  | (103,414)  | (263,465)  | 1,135,359  |
| Accounts payable and accrued liabilities - related party                                  | -  | -  | 31,185   |
| <b>Net Cash Used In Operating Activities</b>  | <b>(3,327,820)</b>                                 | <b>(1,862,232)</b>                                 | <b>(47,730,478)</b>  |
| <b>Cash Flows From Investing Activities:</b>  |  |  |  |
| Payment made for patent rights  | -  | -  | (3,000,000)  |
| Purchase of property and equipment  | (1,112)  | (1,157)  | (816,771)  |
| <b>Net Cash Used In Investing Activities</b>  | <b>(1,112)</b>                                     | <b>(1,157)</b>                                     | <b>(3,816,771)</b>   |
| <b>Cash Flows From Financing Activities:</b>  |  |  |  |
| Borrowings on convertible debt, net of offering costs                                     | -  | -  | 645,888  |
| Payments on note payable  | (103,050)  | -  | (103,050)  |
| Sales of stock, net of offering costs   | -  | 660,163  | 53,191,098   |
| Proceeds from the exercise of warrants for cash   | 3,463,641  | -  | 3,463,641  |
| <b>Net Cash Provided By Financing Activities</b>  | <b>3,360,591</b>                                   | <b>660,163</b>                                     | <b>57,197,577</b>  |
| <b>Net change in cash</b>   | <b>31,659</b>                                      | <b>(1,203,226)</b>                                 | <b>5,650,328</b>   |
| Cash at beginning of period   | 5,618,669  | 5,703,798  | -  |

|                       |              |              |              |
|-----------------------|--------------|--------------|--------------|
| Cash at end of period | \$ 5,650,328 | \$ 4,500,572 | \$ 5,650,328 |
|-----------------------|--------------|--------------|--------------|

## Supplemental disclosures of cash flow information:

|                        |        |      |          |
|------------------------|--------|------|----------|
| Cash paid for interest | \$ 561 | \$ - | \$ 1,243 |
| Cash paid for taxes    | \$ -   | \$ - | \$ -     |

## Supplemental disclosure of non-cash investing and financing activities:

|   |            |            |              |
|---|------------|------------|--------------|
| Beneficial conversion feature discount                          | \$ -       | \$ -       | \$ 372,850   |
| Fair value of warrants issued with debt                         | \$ -       | \$ -       | \$ 377,150   |
| Fair value of warrants issued with stock                        | \$ -       | \$ 318,087 | \$ 5,985,238 |
| Fair value of warrants issued to the placement agent            | \$ -       | \$ 159,044 | \$ 2,170,282 |
| Conversion of notes payable and accrued interest to stock       | \$ -       | \$ -       | \$ 981,729   |
| Transfer from liability classification to equity classification | \$ 590,217 | \$ -       | \$ 4,821,542 |

See accompanying notes to consolidated financial statements.

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Actinium Pharmaceuticals, Inc.  
(Formerly Cactus Ventures, Inc.)  
(A Development Stage Company)  
Notes to Consolidated Financial Statements  
(Unaudited)

Note 1 – Description of Business and Summary of Significant Accounting Policies

Nature of Business – Actinium Pharmaceuticals, Inc. formerly known as Cactus Ventures, Inc. (the “Company”, “Actinium”, “Cactus”), was incorporated under the laws of the State of Nevada on October 6, 1997. The Company was a shell entity that was in the market for a merger with an appropriate operating company.

On December 28, 2012, the Company entered into a transaction (the “Share Exchange”), pursuant to which the Company acquired 100% of the issued and outstanding equity securities of Actinium Pharmaceuticals, Inc. (“API”), in exchange for the issuance of approximately 99% of the issued and outstanding common stock, par value \$0.01 per share, of the Company. The Share Exchange closed on December 28, 2012. As a result of the Share Exchange, the former shareholders of API became the controlling shareholders of the Company. At the closing, each API shareholder received 0.333 shares (the “Exchange Ratio”) of Actinium common stock for each API share exchanged. At the closing, all of the API shareholders’ options and warrants to purchase API common stock was exchanged at the Exchange Ratio for new options or warrants, as applicable, to purchase Actinium common stock. The Share Exchange was accounted for as a reverse takeover/recapitalization effected by a share exchange, wherein API is considered the acquirer for accounting and financial reporting purposes. The capital, share price, and earnings per share amount in these consolidated financial statements for the period prior to the reverse merger were restated to reflect the recapitalization in accordance with the exchange ratio established in the merger except otherwise noted.

API, incorporated on June 13, 2000, is a biotechnology company committed to developing breakthrough therapies for life threatening diseases using its alpha particle immunotherapy (APIT) platform and other related and similar technologies. API, together with its wholly owned subsidiary, MedActinium, Inc. (MAI), (hereinafter referred to collectively as “API”) has initiated collaborative efforts with large institutions to establish the proof of concept of alpha particle immunotherapy and has supported one Phase I/II clinical trial and one Phase I clinical trial at Memorial Sloan-Kettering Cancer Center (MSKCC) under an MSKCC Physician Investigational New Drug Application. In 2012, API launched a multi-center corporate sponsored trial in acute myeloid leukemia (AML) patients. API’s objective, through research and development, is to produce reliable cancer fighting products which utilize monoclonal antibodies linked with alpha particle emitters or other appropriate payloads to provide very potent targeted therapies. The initial clinical trials of API’s compounds have been with patients having acute myeloid leukemia and it is believed that API’s APIT platform will have wider applicability for different types of cancer where suitable monoclonal antibodies can be found.

As a result of the Share Exchange, the Company is now a holding company operating through API, a clinical-stage biopharmaceutical company developing certain cancer treatments.

On March 20, 2013, in anticipation of the Company changing its name to Actinium Pharmaceuticals, Inc. and its domicile from Nevada to Delaware, the Company’s subsidiary, Actinium Pharmaceuticals, Inc., changed its name to Actinium Corporation. On April 11, 2013, the Company changed its domicile from the State of Nevada to the State of Delaware and changed its name from Cactus Ventures, Inc. to Actinium Pharmaceuticals, Inc.

Basis of Presentation - Unaudited Interim Financial Information – The accompanying unaudited interim consolidated financial statements and related notes have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) for interim financial information, and in accordance

with the rules and regulations of the United States Securities and Exchange Commission (the “SEC”) with respect to Form 10-Q and Article 8 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by U.S. GAAP for complete financial statements. The unaudited interim consolidated financial statements furnished reflect all adjustments (consisting of normal recurring adjustments) which are, in the opinion of management, necessary for a fair statement of the results for the interim periods presented. Interim results are not necessarily indicative of the results for the full year. These unaudited interim consolidated financial statements should be read in conjunction with the consolidated financial statements of the Company for the year ended December 31, 2012 and notes thereto contained in the Company’s annual report on Form 10-K for the year ended December 31, 2012, as filed with the SEC March 29, 2013.

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Development Stage Company – The Company is considered a development stage company and has had no commercial revenue to date.

Principles of Consolidation – The consolidated financial statements include the Company’s accounts and those of the Company’s wholly owned subsidiaries. All significant intercompany accounts and transactions have been eliminated.

Use of Estimates in Financial Statement Presentation – The preparation of these consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Reclassification – Certain prior period amounts have been reclassified to conform to current period presentation.

Cash and Cash Equivalents – The Company considers all highly liquid accounts with original maturities of three months or less to be cash equivalents. Such balances are usually in excess of FDIC insured limits. At June 30, 2013 and December 31, 2012, all of the Company’s cash was deposited in one bank.

Property and Equipment – Machinery and equipment are recorded at cost and depreciated on a straight-line basis over estimated useful lives of five years. Furniture and fixtures are recorded at cost and depreciated on a straight-line basis over estimated useful lives of seven years. When assets are retired or sold, the cost and related accumulated depreciation are removed from the accounts, and any related gain or loss is reflected in operations. Repairs and maintenance expenditures are charged to operations.

Impairment of Long-Lived Assets – Management reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount may not be realizable or at a minimum annually during the fourth quarter of the year. If an evaluation is required, the estimated future undiscounted cash flows associated with the asset are compared to the asset’s carrying value to determine if an impairment of such asset is necessary. The effect of any impairment would be to expense the difference between the fair value of such asset and its carrying value.

Derivatives – All derivatives are recorded at fair value on the balance sheet. Fair values for securities traded in the open market and derivatives are based on quoted market prices. Where market prices are not readily available, fair values are determined using market based pricing models incorporating readily observable market data and requiring judgment and estimates.

Fair Value of Financial Instruments – Fair value is defined as the price that would be received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants. A fair value hierarchy has been established for valuation inputs that gives the highest priority to quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. The fair value hierarchy is as follows:

Level 1 Inputs – Unadjusted quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.

Level 2 Inputs – Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. These might include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability (such as interest rates, volatilities, prepayment speeds, credit risks, etc.) or inputs that are derived principally from or corroborated by market data by correlation or other means.

Level 3 Inputs – Unobservable inputs for determining the fair values of assets or liabilities that reflect an entity's own assumptions about the assumptions that market participants would use in pricing the assets or liabilities.

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The following tables set forth assets and liabilities measured at fair value on a recurring and non-recurring basis by level within the fair value hierarchy as of June 30, 2013 and December 31. As required by ASC 820, financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement requires judgment, and may affect the valuation of fair value assets and liabilities and their placement within the fair value hierarchy levels.

|                                | Level 1 | Level 2 | Level 3      | Total        |
|--------------------------------|---------|---------|--------------|--------------|
| <b>Derivative liabilities:</b> |         |         |              |              |
| At June 30, 2013               | -       | -       | \$ 2,957,977 | \$ 2,957,977 |
| At December 31, 2012           | -       | -       | 3,574,958    | 3,574,958    |

**Income Taxes** – The Company uses the asset and liability method in accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and income tax carrying amounts of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company reviews deferred tax assets for a valuation allowance based upon whether it is more likely than not that the deferred tax asset will be fully realized. A valuation allowance, if necessary, is provided against deferred tax assets, based upon management's assessment as to their realization.

**Research and Development Costs** – Research and development costs are expensed as incurred. Research and development reimbursements and grants are recorded by the Company as a reduction of research and development costs.

**Share-Based Payments** – The Company estimates the fair value of each stock option award at the grant date by using the Black-Scholes option pricing model and value of common shares based on the last common stock valuation done by third party valuation expert of the Company's common stock on the date of the share grant. The fair value determined represents the cost for the award and is recognized over the vesting period during which an employee is required to provide service in exchange for the award. As share-based compensation expense is recognized based on awards ultimately expected to vest, the Company reduces the expense for estimated forfeitures based on historical forfeiture rates. Previously recognized compensation costs may be adjusted to reflect the actual forfeiture rate for the entire award at the end of the vesting period. Excess tax benefits, if any, are recognized as an addition to paid-in capital.

**Earnings (Loss) Per Common Share** – The Company provides basic and diluted earnings per common share information for each period presented. Basic earnings (loss) per common share is computed by dividing the net income (loss) available to common stockholders by the weighted average number of common shares outstanding during the reporting period. Diluted earnings per common share is computed by dividing the net income available to common stockholders by the weighted average number of common shares outstanding plus dilutive securities. Since the Company has only incurred losses, basic and diluted net loss per common share are the same. The potentially dilutive securities (options, warrants and convertible instruments) were excluded from the diluted loss per common share calculation because their effect would have been antidilutive. For the six months ended June 30, 2013, potentially issuable shares included stock options to purchase 2,280,184 shares and warrants to purchase 9,535,694 shares of the Company's common stock. For the six months ended June 30, 2012, potentially issuable shares includes options and warrants to purchase 6,842,528 shares of the Company's common stock and notes payable convertible to 815,275 shares of the Company's common stock have been excluded from the calculation.

Recent Accounting Pronouncements – The Company does not expect that any recently issued accounting pronouncements will have a significant impact on the results of operations, financial position, or cash flows of the Company.

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Subsequent Events – The Company’s management reviewed all material events through the date the consolidated financial statements were issued for subsequent event disclosure consideration.

## Note 2 – Going Concern

As reflected in the accompanying consolidated financial statements, the Company has suffered recurring losses from operations since its inception. The Company has a net loss of \$3,473,038 and net cash used in operations of \$3,327,820, for the six months ended June 30, 2013; and an accumulated deficit of \$59,216,501 at June 30, 2013. In addition, the Company has not completed its efforts to establish a stable recurring source of revenues sufficient to cover its operating costs for the next twelve months. These factors raise substantial doubt regarding the Company’s ability to continue as a going concern.

The ability of the Company to continue its operations is dependent on the successful execution of management's plans, which include the expectation of raising debt or equity based capital, with some additional funding from other traditional financing sources, including term notes, and research and development grants until such time that funds provided by operations are sufficient to fund working capital requirements. The Company may need to issue additional equity and incur additional liabilities with related parties to sustain the Company’s existence although no commitments for funding have been made and no assurance can be made that such commitments will be available.

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. These financial statements do not include any adjustments relating to the recovery of assets or the classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

## Note 3 – Property and Equipment

Property and equipment consisted of the following at June 30, 2013 and December 31, 2012:

|                                  | Lives   | 2013       | 2012       |
|----------------------------------|---------|------------|------------|
| Office equipment                 | 5 years | \$ 157,274 | \$ 156,162 |
| Furniture and fixture            | 7 years | 1,292      | 1,292      |
| Total property and equipment     |         | 158,566    | 157,454    |
| Less: accumulated depreciation   |         | (154,444)  | (154,444)  |
| Loss on disposition of equipment |         | (4,122)    | -          |
| Property and equipment, net      |         | \$ -       | \$ 3,010   |

Depreciation expense for the three months ended June 30, 2013 and 2012 were \$0 and \$159, respectively. Depreciation expense for the six months ended June 30, 2013 and 2012 were \$0 and \$317 respectively. The Company wrote off its remaining underpreciated property and equipment during the six months ended June 30, 2013.

## Note 4 – Note Payable

On December 28, 2012, the Company entered into a premium finance agreement to pay a \$140,000 premium for its director and officer liability insurance policy. Pursuant to the agreement, the Company paid a down payment of \$28,000 in January 2013 and has to pay \$12,636 in monthly installment for nine months. As of June 30, 2013, the outstanding balance related to the premium finance agreement was \$36,950. The Company has paid \$103,050 of

the principal during 2013.

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## Note 5 – Derivatives

The Company has determined that certain warrants the Company has issued contain provisions that protect holders from future issuances of the Company's common stock at prices below such warrants' respective exercise prices and these provisions could result in modification of the warrants' exercise price based on a variable that is not an input to the fair value of a "fixed-for-fixed" option as defined under FASB ASC Topic No. 815 – 40. The warrants granted in connection with the issuance of the Company's Stock Offering and 2012 Common Stock Offering, the Convertible Notes (previously issued and converted) and the placement agent warrants contain anti-dilution provisions that provide for a reduction in the exercise price of such warrants in the event that future common stock (or securities convertible into or exercisable for common stock) is issued (or becomes contractually issuable) at a price per share (a "Lower Price") that is less than the exercise price of such warrant at the time. The amount of any such adjustment is determined in accordance with the provisions of the warrant agreement and depends upon the number of shares of common stock issued (or deemed issued) at the Lower Price and the extent to which the Lower Price is less than the exercise price of the warrant at the time.

Activities for derivative warrant instruments during the six months ended June 30, 2013 were as follows:

|                                     | Units       | Fair Value   |
|-------------------------------------|-------------|--------------|
| Balance, December 31, 2012          | 5,146,338   | \$ 3,574,958 |
| Reclassification to paid in capital | (3,122,821) | (590,217)    |
| Change in fair value                | -           | (26,764)     |
| Balance, June 30, 2013              | 2,023,517   | \$ 2,957,977 |

The fair values of the derivative warrants were calculated using a modified binomial valuation model with the following assumptions at June 30, 2013 and December 31, 2012.

|  | December 31,<br>2012 | June 30,<br>2013     |
|--|----------------------|----------------------|
| Market value of common stock on measurement date (1) | \$ 1.17              | \$ 1.65              |
| Adjusted exercise price                              | 0.48 -<br>\$ \$0.81  | 1.50 -<br>\$ \$2.475 |
| Risk free interest rate (2)                          | 0.10 -<br>\$ \$0.77  | 1.05%                |
| Warrant lives in years                               | 4 months/5<br>years  | 4.5 years            |
| Expected volatility (3)                              | 125% -<br>161%       | 154%                 |
| Expected dividend yield (4)                          | -                    | -                    |

(1) The market value of common stock is based on an enterprise valuation.

(2) The risk-free interest rate was determined by management using the Treasury Bill as of the respective measurement date.

- (3) Because the Company does not have adequate trading history to determine its historical trading volatility, the volatility factor was estimated by management using the historical volatilities of comparable companies in the same industry and region.
- (4) Management determined the dividend yield to be 0% based upon its expectation that it will not pay dividends for the foreseeable future.

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## Note 6 – Commitments and Contingencies

The Company has entered into license and research and development agreements with third parties under which the Company is obligated to make payments in the form of upfront payments as well as milestone and royalty payments. Notable inclusions in this category are:

- a. Abbott Biotherapeutics Corp. We entered into a Product Development and Patent License Agreement with Abbott Biotherapeutics Corp. (formerly Facet Biotech formerly known as Protein Design Labs) in 2003 to secure exclusive rights to a specific antibody when conjugated with alpha emitting radioisotopes. Upon execution of the agreement, we made a license fee payment of \$3,000,000.

We agreed to make milestone payments totaling \$7,750,000 for the achievement of the following agreed to and contracted milestones:

| Milestones  | Payments   |
|---|------------|
| (1) when Company initiates a Phase I Clinical Trial of a licensed product   | \$ 750,000 |
| (2) when Company initiates a Phase II Clinical Trial of a licensed product  | 750,000    |
| (3) when Company initiates a Phase III Clinical Trial of a licensed product | 1,500,000  |
| (4) Biological License Application filing with U.S. FDA                     | 1,750,000  |
| (5) First commercial sale   | 1,500,000  |
| (6) after the first \$10,000,000 in net sales                               | 1,500,000  |

Under the agreement, we agreed to pay to Abbott Biotherapeutics Corp on a country-by-country basis a royalty of up to 12% of net sales of all licensed products until the later of: (1) 12.5 years after the first commercial sale, or (2) when the patents expire.

As of December 31, 2012, we met our first milestone and upon reaching the milestone we paid Abbott Biotherapeutics Corp. a milestone payment of \$750,000 on July 24, 2012.

- b. Memorial Sloan Kettering Cancer Center (MSKCC). In February 2002, we entered into a license agreement with MSKCC that requires a technology access fee of \$50,000 upon execution, an annual maintenance fee of \$50,000 and an annual research funding of \$50,000 for as long as the agreement is in force.

| Milestones   | Payments   |
|--|------------|
| (1) filing of an New Drug Application (“NDA”) or regulatory approval for each licensed product | \$ 750,000 |
| (2) upon the receipt of regulatory approval from the U.S. FDA for each licensed product        | 1,750,000  |

Under the agreement, we agreed to pay to MSKCC on a country-by-country basis a royalty of 2% of net sales of all licensed products until the later of: (1) 10 years from the first commercial sale, or (2) when the patents expire. We expect to file the NDA for regulatory approval in 2016.

- c. Oak Ridge National Laboratory (ORNL) – We have contracted to purchase radioactive material to be used for research and development through December 2013. We contracted to purchase \$ 337,500 of radioactive material to be used for research and development, with a renewal option at the contract end.

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- Aptiv Solutions. AptivSolutions provides project management services for the study of the
- d. drug Ac-225-HuM195 (Actimab-A) used in our clinical trials, Phase I and Phase II. The total project is estimated to cost \$1,859,333 and requires a 12.5% down payment of the total estimated project cost. The down payment totaling \$239,000 was paid in 2007 and 2012. The agreement was amended to provide for additional services on August 6, 2012, October 22, 2012 and May 16, 2013. The total project is now estimated at \$ 2,173,955.
- e. Fred Hutchinson Cancer Research Center (FHCRC). On June 15, 2012, we entered into a license and sponsored research agreement with FHCRC. We will build upon previous and ongoing clinical trials, with BC8 (licensed antibody) and eventually develop a clinical trial with Actinium 225. FHCRC has currently completed Phase I and Phase II of the clinical trial and we intend to start preparation for a pivotal trial leading to an FDA approval. We have been granted exclusive rights to the BC8 antibody and related master cell bank developed by FHCRC. The cost to develop the trial will range from \$13.2 million to \$23.5 million, depending on the trial design as required by the FDA. Under the terms of the sponsored research agreement, we will fund the FHCRC lab with \$150,000 per year for the first two years and \$250,000 thereafter. Payments made toward funding the lab will be credited toward royalty payments owed to FHCRC in the given year. A milestone payment of \$1 million will be due to FHCRC upon FDA approval of the first drug. Upon commercial sale of the drug, royalty payments of 2% of net sales will be due to FHCRC. On August 12, 2013, the Company paid \$37,500 to FHCRC.
- f. MSKCC. On March 27, 2012, we entered into a clinical trial agreement with Memorial Sloan Kettering Cancer Center. The Company will pay \$31,185 for each patient that has completed the clinical trial. Upon execution of the agreement, the Company is required to pay a start-up fee of \$79,623. The amount due of \$79,623 was paid on July 10, 2012.
- g. FHCRC. On July 19, 2012, we entered into a clinical trial agreement with FHCRC. We will pay \$31,366 for each patient that has completed the clinical trial. Upon execution of the agreement, we are required to pay a start-up fee of \$19,749.
- h. The University of Texas M.D. Anderson Cancer Center. On August 28, 2012, we entered into a clinical trial agreement with The University of Texas M.D. Anderson Cancer Center. The total estimated cost of conducting the clinical trial is \$481,204, which includes a non-refundable institutional fee of \$14,500. The estimated cost is based on treating 24 patients through 2013. Upon execution of the agreement, we were required to make a payment of \$33,946.

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- i. Johns Hopkins University. On September 26, 2012, we entered into a clinical trial agreement with Johns Hopkins University. The Phase I/II clinical trial will be conducted with Actinium 225. The clinical trial will be conducted under the protocols established by us and pursuant to an Investigational New Drug Exemption (IND 10807) held by us. We will pay \$38,501 per patient, who has completed the clinical trial. We are required to pay a start-up fee of \$22,847, an annual pharmacy fee of \$2,025 and an amendment processing fee of \$500, when applicable.
- j. University of Pennsylvania. On November 21, 2012, we entered into a clinical trial agreement with the University of Pennsylvania. The Phase I/II clinical trial will be conducted with Actinium 225. The clinical trial will be conducted under the protocols established by us and pursuant to an Investigational New Drug Exemption (IND 10807) held by us. We will pay \$31,771 per patient, who has completed the clinical trial. We will be required to pay a start-up fee of \$16,000 and additional administrative fees, when applicable.

On August 1, 2012, the Company entered into a rental agreement for office space at 501 Fifth Avenue, 3rd Floor, New York, NY 10017. The agreement terminated May 31, 2013. On June 1, 2013 The Company entered into a rental agreement for office space at 546 Fifth Avenue, 14 th Floor, New York, NY 10036. The agreement terminates on December 31, 2013. Upon the expiration of the term, the agreement automatically renews on a month-to-month basis and requires a two month notice of termination. The Company paid a one month refundable deposit.

In February 28, 2013, the Company entered into a Separation and Settlement Agreement with its former CEO, Jack Talley. Pursuant to the agreement, the Company paid Mr. Talley \$125,000 on March 8, 2013 and a second payment of \$125,000 is due to be paid to Mr. Talley on September 1, 2013. The Company also paid Mr. Talley a performance bonus of \$60,000 for his service from August 15, 2012 to December 31, 2012.

## Note 7 – Equity

## Stock Option Plan

The following is a summary of stock options:

|                                | Number of<br>Units | Weighted<br>Average<br>Exercise<br>Price | Weighted<br>Average<br>Remaining<br>Contractual<br>Term (in<br>years) | Aggregate<br>Intrinsic<br>Value |
|--------------------------------|--------------------|--|---|---------------------------------|
| Outstanding, December 31, 2012 | 2,330,134          | \$ 0.96                                  | 8.91  | \$ 685,800                      |
| Cancellation                   | (49,950)           |  |   |                                 |
| Outstanding, June 30, 2013     | 2,280,184          | \$ 0.96                                  | 8.42  | \$ 1,609,035                    |

All options issued and outstanding are being amortized over their respective service periods. The unrecognized compensation expense at June 30, 2013 was \$1,086,848.

During the three months ended June 30, 2013 and 2012, the Company recorded option expense of \$94,200, and \$40,410, respectively. During the six months ended June 30, 2013 and 2012, the Company recorded option expense of \$188,400 and \$240,400, respectively.

On May 31, 2013, the Company entered into an agreement with its former director and consultant, Dr. Rosemary Mazanet. Pursuant to the agreement, the Company terminated the consulting agreement with Dr. Mazanet and Dr. Mazanet resigned as a director. The Company paid Mazanet cash of \$25,000 and cancelled options to purchase 49,950 shares of the Company's common stock at \$1.50 per share previously granted.

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## Warrants

The following is a summary of warrants:

|                                | Number of<br>Units | Weighted<br>Average<br>Exercise<br>Price | Weighted<br>Average<br>Remaining<br>Contractual<br>Term (in<br>years) | Aggregate<br>Intrinsic<br>Value |
|--------------------------------|--------------------|--|---|---------------------------------|
| Outstanding, December 31, 2012 | 12,770,636         | \$ 0.97                                  | 4.48  | \$ 6,114,768                    |
| Warrants exercised             | (2,211,158)        | 1.65                                     |   |                                 |
| Warrants expired               | (1,023,784)        | 1.65                                     |   |                                 |
| Outstanding, June 30, 2013     | 9,535,694          | \$ 0.77                                  | 5.341   | \$ 9,691,302                    |

During the six months ended June 30, 2013, the Company issued shares of common stock pursuant to the exercise of A-Warrants originally issued in connection with a private placement that closed in January 2013. The warrants were exercised at \$1.65 per share, resulting in gross proceeds of \$3,463,641 received by the Company.

## Note 8 – Subsequent Events

Management has evaluated subsequent events and has concluded no events warrant disclosure.

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ACTINIUM PHARMACEUTICALS, INC.  
(Formerly Cactus Ventures, Inc.)  
(A Development Stage Company)  
Consolidated Financial Statements

As of December 31, 2012 and 2011 and for the period  
from June 13, 2000 (inception) to December 31, 2012

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors  
Actinium Pharmaceuticals, Inc.  
(Formerly Cactus Ventures, Inc.)  
(A Development Stage Company)  
Newark, NJ

We have audited the accompanying consolidated balance sheets of Actinium Pharmaceuticals, Inc. (Formerly Cactus Ventures, Inc.) (a Development Stage Company) (the “Company”) as of December 31, 2012 and 2011, and the related consolidated statements of operations, changes in stockholders’ equity and cash flows for the years then ended and for the period from June 13, 2000 (Inception) to December 31, 2012. These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Actinium Pharmaceuticals, Inc. (Formerly Cactus Ventures, Inc.) as of December 31, 2012 and 2011 and the results of their operations and their cash flows for the years then ended and for the period from June 13, 2000 (Inception) to December 31, 2012, in conformity with accounting principles generally accepted in the United States of America.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the consolidated financial statements, the Company has not generated any revenue since its inception, has a history of operating losses, and has an accumulated deficit since its inception. Those conditions raise substantial doubt about the Company’s ability to continue as a going concern. Management’s plans in regard to those matters are also described in Note 2. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ GBH CPAs, PC

GBH CPAs, PC  
www.gbhcpas.com  
Houston, Texas  
March 15, 2013



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Actinium Pharmaceuticals, Inc.  
(Formerly Cactus Ventures, Inc.)  
(A Development Stage Company)  
Consolidated Balance Sheets

|  | December<br>31,<br>2012 | December<br>31,<br>2011 |
|--|-------------------------|-------------------------|
| <b>ASSETS</b>  |                         |                         |
| Current assets:  |                         |                         |
| Cash   | \$ 5,618,669            | \$ 5,703,798            |
| R&D reimbursement receivable   | -                       | 237,834                 |
| Prepaid expenses and other current assets  | 167,143                 | 5,384                   |
| Deferred financing costs, net of accumulated amortization  | -                       | 252,248                 |
| Total current assets   | 5,785,812               | 6,199,264               |
| Property and equipment, net of accumulated depreciation  | 3,010                   | 1,233                   |
| <b>TOTAL ASSETS</b>  | <b>\$ 5,788,822</b>     | <b>\$ 6,200,497</b>     |
| <b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>  |                         |                         |
| Current liabilities:   |                         |                         |
| Accounts payable and accrued expenses  | \$ 897,044              | \$ 644,511              |
| Accounts payable and accrued expenses – related party  | 31,185                  | -                       |
| Note payable   | 140,000                 | -                       |
| Convertible notes payable, net of unamortized discount   | -                       | 124,363                 |
| Derivative liabilities   | 3,574,958               | 4,439,613               |
| Total current liabilities  | 4,643,187               | 5,208,487               |
| Commitments and contingencies  |                         |                         |
| Stockholders' equity:  |                         |                         |
| Preferred stock, \$0.01 par value; 100,000,000 shares authorized; 0 shares issued and outstanding                                    | -                       | -                       |
| Common stock, \$0.01 par value, 100,000,000 shares authorized; 21,391,665 and 13,664,802 shares issued and outstanding, respectively | 213,916                 | 136,648                 |
| Additional paid-in capital   | 56,675,182              | 48,237,620              |
| Deficit accumulated during the development stage   | (55,743,463)            | (47,382,258)            |
| Total stockholders' equity   | 1,145,635               | 992,010                 |
| <b>TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY</b>  | <b>\$ 5,788,822</b>     | <b>\$ 6,200,497</b>     |

See accompanying summary of accounting policies and notes to consolidated financial statements.

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Actinium Pharmaceuticals, Inc.  
(Formerly Cactus Ventures, Inc.)  
(A Development Stage Company)  
Consolidated Statements of Operations

|   | For the Years Ended |                | For the Period  |
|---|---------------------|----------------|---|
|   | December 31,        |                | from June 13,<br>2000 (Inception)<br>to<br>December 31,<br>2012 |
|   | 2012                | 2011           |   |
| Revenues  | \$ -                | \$ -           | \$ -  |
| <b>Operating expenses:</b>  |                     |                |   |
| Research and development, net of reimbursements                                 | 3,440,485           | 323,788        | 26,420,519  |
| General and administrative  | 4,506,232           | 2,959,246      | 24,504,975  |
| Depreciation and amortization expense   | 581                 | 633            | 3,262,462   |
| Loss on disposition of equipment  | -                   | -              | 550,186   |
| Total operating expenses  | 7,947,298           | 3,283,667      | 54,738,142  |
| Loss from operations  | (7,947,298)         | (3,283,667)    | (54,738,142)  |
| <b>Other (income) expense:</b>  |                     |                |   |
| Interest expense  | 1,099,327           | 175,094        | 1,964,707   |
| Gain on extinguishment of liability   | -                   | -              | (260,000)   |
| Gain on change in fair value of derivative liabilities                          | (685,420)           | (13,966)       | (699,386)   |
| Total other (income) expense  | 413,907             | 161,128        | 1,005,321   |
| Net loss  | \$ (8,361,205)      | \$ (3,444,795) | \$ (55,743,463)   |
| Net loss per common share - basic and diluted                                   | \$ (7.58)           | \$ (4.30)      |   |
| <b>Weighted average number of common shares outstanding - basic and diluted</b> |                     |                |   |
|   | 1,103,521           | 801,799        |   |

See accompanying summary of accounting policies and notes to consolidated financial statements.

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Actinium Pharmaceuticals, Inc.  
(Formerly Cactus Ventures, Inc.)  
(A Development Stage Company)  
Consolidated Statement of Changes in Stockholders' Equity  
For the Period From June 13, 2000 (Inception) to December 31, 2012

|                                 | Common Stock |           | Additional<br>Paid-in | Deficit<br>Accumulated<br>During the<br>Development | Total<br>Stockholders'<br>Equity<br>(Deficit) |
|---------------------------------|--------------|-----------|-----------------------|---|---|
|                                 | Shares       | Amount    | Capital               | Stage   |   |
| Issuance of founder shares      | 999,000      | \$ 9,990  | \$ 20,010             | \$ -  | \$ 30,000                                     |
| Proceeds from issuance of stock | 145,687      | 1,457     | 1,748,543             | -   | 1,750,000                                     |
| Net loss                        | -            | -         | -                     | (672,286)   | (672,286)                                     |
| Balances, December 31, 2000     | 1,144,687    | 11,447    | 1,768,553             | (672,286)   | 1,107,714                                     |
| Proceeds from issuance of stock | 187,313      | 1,873     | 2,248,127             | -   | 2,250,000                                     |
| Net loss                        | -            | -         | -                     | (5,090,621)   | (5,090,621)                                   |
| Balances, December 31, 2001     | 1,332,000    | 13,320    | 4,016,680             | (5,762,907)   | (1,732,907)                                   |
| Proceeds from issuance of stock | 180,375      | 1,804     | 3,248,196             | -   | 3,250,000                                     |
| Net loss                        | -            | -         | -                     | (3,192,384)   | (3,192,384)                                   |
| Balances, December 31, 2002     | 1,512,375    | 15,124    | 7,264,876             | (8,955,291)   | (1,675,291)                                   |
| Proceeds from issuance of stock | 208,992      | 2,090     | 6,779,160             | -   | 6,781,250                                     |
| Net loss                        | -            | -         | -                     | (3,532,044)   | (3,532,044)                                   |
| Balances, December 31, 2003     | 1,721,367    | 17,214    | 14,044,036            | (12,487,335)  | 1,573,915                                     |
| Proceeds from issuance of stock | 765,900      | 7,659     | 4,592,341             | -   | 4,600,000                                     |
| Net loss                        | -            | -         | -                     | (5,734,791)   | (5,734,791)                                   |
| Balances, December 31, 2004     | 2,487,267    | 24,873    | 18,636,377            | (18,222,126)  | 439,124                                       |
| Proceeds from issuance of stock | 649,350      | 6,494     | 3,893,506             | -   | 3,900,000                                     |
| Option expense                  | -            | -         | 315,388               | -   | 315,388                                       |
| Net loss                        | -            | -         | -                     | (4,580,237)   | (4,580,237)                                   |
| Balances, December 31, 2005     | 3,136,617    | \$ 31,367 | \$ 22,845,271         | \$ (22,802,363)                                     | \$ 74,275                                     |

See accompanying summary of accounting policies and notes to consolidated financial statements.



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Actinium Pharmaceuticals, Inc.  
(Formerly Cactus Ventures, Inc.)  
(A Development Stage Company)  
Consolidated Statement of Changes in Stockholders' Equity  
For the Period From June 13, 2000 (Inception) to December 31, 2012

(Continued)

|                                  | Common Stock |           | Additional<br>Paid-in<br>Capital | Deficit<br>Accumulated<br>During the<br>Development<br>Stage | Total<br>Stockholders'<br>Equity<br>(Deficit) |
|----------------------------------|--------------|-----------|----------------------------------|--|---|
|                                  | Shares       | Amount    |                                  |  |   |
| Balances, December 31, 2005      | 3,136,617    | \$ 31,367 | \$ 22,845,271                    | \$ (22,802,363)  | \$ 74,275                                     |
| Proceeds from issuance of stock  | 839,042      | 8,390     | 7,542,151                        | -  | 7,550,541                                     |
| Option expense                   | -            | -         | 252,308                          | -  | 252,308                                       |
| Net loss                         | -            | -         | -                                | (6,053,362)  | (6,053,362)                                   |
| Balances, December 31, 2006      | 3,975,659    | 39,757    | 30,639,730                       | (28,855,725)   | 1,823,762                                     |
| Proceeds from issuance of stock  | 732,600      | 7,326     | 6,592,674                        | -  | 6,600,000                                     |
| Common stock issued for services | 66,402       | 664       | 398,146                          | -  | 398,810                                       |
| Option expense                   | -            | -         | 255,061                          | -  | 255,061                                       |
| Net loss                         | -            | -         | -                                | (5,617,581)  | (5,617,581)                                   |
| Balances, December 31, 2007      | 4,774,661    | 47,747    | 37,885,611                       | (34,473,306)   | 3,460,052                                     |
| Proceeds from issuance of stock  | 999,000      | 9,990     | 5,990,010                        | -  | 6,000,000                                     |
| Option expense                   | -            | -         | 269,618                          | -  | 269,618                                       |
| Net loss                         | -            | -         | -                                | (5,570,905)  | (5,570,905)                                   |
| Balances, December 31, 2008      | 5,773,661    | 57,737    | 44,145,239                       | (40,044,211)   | 4,158,765                                     |
| Option expense                   | -            | -         | 112,382                          | -  | 112,382                                       |
| Net loss                         | -            | -         | -                                | (3,425,986)  | (3,425,986)                                   |
| Balances, December 31, 2009      | 5,773,661    | 57,737    | 44,257,621                       | (43,470,197)   | 845,161                                       |
| Option expense                   | -            | -         | 21,166                           | -  | 21,166  |
| Net loss                         | -            | -         | -                                | (467,266)  | (467,266)                                     |
| Balances, December 31, 2010      | 5,773,661    | \$ 57,737 | \$ 44,278,787                    | \$ (43,937,463)  | \$ 399,061                                    |

See accompanying summary of accounting policies and notes to consolidated financial statements.

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Actinium Pharmaceuticals, Inc.  
(Formerly Cactus Ventures, Inc.)  
(A Development Stage Company)  
Consolidated Statement of Changes in Stockholders' Equity  
For the Period From June 13, 2000 (Inception) to December 31, 2012

(Continued)

|   | Common Stock |            | Additional<br>Paid-in | Deficit<br>Accumulated<br>During the<br>Development<br>Stage | Total<br>Stockholders'<br>Equity<br>(Deficit) |
|---|--------------|------------|-----------------------|--|---|
|   | Shares       | Amount     | Capital               |  |   |
| Balances, December 31, 2010                                     | 5,773,661    | \$ 57,737  | \$ 44,278,787         | \$ (43,937,463)  | \$ 399,061                                    |
| Proceeds from issuance of stock                                 | 7,891,141    | 78,911     | 5,300,456             | -  | 5,379,367                                     |
| Option expense  | -            | -          | 19,935                | -  | 19,935  |
| Warrant expense   | -            | -          | 2,153,442             | -  | 2,153,442                                     |
| Fair value of derivative warrants                               | -            | -          | (3,887,850)           | -  | (3,887,850)                                   |
| Beneficial conversion feature discount                          | -            | -          | 372,850               | -  | 372,850                                       |
| Net loss  | -            | -          | -                     | (3,444,795)  | (3,444,795)                                   |
| Balances, December 31, 2011                                     | 13,664,802   | 136,648    | \$ 48,237,620         | \$ (47,382,258)  | \$ 992,010                                    |
| Proceeds from issuance of stock                                 | 4,087,747    | 40,877     | 5,089,063             | -  | 5,129,940                                     |
| Conversion of notes payable and accrued interest to stock       | 1,252,550    | 12,525     | 969,204               | -  | 981,729                                       |
| Shares issued at the reverse merger                             | 2,386,566    | 23,866     | (23,866)              | -  | -   |
| Option expense  | -            | -          | 266,172               | -  | 266,172                                       |
| Warrant expense   | -            | -          | 1,957,754             | -  | 1,957,754                                     |
| Fair value of derivative warrants                               | -            | -          | (4,052,089)           | -  | (4,052,089)                                   |
| Transfer from liability classification to equity classification | -            | -          | 4,231,324             | -  | 4,231,324                                     |
| Net loss  | -            | -          | -                     | (8,361,205)  | (8,361,205)                                   |
| Balances, December 31, 2012                                     | 21,391,665   | \$ 213,916 | \$ 56,675,182         | \$ (55,743,463)  | \$ 1,145,635                                  |

See accompanying summary of accounting policies and notes to consolidated financial statements.

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Statements of Cash Flows

|   | For the Year Ended<br>December 31, |                | For the Period<br>from June 13,<br>2000 (Inception)<br>to<br>December 31,<br>2012 |
|---|------------------------------------|----------------|---|
|   | 2012                               | 2011           |   |
| <b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>                                |                                    |                |   |
| Net loss  | \$ (8,361,205)                     | \$ (3,444,795) | \$ (55,743,463)   |
| Adjustments to reconcile net loss to net cash used in operating activities: |                                    |                |   |
| Stock-based compensation expense  | 2,223,926                          | 2,173,377      | 6,052,036   |
| Depreciation expense  | 581                                | 633            | 3,262,462   |
| Loss on disposition of equipment  | -                                  | -              | 550,186   |
| Amortization of debt discount   | 775,637                            | 124,363        | 900,000   |
| Amortization of deferred financing costs                                    | 252,248                            | 40,444         | 292,692   |
| Gain on extinguishment of liability   | -                                  | -              | (260,000)   |
| Gain on change in fair value of derivative liabilities                      | (685,420)                          | (13,966)       | (699,386)   |
| Changes in operating assets and liabilities:                                |                                    |                |   |
| R&D reimbursement receivable  | 234,088                            | 41,567         | (3,746)   |
| Prepaid expenses and other current assets                                   | (18,013)                           | 4,766          | (23,397)  |
| Accounts payable and accrued expenses                                       | 334,263                            | 556,019        | 1,238,773   |
| Accounts payable and accrued expenses - related parties                     | 31,185                             | -              | 31,185  |
| Net cash used in operating activities                                       | (5,212,710)                        | (517,592)      | (44,402,658)  |
| <b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>                                |                                    |                |   |
| Payment made for patent rights  | -                                  | -              | (3,000,000)   |
| Purchases of property and equipment   | (2,359)                            | -              | (815,659)   |
| Net cash used in investing activities                                       | (2,359)                            | -              | (3,815,659)   |
| <b>CASH FLOWS FROM FINANCING ACTIVITIES:</b>                                |                                    |                |   |
| Borrowings on convertible debt, net of offering costs                       | -                                  | 645,888        | 645,888   |
| Sales of stock, net of offering costs                                       | 5,129,940                          | 5,379,367      | 53,191,098  |
| Net cash provided by financing activities                                   | 5,129,940                          | 6,025,255      | 53,836,986  |
| Net increase (decrease) in cash   | (85,129)                           | 5,507,663      | 5,618,669   |
| Cash at beginning of period   | 5,703,798                          | 196,135        | -   |
| Cash at end of period   | \$ 5,618,669                       | \$ 5,703,798   | \$ 5,618,669  |
| <b>SUPPLEMENTAL CASH FLOWS INFORMATION:</b>                                 |                                    |                |   |
| Cash paid for:  |                                    |                |   |
| Income tax  | \$ -                               | \$ -           | \$ -  |
| Interest  | -                                  | -              | 682   |

## NONCASH INVESTING AND FINANCING ACTIVITIES:

|   |    |           |    |           |    |           |
|---|----|-----------|----|-----------|----|-----------|
| Beneficial conversion feature discount                          | \$ | -         | \$ | 372,850   | \$ | 372,850   |
| Fair value of warrants issued with debt                         |    | -         |    | 377,150   |    | 377,150   |
| Fair value of warrants issued with stock                        |    | 3,393,338 |    | 2,591,900 |    | 5,985,238 |
| Fair value of warrants issued to the placement agent            |    | 658,753   |    | 1,484,529 |    | 2,170,282 |
| Conversion of notes payable and accrued interest to stock       |    | 981,729   |    | -         |    | 981,729   |
| Transfer from liability classification to equity classification |    | 4,231,324 |    | -         |    | 4,231,324 |

See accompanying summary of accounting policies and notes to consolidated financial statements.

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Note 1 – Description of Business and Summary of Significant Accounting Policies

Nature of Business – Actinium Pharmaceuticals, Inc (Formerly Cactus Ventures, Inc.) (the “Company”, “Cactus”), was incorporated under the laws of the State of Nevada on October 6, 1997. The Company was a shell entity that is in the market for a merger with an appropriate operating company.

On December 28, 2012, the Company entered into a transaction (the “Share Exchange”), pursuant to which the Company agreed to acquire 100% of the issued and outstanding equity securities of Actinium Pharmaceuticals, Inc. (“Actinium”), in exchange for the issuance of approximately 99% of the issued and outstanding common stock, par value \$0.01 per share, of the Company. The Share Exchange was closed on December 28, 2012 when shareholders representing over 20% of the issued and outstanding shares of Actinium had finished the exchange process. On August 22, 2013, shareholders representing 38% of the issued and outstanding shares of Actinium completed the exchange. As a result of the Share Exchange, the former shareholders of Actinium became the controlling shareholders of the Company. At the closing, each Actinium shareholder shall receive 0.333 shares (the “Exchange Ratio”) of Cactus common stock for each Actinium share exchanged. At the closing, all of the Actinium shareholders’ options and warrants to purchase Actinium common stock was exchanged at the Exchange Ratio for new options or warrants, as applicable, to purchase Cactus common stock. The Share Exchange was accounted for as a reverse takeover/recapitalization effected by a share exchange, wherein Actinium is considered the acquirer for accounting and financial reporting purposes. The capital, share price, and earnings per share amount in these consolidated financial statements for the period prior to the reverse merger were restated to reflect the recapitalization in accordance with the exchange ratio established in the merger except otherwise noted.

Actinium, incorporated on June 13, 2000, is a biotechnology company committed to developing breakthrough therapies for life threatening diseases using its alpha particle immunotherapy (APIT) platform and other related and similar technologies. Actinium, together with its wholly owned subsidiary, MedActinium, Inc. (MAI), (hereinafter referred to collectively as “Actinium”) has initiated collaborative efforts with large institutions to establish the proof of concept of alpha particle immunotherapy and has supported one Phase I/II clinical trial and one Phase I clinical trial at Memorial Sloan-Kettering Cancer Center (MSKCC) under an MSKCC Physician Investigational New Drug Application. In 2012, Actinium launched a multi-center corporate sponsored trial in acute myeloid leukemia (AML) patients. Actinium’s objective, through research and development, is to produce reliable cancer fighting products which utilize monoclonal antibodies linked with alpha particle emitters or other appropriate payloads to provide very potent targeted therapies. The initial clinical trials of Actinium’s compounds have been with patients having acute myeloid leukemia and it is believed that Actinium’s APIT platform will have wider applicability for different types of cancer where suitable monoclonal antibodies can be found.

As a result of the Share Exchange, the Company is now a holding company operating through Actinium, a clinical-stage biopharmaceutical company developing certain cancer treatments.

Development Stage Company – The Company is considered a development stage company and has had no commercial revenue to date.

Principles of Consolidation – The consolidated financial statements include the Company’s accounts and those of the Company’s wholly owned subsidiaries. All significant intercompany accounts and transactions have been eliminated.

Use of Estimates in Financial Statement Presentation – The preparation of these consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Reclassification – Certain prior period amounts have been reclassified to conform to current period presentation.

Cash and Cash Equivalents – The Company considers all highly liquid accounts with original maturities of three months or less to be cash equivalents. Such balances are usually in excess of FDIC insured limits. At December 31, 2012 and 2011, all of the Company's cash was deposited in one bank.

Property and Equipment – Machinery and equipment are recorded at cost and depreciated on a straight-line basis over estimated useful lives of five years. Furniture and fixtures are recorded at cost and depreciated on a straight-line basis over estimated useful lives of seven years. When assets are retired or sold, the cost and related accumulated depreciation are removed from the accounts, and any related gain or loss is reflected in operations. Repairs and maintenance expenditures are charged to operations.

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**Impairment of Long-Lived Assets** – Management reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount may not be realizable or at a minimum annually during the fourth quarter of the year. If an evaluation is required, the estimated future undiscounted cash flows associated with the asset are compared to the asset's carrying value to determine if an impairment of such asset is necessary. The effect of any impairment would be to expense the difference between the fair value of such asset and its carrying value.

**Derivatives** – All derivatives are recorded at fair value on the balance sheet. Fair values for securities traded in the open market and derivatives are based on quoted market prices. Where market prices are not readily available, fair values are determined using market based pricing models incorporating readily observable market data and requiring judgment and estimates.

**Fair Value of Financial Instruments** – Fair value is defined as the price that would be received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants. A fair value hierarchy has been established for valuation inputs that gives the highest priority to quoted prices in active markets for identical assets or liabilities and the lowest priority to unobservable inputs. The fair value hierarchy is as follows:

**Level 1 Inputs** – Unadjusted quoted prices in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.

**Level 2 Inputs** – Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. These might include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability (such as interest rates, volatilities, prepayment speeds, credit risks, etc.) or inputs that are derived principally from or corroborated by market data by correlation or other means.

**Level 3 Inputs** – Unobservable inputs for determining the fair values of assets or liabilities that reflect an entity's own assumptions about the assumptions that market participants would use in pricing the assets or liabilities.

The following tables set forth assets and liabilities measured at fair value on a recurring and non-recurring basis by level within the fair value hierarchy as of December 31, 2012 and 2011. As required by ASC 820, financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. The Company's assessment of the significance of a particular input to the fair value measurement requires judgment, and may affect the valuation of fair value assets and liabilities and their placement within the fair value hierarchy levels.

|                                | Level 1 | Level 2 | Level 3      | Total        |
|--------------------------------|---------|---------|--------------|--------------|
| <b>Derivative liabilities:</b> |         |         |              |              |
| At December 31, 2012           | -       | -       | \$ 3,574,958 | \$ 3,574,958 |
| At December 31, 2011           | -       | -       | 4,439,613    | 4,439,613    |

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**Income Taxes** – The Company uses the asset and liability method in accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on differences between financial reporting and income tax carrying amounts of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company reviews deferred tax assets for a valuation allowance based upon whether it is more likely than not that the deferred tax asset will be fully realized. A valuation allowance, if necessary, is provided against deferred tax assets, based upon management’s assessment as to their realization.

**Research and Development Costs** – Research and development costs are expensed as incurred. Research and development reimbursements and grants are recorded by the Company as a reduction of research and development costs.

**Share-Based Payments** – The Company estimates the fair value of each stock option award at the grant date by using the Black-Scholes option pricing model and value of common shares based on the last common stock valuation done by third party valuation expert of the Company’s common stock on the date of the share grant. The fair value determined represents the cost for the award and is recognized over the vesting period during which an employee is required to provide service in exchange for the award. As share-based compensation expense is recognized based on awards ultimately expected to vest, the Company reduces the expense for estimated forfeitures based on historical forfeiture rates. Previously recognized compensation costs may be adjusted to reflect the actual forfeiture rate for the entire award at the end of the vesting period. Excess tax benefits, if any, are recognized as an addition to paid-in capital.

**Earnings (Loss) Per Common Share** – The Company provides basic and diluted earnings per common share information for each period presented. Basic earnings (loss) per common share is computed by dividing the net income (loss) available to common stockholders by the weighted average number of common shares outstanding during the reporting period. Diluted earnings per common share is computed by dividing the net income available to common stockholders by the weighted average number of common shares outstanding plus dilutive securities. Since the Company has only incurred losses, basic and diluted net loss per common share are the same. The potentially dilutive securities (options, warrants and convertible instruments) were excluded from the diluted loss per common share calculation because their effect would have been anti dilutive. For the year ended December 31, 2012, potentially issuable shares included stock options to purchase 2,330,134 shares and warrants to purchase 12,770,596 shares of the Company’s common stock. For the year ended December 31, 2011, potentially issuable shares includes options and warrants to purchase 273,859 shares of the Company’s common stock and notes payable convertible to 3,448,276 shares of the Company’s common stock have been excluded from the calculation.

**Recent Accounting Pronouncements** – The Company does not expect that any recently issued accounting pronouncements will have a significant impact on the results of operations, financial position, or cash flows of the Company.

**Subsequent Events** – The Company’s management reviewed all material events from January 1, 2013 through March 15, 2013.



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Note 2 – Going Concern

As reflected in the accompanying consolidated financial statements, the Company has suffered recurring losses from operations since its inception. The Company has a net loss of \$8,361,205 and net cash used in operations of \$5,212,710, for the year ended December 31, 2012; and an accumulated deficit of \$55,743,463 at December 31, 2012. In addition, the Company has not completed its efforts to establish a stable recurring source of revenues sufficient to cover its operating costs for the next twelve months. These factors raise substantial doubt regarding the Company's ability to continue as a going concern.

The ability of the Company to continue its operations is dependent on the successful execution of management's plans, which include the expectation of raising debt or equity based capital, with some additional funding from other traditional financing sources, including term notes, until such time that funds provided by operations are sufficient to fund working capital requirements. The Company may need to issue additional equity and incur additional liabilities with related parties to sustain the Company's existence although no commitments for funding have been made and no assurance can be made that such commitments will be available.

The accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. These financial statements do not include any adjustments relating to the recovery of assets or the classification of liabilities that might be necessary should the Company be unable to continue as a going concern.

Note 3 – Related Party Transactions

MSKCC:

In 2010, General Atlantic Group Limited donated all of the equity shares of its wholly owned subsidiary, Actinium Holdings Ltd. (formerly named General Atlantic Investments Limited) to Memorial Sloan Kettering Cancer Center (MSKCC), a principal owner of the Company.

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On February 11, 2002, the Company entered into a License, Development and Commercialization Agreement with Sloan-Kettering Institute of Cancer Research (SKI), an entity related to MSKCC. The agreement was amended in August 2006. Pursuant to the agreement, the Company licenses certain intellectual property from SKI, including critical patents with respect to the Company's core technology, and also supports ongoing research and clinical development of related drug candidates. Certain amounts due under this agreement were deferred and then forgiven under the forbearance-related arrangements described above. On June 19, 2011, the Company nonetheless agreed to pay SKI (a) \$50,000 in 2011, (b) \$200,000 in 2012 and (c) \$250,000 in 2013 under this agreement, in respect of the \$50,000 annual maintenance fees and research payments. Since January 1, 2011, the Company has paid \$100,000 under this agreement and as of December 31, 2012, the Company agreed to pay an additional \$150,000 for research to be conducted in 2013.

On March 27, 2012, the Company entered into an additional clinical trial agreement with MSKCC Cancer Center with respect to conducting a Phase I/II trial of combination therapy of low dose cytarabine and fractionated dose of Lintuzumab-Ac225. The Company will pay \$31,185 for each patient that has completed the clinical trial. Upon execution of the agreement, the Company was required to pay a start-up fee of \$79,623, which was paid on July 10, 2012.

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MSKCC agreed, subject to certain conditions, to utilize the donated funds for certain clinical and preclinical programs and activities related to the Company's drug development and clinical study programs, including the payment of certain costs and expenses that would otherwise have been borne by the Company. The following is a summary of activities related to the MSKCC arrangements for years ended December 31, 2012 and 2011:

|   | 2012    | 2011       |
|---|---------|------------|
| Qualified R&D costs incurred by the Company | \$ -    | \$ 655,786 |
| Reimbursements received from MSKCC          | 237,834 | 966,341    |

In 2012 and 2011, the Company received total R&D reimbursement payments of \$237,834 and \$299,200, respectively, from MSKCC.

As of December 31, 2012 and 2011, the Company had a net receivable of \$0 and \$237,834, respectively, from MSKCC.

Dr. Rosemary Mazanet:

On January 1, 2012, the Company entered into a Consulting Services Agreement with Dr. Rosemary Mazanet, a director of Cactus. Pursuant to the agreement, Dr. Mazanet is to provide, among other things, consulting services in the areas of implementation of the Actimab™-A trial including all aspects of study initiation until first patient in at each clinical site. Dr. Mazanet receives compensation of \$100,000 per year and may receive additional compensation in the form of options at determined by the board of the Company. Since January 1, 2011, Dr. Mazanet has also received options to purchase 99,900 shares of common stock of the Company. These options have exercise price ranging from \$0.78 to \$1.5 and have a life of 10 years.

Jamess Capital Group, LLC:

On May 9, 2011, the Company entered into a transaction management agreement with Jamess Capital Group, LLC. (formerly known as Amerasia Capital Group, LLC), a consulting firm affiliated with Mr. Sandesh Seth, a Director of the Company ("Management Firm"). The Management Firm received a monthly fee of \$12,500 which is terminable by the Company three months after the effective date of the going public transaction and designees of Jamess, including entities affiliated with Mr. Seth, were issued warrants to purchase common stock equal to 10% of the fully-diluted capital stock of the Company as of the effective date of the going public transaction. The fully diluted shares for this calculation included all issued and outstanding shares as well as those reserved under the Employee Stock Option Plan. The Management Firm is also eligible to be reimbursed upon the submission of proper documentation for ordinary and necessary out-of-pocket expenses not to exceed \$5,000 per month.

Placement Agent:

On August 7, 2012, the Company entered into an engagement agreement with its placement agent for the 2012 Common Stock Offering, of which Mr. Seth, a director of the Company is Head of Healthcare Investment Banking. Pursuant to the agreement, the placement agent was engaged as the exclusive agent for the 2012 Common Stock Offering. In consideration for its services, the placement agent will receive (a) a cash fee equal to 10% of the

gross proceeds raised in the 2012 Common Stock Offering, (b) a non-accountable expense reimbursement equal to 2% of the gross proceeds raised in the 2012 Common Stock Offering, and (c) reimbursement of \$100,000 for legal expenses incurred by the placement agent. The placement agent or its designees have also received warrants to purchase shares of the Company's Common Stock in an amount equal to 10% of the shares of common stock issued as part of the units sold in the 2012 Common Stock Offering and the shares of Common Stock issuable upon exercise of the B warrants included in such units. The placement agent will also receive the same fee and expense schedule for any cash exercise of warrants within 6 months of the final closing of the 2012 Common Stock Offering and a 5% solicitation fee for any warrants exercised as a result of being called for redemption by the Company. Upon the final closing of the 2012 Common Stock Offering of the units, the placement agent has been engaged by the Company to provide certain financial advisory services to the Company for a period of at least 6 months for a monthly fee of \$25,000. The agreement also provides that (i) if the Company consummates any merger, acquisition, business combination or other transaction (other than the Share Exchange) with any party introduced to it by the placement agent, the placement agent would receive a fee equal to 10% of the aggregate consideration in such transactions, and (ii) if, within a period of 12 months after termination of the advisory services described above, the Company requires a financing or similar advisory transaction the placement agent will have the right to act as the Company's financial advisor and investment banker in such financing or transaction pursuant to a set fee schedule set forth in the August 7, 2012 engagement agreement. For a period ending one year after the expiration of all lock-up agreements entered into in connection with the Share Exchange, any change in the size of the Company board of directors must be approved by the placement agent. The placement agent also was engaged by the Company as placement agent for its Stock Offering and Convertible Notes financing in 2011 and, as a part of the fee for that engagement, designees of the placement agent also hold warrants to purchase 1,251,015 shares of the Company's Common Stock.

Guagenti & Associates LLC:

In 2010, the Company entered into an agreement with Guagenti & Associates LLC ("G&A"). G&A is affiliated with Enza Guagenti, the former Chief Financial Officer of Cactus. Pursuant to the agreement, the Company leases storage space in Newark, NJ from G&A. The rent is \$300 per month. Since January 1, 2011, the Company has paid \$7,200 pursuant to this agreement. Ms. Guagenti resigned as the Company's Chief Financial Officer on March 9, 2013.

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## Note 4 – Property and Equipment

Property and equipment consisted of the following at December 31, 2012 and 2011:

|                                     | Lives   | 2012       | 2011       |
|-------------------------------------|---------|------------|------------|
| Office equipment                    | 5 years | \$ 156,162 | \$ 153,804 |
| Furniture and fixture               | 7 years | 1,292      | 1,292      |
| Total property, plant and equipment |         | 157,454    | 155,096    |
| Less: accumulated depreciation      |         | (154,444)  | (153,863)  |
| Property and equipment              |         | \$ 3,010   | \$ 1,233   |

Depreciation expense for the years ended December 31, 2012 and 2011 were \$581 and \$633, respectively.

## Note 5 – Note Payable and Convertible Notes

## Note Payable

On December 28, 2012, the Company entered into a premium finance agreement to pay \$140,000 premium of its director and officer insurance policy. Pursuant to the agreement, the Company paid a down payment of \$28,000 in January 2013 and has to pay \$12,636 in monthly installment for nine months. As of December 31, 2012, outstanding balance related to the premium finance agreement was \$140,000.

## Convertible Notes

On December 27, 2011, the Company completed a private offering of 8% Senior Subordinated Unsecured Convertible Promissory Notes (“Convertible Notes”) in the amount of \$900,000 and received net proceeds of \$750,000. The convertible notes were issued at 83.33% of the principal amount resulting in an original issue discount of \$150,000. The Convertible Notes mature one year from the date of issuance. Interest accrues at the rate of 8% per year on the outstanding principal amount, accrued semi-annually and to be paid at maturity.

The principal amount of the Convertible Notes and accrued interest are automatically converted to common stock at the earlier of: (1) the effective date of a Qualified Public Offering, (2) a Public Company Transaction, defined as (i) a reverse merger or similar transaction between the Company and a corporation whose securities are publicly traded in the United States or other jurisdiction mutually agreed between the Company and Placement Agent, or (ii) the quotation of the Company’s securities for purchase and sale on a U.S. quotation service, or (iii) the filing with an applicable regulatory body which will result in the Company becoming an entity whose securities are traded on a public exchange in the U.S. or other mutually agreed upon jurisdiction, or (3) the acquisition or receipt by the Company of no less than \$4,000,000 of gross proceeds in subsequent offerings of its common stock or equivalents following the issuance of the Company’s stock (See Note 9) and the Convertible Notes.

In connection with the issuance of the Convertible Notes, warrants to purchase a total of 287,061 shares of common stock were issued to investors. The Placement Agent and the Management Firm (See Note 9) were issued warrants to purchase 143,532 shares and 126,829 shares of common stock, respectively. The warrants issued to the Placement Agent are exercisable at \$0.78 per share and expire on January 31, 2019. The warrants issued to the Management Firm are exercisable at \$0.01 per share and expire on January 31, 2019.

The Company analyzed the Convertible Notes and the Warrants for derivative accounting consideration under FASB ASC 470 and determined that the investor warrants and the placement agent warrants, with a grant date fair value of \$565,729 (See Note 6), qualified for accounting treatment as a financial derivative (See Note 6) and the Convertible Notes were determined to also have a beneficial conversion feature discount of \$372,850 resulting from the conversion price of \$0.78 per share which is below the fair value of \$1.11 per share on the date of the Convertible Notes.

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The total fees, including cash payments and the fair value of the warrants issued to the Placement Agent, incurred in connection with the financing were \$292,692. These fees were amortized over the life (one year) of the Convertible Notes using the straight-line method as it approximates the effective interest method. The \$150,000 original issue discount on the Convertible Notes was also amortized over the life of the Notes on a straight line basis.

On October 23, 2012, the investors extended the note maturity date for 90 days. The maturity date of the notes has been extended to January 31, 2013, February 18, 2013 or March 27, 2013 for the 24 notes.

On December 19, 2012, the Convertible Notes and the accrued interests were automatically converted to common stock when the Company closed on an offering of its common stock in which the gross proceeds exceeded the \$4,000,000 threshold. The Convertible Notes and accrued interest were converted into 1,252,550 shares of the Company's common stock.

During the years ended December 31, 2012, the Company recorded amortization expense related to the deferred financing costs and the debt discount of \$252,248 and \$775,637, respectively. During the years ended December 31, 2011, the Company recorded amortization expense related to the deferred financing costs and the debt discount of \$40,444 and \$124,363, respectively.

A summary of the 8% Senior Subordinated Unsecured Convertible Promissory Notes as of December 31, 2012 and 2011 are as follows:

|   | 2012       | 2011       |
|---|------------|------------|
| Principal amount  | \$ 900,000 | \$ 900,000 |
| Less: original issuance discount                            | (150,000)  | (150,000)  |
| Less: discount related to fair value of derivative warrants | (377,150)  | (377,150)  |
| Less: discount related to the beneficial conversion feature | (372,850)  | (372,850)  |
| Add: amortization of discount                               | 900,000    | 124,363    |
| Less: principal amount converted to stock                   | (900,000)  | -          |
| Carrying value at December 31, 2012 and 2011, respectively  | \$ -       | \$ 124,363 |

#### Note 6 – Derivatives

The Company has determined that certain warrants the Company has issued contain provisions that protect holders from future issuances of the Company's common stock at prices below such warrants' respective exercise prices and these provisions could result in modification of the warrants' exercise price based on a variable that is not an input to the fair value of a "fixed-for-fixed" option as defined under FASB ASC Topic No. 815 – 40. The warrants granted in connection with the issuance of the Company's Stock Offering and 2012 Common Stock Offering (See Note 9), the Convertible Notes (See Note 5) and the placement agent warrants contain anti-dilution provisions that provide for a reduction in the exercise price of such warrants in the event that future common stock (or securities convertible into or exercisable for common stock) is issued (or becomes contractually issuable) at a price per share (a "Lower Price") that is less than the exercise price of such warrant at the time. The amount of any such adjustment is determined in accordance with the provisions of the warrant agreement and depends upon the number of shares of common stock

issued (or deemed issued) at the Lower Price and the extent to which the Lower Price is less than the exercise price of the warrant at the time.

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Activities for derivative warrant instruments during the years ended December 31, 2012 and 2011 were as follows:

|  | Units       | Fair Value   |
|--|-------------|--------------|
| Balance, December 31, 2010   | -           | \$ -         |
| Warrants issued with Convertible Notes (See Note 5)                            | 287,061     | 377,150      |
| Placement agent warrants related to issuance of Convertible Notes (See Note 5) | 143,532     | 188,579      |
| Warrants issued with Stock Offering (See Note 9)                               | 1,972,785   | 2,591,900    |
| Placement agent warrants related to issuance of stock (See Note 9)             | 986,393     | 1,295,950    |
| Change in fair value   | -           | (13,966)     |
| Balance, December 31, 2011   | 3,389,771   | 4,439,613    |
| Warrants issued with Stock Offering (See Note 9)                               | 242,190     | 318,087      |
| Placement agent warrants related to Stock Offering (See Note 9)                | 121,095     | 159,044      |
| Warrants issued with 2012 Common Stock Offering-A (See Note 9)                 | 3,118,988   | 1,409,554    |
| Warrants issued with 2012 Common Stock Offering-B (See Note 9)                 | 1,559,505   | 1,665,697    |
| Placement agent warrants related to 2012 Common Stock Offering (See Note 9)    | 467,845     | 499,707      |
| Transfer from liability classification to equity classification                | (3,753,056) | (4,231,324)  |
| Change in fair value   | -           | (685,420)    |
| Balance, December 31, 2012   | 5,146,338   | \$ 3,574,958 |

On December 19, 2012, as the result of the Share Exchange, it was determined that the floor for resetting the exercise price was met and the exercise price of the certain warrants was set to be \$0.26 (before Exchange Ratio adjustment). Therefore, these warrants were considered indexed to the Company's stock and qualified for the scope exception under FASB ASC 815-10 allowing for a transfer from liability classification to equity classification.

The fair values of the warrants issued in the Company's stock and Convertible Notes Offering and the warrants issued to the Company's placement agent were recognized as derivative warrant instruments at issuance and are measured at fair value at each reporting period. The Company determined the fair values of these warrants using a modified binomial valuation model.

The fair values of the derivative warrants were calculated using a modified binomial valuation model with the following assumptions at each balance sheet date, the transfer date on December 19, 2012, and the date for the new grants in January and December 2012. (The market value of common stock, adjusted exercise price and offering price presented does not reflect the impact of the Share Exchange.)

|  | December<br>31,<br>2011 | January<br>31,<br>2012 | December 19,<br>2012 | December<br>27,<br>2012 | December 31,<br>2012 |
|--|-------------------------|------------------------|----------------------|-------------------------|----------------------|
| Market value of common stock on measurement date (1) | \$0.37                  | \$0.37                 | \$ 0.39              | \$0.39                  | \$ 0.39              |

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|  |                  |                  |                              |                  |                              |
|--|------------------|------------------|------------------------------|------------------|------------------------------|
| Adjusted exercise price                                      | 0.24 -<br>\$0.26 | 0.23 -<br>\$0.26 | 0.41 -<br>\$ 0.83            | 0.22 -<br>\$0.26 | 0.41 -<br>\$ 0.83            |
| Risk free interest rate (2)                                  | 1.35 %           | 1.24 %           | 0.10% -<br>0.77 %            | 0.94 %           | 0.10% -<br>0.77 %            |
| Warrant lives in years                                       | 7 years          | 7 years          | 4<br>months/5years<br>125% - | 6 years          | 4<br>months/5years<br>125% - |
| Expected volatility (3)                                      | 156 %            | 157 %            | 161 %                        | 161 %            | 161 %                        |
| Expected dividend yield (4)                                  | -                | -                | -                            | -                | -                            |
| Probability of stock offering in any period over 5 years (5) | 25 %             | 25 %             | 25 %                         | 25 %             | 25 %                         |
| Range of percentage of existing shares offered (6)           | 35 %             | 35 %             | 35 %                         | 35 %             | 35 %                         |
| Offering price range (7)                                     | 0.18 -<br>\$0.55 | 0.13 -<br>\$0.56 | 0.01 -<br>\$ 0.55            | 0.12 -<br>\$0.60 | 0.01 -<br>\$ 0.55            |

(1) The market value of common stock is based on an enterprise valuation.

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- (2) The risk-free interest rate was determined by management using the average of 5 and 7 year and the 3-month Treasury Bill as of the respective measurement date.
- (3) Because the Company does not have adequate trading history to determine its historical trading volatility, the volatility factor was estimated by management using the historical volatilities of comparable companies in the same industry and region.
- (4) Management determined the dividend yield to be 0% based upon its expectation that it will not pay dividends for the foreseeable future.
- (5) Management has determined that the probability of a stock offering is 25% for each quarter of the next five years.
- (6) Management estimates that the range of percentages of existing shares offered in each stock offering will be between 35% of the shares outstanding.
- (7) Represents the estimated offering price range in future offerings as determined by management.

## Note 7 – Income Taxes

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities at December 31, 2012 and 2011 are as follows:

|                                | 2012          | 2011          |
|--------------------------------|---------------|---------------|
| Deferred tax assets:           |               |               |
| Net operating losses           | \$ 13,609,036 | \$ 13,089,314 |
| Share-based compensation       | 1,497,556     | 741,420       |
| Other differences in tax basis | 233,043       | 4,749         |
| Total deferred tax assets      | 15,339,635    | 13,835,483    |
| Less: valuation allowance      | (15,339,635)  | (13,835,483)  |
| Deferred tax assets, net       | \$ -          | \$ -          |

As of December 31, 2012, for U.S. federal income tax reporting purposes, the Company has approximately \$43 million of unused net operating losses ("NOLs") available for carry forward to future years. The benefit from the carry forward of such NOLs will begin expiring during the year ended December 31, 2020. Because United States tax laws limit the time during which NOL carry forwards may be applied against future taxable income, the Company may be unable to take full advantage of its NOL for federal income tax purposes should the Company generate taxable income. Further, the benefit from utilization of NOLs carry forwards could be subject to limitations due to material ownership changes that could occur in the Company as it continues to raise additional capital. Based on such limitations, the Company has significant NOLs for which realization of tax benefits is uncertain.

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The difference between the income tax provision and the amount that would result if the U.S. Federal statutory rate of 34% were applied to pre-tax income (loss) for the years ended December 31, 2012 and 2011 are as follows:

|                                     | For the years ended |         |                   |         |
|-------------------------------------|---------------------|---------|-------------------|---------|
|                                     | December 31, 2012   |         | December 31, 2011 |         |
| Federal income taxes at 34%         | \$ (2,842,810)      | -34.00% | \$ (1,171,230)    | -34.00% |
| Share-based compensation costs      | 756,136             | 9.04%   | 736,796           | 21.39%  |
| Change in fair value of derivatives | 233,043             | 2.79%   | 4,748             | 0.13%   |
| Amortization of debt discounts      | 349,480             | 4.18%   | 56,033            | 1.63%   |
| Change in valuation allowance       | 1,504,151           | 17.99%  | 373,653           | 10.85%  |
| Provision for income tax            | \$ -                | -       | \$ -              | -       |

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## Note 8 – Commitments and Contingencies

The Company has entered into license and research and development agreements with third parties under which the Company is obligated to make payments in the form of upfront payments as well as milestone and royalty payments. Notable inclusions in this category are:

- a. Abbott Biotherapeutics Corp – The Company entered into a Product Development and Patent License Agreement with Abbott Biotherapeutics Corp. (formerly Facet Biotech formerly known as Protein Design Labs) in 2003 to secure exclusive rights to a specific antibody when conjugated with alpha emitting radioisotopes. Upon execution of the agreement, the Company made a license fee payment of \$3,000,000.

The Company agreed to make milestone payments totaling \$7,750,000 for the achievement of the following agreed to and contracted milestones:

| Milestones  | Payments   |
|---|------------|
| (1) when Company initiates a Phase I Clinical Trial of a licensed product   | \$ 750,000 |
| (2) when Company initiates a Phase II Clinical Trial of a licensed product  | 750,000    |
| (3) when Company initiates a Phase III Clinical Trial of a licensed product | 1,500,000  |
| (4) Biological License Application filing with U.S. FDA                     | 1,750,000  |
| (5) First commercial sale   | 1,500,000  |
| (6) after the first \$10,000,000 in net sales                               | 1,500,000  |

Under the agreement, the Company shall pay to Abbott Biotherapeutics Corp on a country-by-country basis a royalty of 12% of net sales of all licensed products until the later of: (1) 12.5 years after the first commercial sale, or (2) when the patents expire.

As of December 31, 2012, the Company met its first milestone and upon reaching the milestone the Company paid Abbott Biotherapeutics Corp. a milestone payment of \$750,000 on July 24, 2012. The milestone payment for the Phase I Clinical Trial was recorded as research and development expense.

- b. MSKCC – In February 2002, the Company entered into a license agreement with MSKCC that requires a technology access fee of \$50,000 upon execution, an annual maintenance fee of \$50,000 and an annual research funding of \$50,000 for as long as the agreement is in force.

| Milestones   | Payments   |
|--|------------|
| 1) filing of a New Drug Application (“NDA”) or regulatory approval for each licensed product | \$ 750,000 |
| (2) upon the receipt of regulatory approval from the U.S. FDA for each licensed product      | 1,750,000  |

Under the agreement, the Company shall pay to MSKCC on a country-by-country basis a royalty of 2% of net sales of all licensed products until the later of: (1) 10 years from the first commercial sale, or (2) when the patents expire.

The Company expects to file the NDA for regulatory approval in 2015.

- c. Oak Ridge National Laboratory (ORNL) – API has contracted to purchase radioactive material to be used for research and development through December 2012. API is contracted to purchase \$233,100 of radioactive material to be used for research and development, with a renewal option at the contract end. The Company is currently negotiating the 2013 agreement.

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- d. AptivSolutions provides project management services for the study of the drug Ac-225-HuM195 (Actimab™-A) used in the Company clinical trials, Phase I and Phase II. The total project is estimated to cost \$1,859,333 and requires a 12.5% down payment of the total estimated project cost. The down payment totaling \$239,000 was paid in 2007 and 2012. On August 6, 2012, the agreement was amended to provide for additional services. The total project is now estimated at \$1,997,732. AptivSolutions bills the Company when services are rendered and the Company records the related expense to research and development costs.
- e. On June 15, 2012, the Company entered into a license and sponsored research agreement with Fred Hutchinson Cancer Research Center (FHCRC). The Company will build upon previous and ongoing clinical trials, with BC8 (licensed antibody) and eventually develop a clinical trial with Actinium 225. FHCRC has currently completed Phase I and Phase II of the clinical trial and the Company intends to start preparation for a pivotal trial leading to an FDA approval. The Company has been granted exclusive rights to the BC8 antibody and related master cell bank developed by FHCRC. The cost to develop the trial will range from \$13.2 million to \$23.5 million, depending on the trial design as required by the FDA. Under the terms of the sponsored research agreement, the Company will fund the FHCRC lab with \$150,000 per year for the first two years and \$250,000 thereafter. Payments made toward funding the lab will be credited toward royalty payments owed to FHCRC in the given year. A milestone payment of \$1 million will be due to FHCRC upon FDA approval of the first drug. Upon commercial sale of the drug, royalty payments of 2% of net sales will be due to FHCRC.
- f. On March 27, 2012, the Company entered into a clinical trial agreement with Memorial Sloan Kettering Cancer Center. The Company will pay \$31,185 for each patient that has completed the clinical trial. Upon execution of the agreement, the Company is required to pay a start-up fee of \$79,623. The amount due of \$79,623 was paid on July 10, 2012.
- g. On May 9, 2011, Actinium entered into a transaction management agreement with Jamess Capital Group, LLC. (formerly known as Amerasia Capital Group, LLC), a consulting firm affiliated with Mr. Sandesh Seth, a Director of Cactus Ventures, Inc. by virtue of his position as a director of Actinium Pharmaceuticals. Mr. Seth is a Managing Partner of the consulting firm some of whose member interests are held by entities owned by officers and employees of the Placement Agent. None of Cactus' current officers or directors had a prior relationship or affiliation with Cactus prior to the closing of the Share Exchange. Pursuant to the agreement, the management firm was engaged to provide consulting services to Actinium related to the consummation of a going public transaction for Actinium. The management firm received a monthly fee of \$12,500 which is terminable by the Company three months after the effective date of the going public transaction and designees of Jamess, including entities affiliated with Mr. Seth, were issued warrants to purchase common stock equal to 10% of the fully-diluted capital stock of the Company as of the effective date of the going public transaction. The fully diluted shares for this calculation included all issued and outstanding shares as well as those reserved under the Employee Stock Option Plan. Jamess Capital Group does not retain beneficial ownership of the warrants as they were issued to designees of the members in amounts which do not qualify either Jamess or the warrant holders for inclusion in the beneficial ownership table. The warrants contain a provision wherein the holder may waive the 90 day exercise notice requirement by giving 65 days prior notice of such waiver. The shares available by exercise of this Warrant are also restricted and may not be sold or otherwise transferred until the earlier of twelve months from the closing date of the Pubco Transaction; or for six months after the planned Registration Statement is declared effective. The consulting firm is also eligible to be reimbursed upon the submission of proper documentation for ordinary and necessary out-of-pocket expenses not to exceed \$5,000

per month.

- h. On July 19, 2012, the Company entered into a clinical trial agreement with FHCRC. The Company will pay \$31,366 for each patient that has completed the clinical trial. Upon execution of the agreement, the Company is required to pay a start-up fee of \$19,749. During the clinical trial additional fees apply and will be invoiced when applicable. The amount due has not been invoiced but accrued by the Company as of December 31, 2012.
- i. On August 28, 2012, the Company entered into a clinical trial agreement with The University of Texas M.D. Anderson Cancer Center. The total estimated cost of conducting the clinical trial is \$481,204, which includes a non-refundable institutional fee of \$14,500. The estimated cost is based on treating 24 patients through 2013. Upon execution of the agreement, the Company is required to make a payment of \$33,946. The amount due has not been invoiced but accrued by the Company as of December 31, 2012.
- j. On September 26, 2012, the Company entered into a clinical trial agreement with Johns Hopkins University. The Phase I/II clinical trial will be conducted with Actinium 225. The clinical trial will be conducted under the protocols established by the Company and pursuant to an Investigational New Drug Exemption (IND 10807) held by the Company. The Company will pay \$38,501 per patient, who has completed the clinical trial. The Company is required to pay a start-up fee of \$22,847, an annual pharmacy fee of \$2,025 and an amendment processing fee of \$500, when applicable. The amount due has not been invoiced but accrued by the Company as of December 31, 2012.

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- k. On November 21, 2012, the Company entered into a clinical trial agreement with the University of Pennsylvania. The Phase I/II clinical trial will be conducted with Actinium 225. The clinical trial will be conducted under the protocols established by the Company and pursuant to an Investigational New Drug Exemption (IND 10807) held by the Company. The Company will pay \$31,771 per patient, who has completed the clinical trial. The Company will be required to pay a start-up fee of \$16,000 and additional administrative fees, when applicable.

On August 1, 2012, the Company entered into a rental agreement for office space at 501 Fifth Avenue, 3rd Floor, New York, NY 10017. The agreement terminates January 31, 2013 unless a Notice of Termination is provided to the landlord 60 days prior to January 1, 2013. The agreement automatically renews on a month-to-month basis and requires a two month notice of termination. The Company paid a two month refundable deposit.

Note 9 – Equity

From inception to December 31, 2010, the Company raised \$42,711,791 by issuing 5,707,259 shares of the Company's stock and issued 66,402 shares, valued at \$398,810, for services.

During 2011, the Company raised \$6,184,967 by selling 7,891,141 shares of the Company's stock and warrants to purchase 19,972,785 shares of the Company's stock through an offering ("Stock Offering"). A net amount of \$5,379,367 was received by the Company in 2011. The Company paid Laidlaw & Company (UK) Ltd. ("Laidlaw & Co."), the placement agent, total cash fees of \$742,196, which consisted of placement agent commission of \$618,497 and expense reimbursement of \$123,699. The Company also issued Laidlaw & Co. warrants to purchase an aggregate of 986,393 shares of the Company's common stock, with an exercise price of \$0.78 per share and a term of 7 years. These placement agent warrants were valued at their grant date fair value of \$188,579. In addition, the Company paid Laidlaw & Co.'s outside counsel, McCormick & O'Brien PLLC, \$60,904 for its services as the placement agent's legal counsel and Signature Bank \$2,500 for the bank escrow fee.

During 2012, the Company raised \$759,300 by selling 968,759 shares and warrants to purchase 242,190 shares of the Company's common stock under the Company's Stock Offering. A net amount of \$660,164 was received by the Company in 2012. The Company paid Laidlaw & Co. total cash fees of \$91,116, which consisted of placement agent commission of \$75,930 and expense reimbursement of \$15,186. The Company also issued Laidlaw & Co. warrants to purchase an aggregate of 121,095 shares of the Company's common stock, with an exercise price of \$0.78 per share and a term of 7 years. These placement agent warrants were valued at their grant date fair value of \$159,044. In addition, the Company paid Laidlaw & Co.'s outside counsel, McCormick & O'Brien PLLC, \$8,020 for its services as the placement agent's legal counsel.

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In 2012, the Company also raised \$5,151,450 through an offering of 3,118,988 shares of its common stock and “A Warrants” to purchase 3,118,988 shares of the Company’s common stock, exercisable at a price of \$1.65 per share for a period of 120 days from the day of the final closing of the offering, and “B Warrants” to purchase 1,559,505 shares of the Company’s common stock, exercisable at a price of \$2.48 per share for a period of 5 years from the date of the final closing of the offering. (“2012 Common Stock Offering”) A net amount of \$4,469,776 was received by the Company. Pursuant to the 2012 Common Stock Offering agreement, the Company paid Laidlaw & Co. total cash fees of \$618,174, which consisted of placement agent commission of \$515,145 and expense reimbursement of \$103,029. The Company also issued the placement agent warrants to purchase an aggregate of 467,845 shares of the Company’s common stock, with an exercise price of \$0.78 per share and a term of 5 years. These placement agent warrants were valued at \$499,707 and recorded as derivative liabilities. In addition, the Company paid the Laidlaw & Co.’s outside counsel, Richardson & Patel, LLP, \$60,000 for its services as the Laidlaw & Co.’s legal counsel and Signature Bank \$3,500 for the bank escrow fee.

During 2012, the Company’s convertible notes, plus accrued interest, were converted to 1,252,550 shares of the Company’s common stock as a result of the 2012 Common Stock Offering.

As a result of the Share Exchange described in Note 1, the Company issued 400,000 shares to the original shareholders of the Company and 1,986,566 shares to the former shareholders of Actinium.

Placement Agent – In connection with the money raised in 2011, the Company issued Laidlaw & Co. warrants to purchase an aggregate of 1,129,925 shares of common stock, with an exercise price of \$0.78 per share. With the money raised in 2012, the Company issued Laidlaw & Co. warrants to purchase an aggregate of 588,940 shares of common stock, with an exercise price of \$0.78 per share.

Management Firm – In 2011, the Company entered into a management agreement with Jamess Capital Group, LLC (formerly, AmerAsia Inc., “Jamess”) for Jamess to provide consulting services related to funding and Actinium becoming a publicly traded entity. In 2011, the Company incurred \$96,744 in management fees. In addition, Actinium issued Jamess warrants to purchase an aggregate of 1,974,774 shares of common stock, with an exercise price of \$0.01 per share. The warrants have a fair value of \$2,153,442 (see Note 11) and included a cashless exercise provision. In 2012, the Company issued Jamess warrants to purchase 1,716,340 shares of common stock with an exercise price of \$0.01 per share. The warrants have a fair value of \$1,957,754 (see Note 11) and included a cashless exercise provision.

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Note 10 – Stock Option Plan

The Company has adopted a 2003 Stock Plan under which it may grant up to 757,575 options to purchase common stock. The 2003 Stock Plan was amended in 2008 to increase the number of shares that it may grant up to 978,154. Option awards are generally granted with an exercise price equal to the market price of the Company's stock at the date of the grant. However, since the Company is not publicly traded, the fair market value of the stock represents the Board of Directors' best estimate, based on the information available, on the date of the grant. The awards generally vest over a four or five year period at a rate of approximately 2% per month.

In 2011, the 2003 Stock Plan was amended to increase the number of shares by 3,217,880. Total shares reserved for issuance under the Plan will be increased to 6,155,280.

In accordance with the terms of the 2012 Common Stock Offering, the Company adopted a 2012 Employee Stock Option Plan ("2012 ESOP") and reserved 15% of the total issued and outstanding shares as of the final closing of the 2012 Common Stock Offering. Total shares reserved for issuance under the 2012 ESOP was 9,455,776 shares.

During 2006, options to purchase 206,060 shares of common stock were granted to several employees at an exercise price of \$1.35 per share. These options have a term of 10 years and vest over a 4-5 year period. Fair value of \$1,051,281 was calculated using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model include (1) discount rate of 4.29% (2) expected life of 5 years, (3) expected volatility of 156%, and (4) zero expected dividends.

During 2007, options to purchase 113,220 shares of common stock were granted to several employees at an exercise price of \$1.35 per share. These options have a term of 10 years and vest over a 4-5 year period. Fair value of \$137,652 was calculated using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model include (1) discount rate of 3.46% (2) expected life of 5 years, (3) expected volatility of 143%, and (4) zero expected dividends.

During 2008, options to purchase 69,941 shares of common stock were granted to an employee at an exercise price of \$0.90 per share. These options have a term of 10 years and vest over a 4-5 year period. Fair value of \$44,159 was calculated using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model include (1) discount rate of 3.46% (2) expected life of 5 years, (3) expected volatility of 139%, and (4) zero expected dividends.

During 2009, 20,613 options to one employee were cancelled as the result of termination of the employment and 128,050 options to one employee were forfeited as the employee deceased during the year.

During the year of 2010, options to purchase 33,300 shares of common stock were granted to an employee at an exercise price of \$0.90 per share. These options have a term of 10 years and vest over a 4-5 year period. Fair value of \$24,996 was calculated using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model include (1) discount rate of 2.16% (2) expected life of 5 years, (3) expected volatility of 171%, and (4) zero expected dividends.

In February 2012, the Company re-priced 273,859 units of employee stock options to reflect the current per share fair market value of the Company's common stock. The exercise prices of all of the current outstanding stock options were reduced to \$1.28 per share. The Company recorded an incremental compensation cost of \$34,879 as a result of the re-pricing of options.

During 2012, options to purchase 2,056,275 shares of common stock were issued to several employees and consultants at an exercise price ranging from \$0.78 to \$1.5 per share. These options have a term of 10 years and vest over a 4 year period. The fair value of \$1,519,777 was calculated using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model include: (1) discount rate of 1.8% (2) expected life of 7 years, (3) expected volatility of 160.44% ~ 162.49%, and (4) zero expected dividends.

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The following is a summary of stock option activities for the years ended December 31, 2012 and 2011:

|                                | Number of<br>Units | Weighted<br>Average<br>Exercise<br>Price | Weighted<br>Average<br>Remaining<br>Contractual<br>Term (in<br>years) | Aggregate<br>Intrinsic<br>Value |
|--------------------------------|--------------------|--|---|---------------------------------|
| Outstanding, December 31, 2010 | 273,859            | \$ 1.29                                  | 5.51  | \$ -                            |
| Granted                        | -                  | -  | -   |                                 |
| Outstanding, December 31, 2011 | 273,859            | 1.29                                     | 5.51  | -                               |
| Granted                        | 2,056,275          | 0.96                                     | 8.89  |                                 |
| Outstanding, December 31, 2012 | 2,330,134          | \$ 0.96                                  | 8.91  | \$ 685,800                      |

All options issued and outstanding are being amortized over their respective vesting periods. The unrecognized compensation expense at December 31, 2012 and 2011 were \$1,998,435 and \$14,528, respectively. During the years ended December 31, 2012 and 2011, the Company recorded option expense of \$266,172 and \$19,935, respectively.

#### Note 11 – Warrants

During the year ended December 31, 2011, warrants to purchase 1,974,774 shares of common stock were granted to the Management Firm at an exercise price of \$0.01 per share. These warrants have a term of 7 years and vest immediately. Fair value of \$2,153,442 was calculated using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model include (1) discount rate ranging from 1.92% to 3.17%, (2) warrant life of 10 years, (3) expected volatility ranging from 64.77% to 70.72%, and (4) zero expected dividends. The management firm receives warrants equal to ten (10%) percent of the issued and outstanding capital stock of the Company on a fully-diluted basis on the effective date of the agreement. The warrants are subject to weighted average non-dilution provisions to be calculated on the basis of the post-money fully diluted capitalization of the Company upon closing of any transaction, financing or otherwise, up to and including the Public Company transaction, provided that such anti-dilution provisions shall not extend beyond the date of any exercise of the warrants by the management firm prior to the closing of the Public Company transaction. Since these warrants vest immediately, the Company recorded the entire fair value of \$2,153,442 as stock-based compensation expense during the year on these warrants issued by the Company.

During the year ended December 31, 2011, the Company also issued the following warrants:

|   |           |
|---|-----------|
| Warrants issued with convertible notes (See Note 5)           | 287,061   |
| Warrants issued to investors with Stock Offering (See Note 9) | 1,972,766 |
| Placement agent warrants related to issuance of:              |           |
| Convertible Notes   | 143,532   |
| Stock Offering (See Note 6 and Note 9)                        | 986,383   |

|       |           |
|-------|-----------|
| Total | 3,389,742 |
|-------|-----------|

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During the year ended December 31, 2012, warrants to purchase an aggregate of 1,716,340 shares of common stock were granted to the Management Firm at an exercise price of \$0.01 per share. These warrants have a term of 7 years and vest immediately. Fair value of \$1,957,754 was calculated using the Black-Scholes option-pricing model. Variables used in the Black-Scholes option-pricing model include (1) discount rate of 1.82%, (2) warrant life of 7 years, (3) expected volatility of 60.64%, and (4) zero expected dividends. Since these warrants vest immediately, the Company recorded the entire fair value of \$1,957,754 as stock-based compensation expense during the year on these warrants issued by the Company.

During the year ended December 31, 2012, the Company also issued the following warrants:

|   |                  |
|---|------------------|
| Warrants issued to investors with Stock Offering (See Note 6) | 242,189          |
| Warrants issued to investors with Common Stock                | 4,678,491        |
| Placement agent warrants related to issuance of:              |                  |
| Stock Offering (See Note 6 and Note 9)                        | 121,094          |
| 2012 Common Stock Offering                                    | 467,845          |
| Warrants issued to investors with stock – accrued dividend    | 180,115          |
| <b>Total</b>  | <b>5,689,734</b> |

The following is a summary of warrant activities for the years ended December 31, 2011 and 2012:

|                                | Number of<br>Units | Weighted<br>Average<br>Exercise<br>Price | Weighted<br>Average<br>Remaining<br>Contractual<br>Term (in<br>years) | Aggregate<br>Intrinsic<br>Value |
|--------------------------------|--------------------|--|---|---------------------------------|
| Outstanding, December 31, 2010 | -                  | \$ -                                     | -   | \$ -                            |
| Granted                        | 5,364,557          | 0.51                                     | 6.76  |                                 |
| Outstanding, December 31, 2011 | 5,364,557          | 0.51                                     | 6.76  | 3,261,367                       |
| Granted                        | 7,406,079          | 1.32                                     | 3.76  |                                 |
| Outstanding, December 31, 2012 | 12,770,636         | \$ 0.97                                  | 4.48  | \$ 6,114,768                    |

#### Note 12 – Employee Defined Contribution Plan

In 2004, the Company established an employee deferred contribution plan. The plan requires 12 consecutive months of service and a minimum of 500 hours of service for participation. The Plan provides for employer matching of 50% of the employee contribution and discretionary contributions. Employees can contribute up to the maximum allowable under the Internal Revenue Service Code Section 401(k). The amount contributed by the Company for the years ended December 31, 2012 and 2011 was \$8,942 and \$8,885, respectively.

#### Note 13 – Subsequent Events

In February 28, 2013, the Company entered into a Separation and Settlement Agreement with its former CEO, Jack Talley. Pursuant to the agreement, the Company will pay Mr. Talley in 2 equal installments the aggregate amount of \$250,000 and a performance bonus of \$60,000 for his service from August 15, 2012 to December 31, 2012. The \$60,000 bonus was included in the accounts payable and accrued liabilities on the Company's balance sheet at December 31, 2012.

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25,735,497 Shares of Common Stock

ACTINIUM PHARMACEUTICALS, INC.  
(FORMERLY CACTUS VENTURES, INC.)

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PROSPECTUS

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YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED IN THIS DOCUMENT OR THAT WE HAVE REFERRED YOU TO. WE HAVE NOT AUTHORIZED ANYONE TO PROVIDE YOU WITH INFORMATION THAT IS DIFFERENT. THIS PROSPECTUS IS NOT AN OFFER TO SELL COMMON STOCK AND IS NOT SOLICITING AN OFFER TO BUY COMMON STOCK IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

Until \_\_\_\_\_, all dealers that effect transactions in these securities whether or not participating in this offering may be required to deliver a prospectus. This is in addition to the dealer's obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

The date of this prospectus is \_\_\_\_\_, 2013

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## PART II— INFORMATION NOT REQUIRED IN THE PROSPECTUS

## Item 13. Other Expenses Of Issuance And Distribution.

|   |            |
|---|------------|
| Securities and Exchange Commission registration fee | \$ 1,950   |
| Transfer Agent Fees                                 | \$ 800     |
| Accounting fees and expenses                        | 5,000      |
| Legal fees and expense                              | \$ 100,000 |
| Blue Sky fees and expenses                          | \$ 6,000   |
| Total   | \$ 113,750 |

All amounts are estimates other than the SEC's registration fee. We are paying all expenses of the offering listed above. No portion of these expenses will be borne by the selling stockholders. The selling stockholders, however, will pay any other expenses incurred in selling their common stock, including any brokerage commissions or costs of sale.

## Item 14. Indemnification of Directors and Officers.

Section 102(b)(7) of the Delaware General Corporation Law allows a corporation to provide in its certificate of incorporation that a director of the corporation will not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except where the directors breached the duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. Our certificate of incorporation provides for this limitation of liability.

Section 145 of the General Corporation Law of the State of Delaware provides that a Delaware corporation may indemnify any person who was, is or is threatened to be made, party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee or agent of such corporation or is or was serving at the request of such corporation as a director, officer employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his conduct was illegal. A Delaware corporation may indemnify any persons who are, or were, a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person is or was a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit, provided such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the corporation's best interests, provided that no indemnification is permitted without judicial approval if the officer, director, employee or agent is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him against the expenses which such officer or directors has actually and reasonably incurred.

Section 145 further authorizes a corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or enterprise, against any liability asserted against him and incurred by him in any such capacity, or arising out of his status as such, whether or not the corporation would otherwise have the power to indemnify him under Section 145.

Our bylaws provide that we will indemnify our directors and officers to the fullest extent authorized by the General Corporation Law of the State of Delaware. Expenses (including attorneys' fees) incurred by an officer or director of the Corporation in defending any civil, criminal, administrative or investigative action, suit or proceeding may be paid by the Company in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director or officer to repay such amount if it shall ultimately be determined that such person is not entitled to be indemnified by the Company as authorized under Delaware law. Such expenses (including attorneys' fees) incurred by former directors and officers or other employees and agents of the Company or by persons serving at the request of the Company as directors, officers, employees or agents of another corporation, partnership, joint venture, trust or other enterprise may be so paid upon such terms and conditions, if any, as the Company deems appropriate.

The indemnification rights set forth above shall not be exclusive of any other right which an indemnified person may have or hereafter acquire under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such person's official capacity and as to action in another capacity while holding such office, and shall continue as to a person who has ceased to be a director, officer, employee, or agent and shall inure to the benefit of the heirs, executors, and administrators of such person.

We maintain a general liability insurance policy that covers liabilities of directors and officers of our corporation arising out of claims based on acts or omissions in their capacities as directors or officers.

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Actinium Holdings Ltd. Indemnification

Pursuant to a letter Agreement dated, July 2011, between API and Actinium Holdings Ltd., API agreed to indemnify certain officers and directors of a predecessor company. Pursuant to the agreement, API will not, and will not permit any of its subsidiaries to, eliminate or otherwise reduce the right of any present or former director or officer of API, Actinium Pharmaceuticals Limited, a Bermuda corporation that merged into the Company (“APL”), and/or the present and former subsidiaries of API or APL (all such entities, collectively, the “Company Group”) who currently serves, or at any time prior to the date thereof served, in any such capacity (all such directors and officers, collectively “Company Group Managers”) to be indemnified against any costs or expenses (including reasonable attorneys’ fees), judgments, fines, losses, claims, damages or liabilities of any nature whatsoever, incurred in connection with any claim, action, suit, proceeding or investigation, whether civil, criminal, administrative or investigative, arising out of or pertaining to matters existing or occurring on, prior to or after the date thereof, whether asserted or claimed prior to, on or after the date thereof, arising, in whole or in part, out of or pertaining to the fact that he or she is or was, or at any time in the future will have been, a Company Group Manager or is or was, or at any time in the future will have been, serving at the request of any entity in the Company Group (or at the request of any present or former affiliate (as such term is defined in Rule 405 under the Securities Act of 1933, as amended) of API for and on behalf of any entity in the Company Group as a director, officer, employee, fiduciary or agent of another corporation, partnership, joint venture, trust, other entity or otherwise, or to be advanced expenses, in any of the foregoing cases, to the fullest extent that such Company Group Manager would be entitled to be indemnified or advanced expenses under applicable law, API’s or any such subsidiaries’ certificate or articles of incorporation or bylaws or equivalent documents or any applicable contract (collectively, the “Applicable Documents”), in each case, as in effect on the date thereof.

The indemnification rights set forth above shall not be exclusive of any other right which an indemnified person may have or hereafter acquire under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such person’s official capacity and as to action in another capacity while holding such office, and shall continue as to a person who has ceased to be a director, officer, employee, or agent and shall inure to the benefit of the heirs, executors, and administrators of such person.

We maintain a general liability insurance policy that covers liabilities of directors and officers of our corporation arising out of claims based on acts or omissions in their capacities as directors or officers.

At the present time, there is no pending litigation or proceeding involving a director, officer, employee, or other agent of ours in which indemnification would be required or permitted. We are not aware of any threatened litigation or proceeding that may result in a claim for such indemnification.

Item 15. Recent Sales of Unregistered Securities.

During 2011, Actinium Corporation raised \$6,184,967 through an offering of 23,697,119 shares (pre-Actinium Share Exchange) of the 2011 Series E preferred shares and 5,924,285 warrants (pre-Actinium share exchange). A net amount of \$5,379,367 was received by the Company in 2011.

On December 27, 2011, Actinium Corporation completed a private offering of 8% Senior Subordinated Unsecured Convertible Promissory Notes (“Convertible Notes”) in the amount of \$900,000 and received net proceeds of \$750,000. The convertible notes were issued at 83.33% of the principal amount resulting in an original issue discount of \$150,000. The Convertible Notes mature one year from the date of issuance. Interest accrues at the rate of 8% per year on the outstanding principal amount, accrued semi-annually and to be paid at maturity.

In January 2012, the Actinium raised \$759,300 through its final offering of the 2011 Series E preferred shares. A net amount of \$660,163 was received by Actinium Corporation .

On December 19, 2012, Actinium Corporation completed a private offering of units. Upon taking into account the exchange ratio in the Share Exchange that closed on December 28, 2012 the units consisted of an aggregate of (i) 3,118,968 shares of its common stock, (ii) Series A warrants to purchase 3,118,969 shares of its common stock which have a 120 day term from December 19, 2012 and an initial per share exercise price of \$1.65, subject to adjustment, (iii) Series B warrants to purchase up to 1,559,484 shares of common stock which have a 5 year term and an initial per share exercise price of \$2.48, subject to adjustment. The price per unit was \$1.65 for aggregate gross proceeds of \$5,151,448.

On December 28, 2012, we entered into a Share Exchange Agreement with (i) Actinium Corporation and (ii) the former shareholders of Actinium Corporation pursuant to which we acquired 12,939,986 shares of capital stock of Actinium from the Actinium Corporation Shareholders in exchange for the issuance of 4,309,015 shares of common stock to the Actinium Corporation shareholders.

On March 11, 2013, we entered into a second Share Exchange Agreement with (i) Actinium Corporation and (ii) the former shareholders of Actinium Corporation pursuant to which we acquired 22,055,225 shares of capital stock of Actinium Corporation from the Actinium Corporation Shareholders in exchange for the issuance of 7,344,390 shares of common stock to the Actinium Corporation shareholders.

On August 22, 2013, we entered into a third Share Exchange Agreement with (i) Actinium Corporation and (ii) the former shareholders of Actinium Corporation pursuant to which we acquired 24,052,702 shares of capital stock of Actinium Corporation from the Actinium Corporation Shareholders in exchange for the issuance of 8,009,550 shares of common stock to the Actinium Corporation shareholders.

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The above securities were offered and sold in reliance upon exemptions from registration pursuant to Section 4(2) of the Securities Act and Rule 506 of Regulation D (“Regulation D”) promulgated under the Securities Act. The Company made this determination based on the representations of the investors which included, in pertinent part, that each such investor was an “accredited investor” within the meaning of Rule 501 of Regulation D (there were no non-accredited investors in any of the offerings) and upon such further representations from each investor that (i) such investor is acquiring the securities for its own account for investment and not for the account of any other person and not with a view to or for distribution, assignment or resale in connection with any distribution within the meaning of the Securities Act, (ii) such investor agrees not to sell or otherwise transfer the purchased securities or shares underlying such securities unless they are registered under the Securities Act and any applicable state securities laws, or an exemption or exemptions from such registration are available, (iii) such investor has knowledge and experience in financial and business matters such that such investor is capable of evaluating the merits and risks of an investment in us, (iv) such investor had access to all of the Company’s documents, records, and books pertaining to the investment and was provided the opportunity to ask questions and receive answers regarding the terms and conditions of the Offering and to obtain any additional information which the Company possessed or was able to acquire without unreasonable effort and expense, and (v) such investor has no need for the liquidity in its investment in us and could afford the complete loss of such investment. In addition, there was no general solicitation or advertising for securities issued in reliance upon Regulation D.

Item 16. Exhibits.

See Exhibit Index following the signature page.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

i. To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

ii. To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the “Calculation of Registration Fee” table in the effective registration statement.

iii. To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

(5) Each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of New York, State of New York, on October 28, 2013.

ACTINIUM PHARMACEUTICALS, INC.

By: /s/ Kaushik J. Dave  
Kaushik J. Dave  
President and Chief Executive  
Officer  
(Duly Authorized Officer and  
Principal Executive Officer)

By: /s/ Sergio Traversa  
Sergio Traversa  
Interim Chief Financial Officer (Duly  
Authorized Officer and  
Principal Financial and Accounting  
Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Sergio Traversa and Sandesh Seth, and each of them, his true and lawful attorneys-in-fact and agents with full power of substitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to sign any registration statement for the same offering covered by the registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or his or their substitute or substitutes, may lawfully do or cause to be done or by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

| Signature                              | Capacity  | Date             |
|--|---|------------------|
| /s/ Kaushik J. Dave<br>Kaushik J. Dave | President, Chief Executive Officer<br>and Director<br>(Principal Executive officer) | October 28, 2013 |
| /s/ Sergio Traversa<br>Sergio Traversa | Interim Chief Financial Officer<br>(Principal Financial and Accounting<br>Officer)  | October 28, 2013 |

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/s/ David Nicholson  
David Nicholson

Director

October 28, 2013

/s/ Sandesh Seth  
Sandesh Seth

Director

October 28, 2013

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## EXHIBIT INDEX

| Exhibit Number | Description  |
|----------------|--|
| 2.1            | Share Exchange Agreement, dated December 28, 2012, by and among Cactus Ventures, Inc., Actinium Pharmaceuticals, Inc., Diane S. Button, and the shareholders of Actinium Pharmaceuticals, Inc. (incorporated by reference to Exhibit 2.1 to Form 8-K filed on January 2, 2013).        |
| 2.2            | Share Exchange Agreement, dated March 11, 2013, by and among Cactus Ventures, Inc., Actinium Pharmaceuticals, Inc. and the shareholders of Actinium Pharmaceuticals, Inc. (incorporated by reference to Exhibit 10.1 to Form 8-K filed on March 11, 2013).                             |
| 2.3            | Share Exchange Agreement, dated August 22, 2013, by and among Actinium Pharmaceuticals, Inc., Actinium Corporation, and the shareholders of Actinium Corporation (incorporated by reference to Exhibit 2.3 to Form S-1/A filed on August 22, 2013).                                    |
| 3.1            | Articles of Incorporation of Actinium Pharmaceuticals, Inc. (incorporated by reference to Exhibit 3.1 of the Company's Form 8-K filed with the SEC on April 17, 2013).   |
| 3.2            | Fifth Restated Certificate of Incorporation of Actinium Corporation (fka, Actinium Pharmaceuticals, Inc.) (incorporated by reference to Exhibit 3.5 to Form 8-K filed on January 2, 2013).   |
| 3.3            | Bylaws of Actinium Pharmaceuticals, Inc. (incorporated by reference to Exhibit 3.2 of the Company's Form filed with the SEC on April 17, 2007).  |
| 3.4            | Bylaws of Actinium Corporation (fka, Actinium Pharmaceuticals, Inc.)(incorporated by reference to Exhibit 3.7 to Form 8-K filed on January 2, 2013).   |
| 4.1            | Form of A Warrant, dated December 19, 2012 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on January 2, 2013).  |
| 4.2            | Form of B Warrant, dated December 19, 2012 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on January 2, 2013).  |
| 4.3            | Form of Lock Up Agreement, dated December ____, 2012 (incorporated by reference to Exhibit 4.3 to Form 8-K filed on January 2, 2013).  |
| 4.4            | Form of Stock Offering Warrant, dated April 12, 2013.  |
| 4.5            | Form of Placement Agent Warrant, dated December 19, 2012.  |
| 4.6            | Form of Consulting Firm Warrant, dated December 17, 2012.  |
| 4.7            | Lock-up Agreement, dated August 22, 2013 (incorporated by reference to Exhibit 4.7 to Form S-1/A filed on August 22, 2013).  |
| 5.1            | Opinion of Hiscock & Barclay, LLP **   |
| 10.1           | Registration Rights Agreement, by and among Actinium Pharmaceuticals, Inc., General Atlantic Investments Limited, and Certain Stockholders, dated June 30, 2000 (incorporated by reference to Exhibit 10.1 to Form 8-K filed on January 2, 2013).                                      |
| 10.2           | Amendment No. 1 to June 30, 2000 Registration Rights Agreement, dated September 29, 2011 (incorporated by reference to Exhibit 10.2 to Form 8-K/A filed on January 4, 2013).   |
| 10.3           | First Amended and Restated Stockholders Agreement, by and among Actinium Pharmaceuticals, Inc., Actinium Holdings Limited, N.V. Organon, and the Stockholders Listed Therein, dated October 5, 2011(incorporated by reference to Exhibit 10.3 to Form 8-K/A filed on January 4, 2013). |
| 10.4           | Second Amended and Restated Investor Rights Agreement, by and among Actinium Pharmaceuticals, Inc., Actinium Holdings Limited, and the Investors Listed Therein, dated October 5, 2011 (incorporated by reference to Exhibit 3.5 to Form 8-K filed on January 4, 2013).                |
| 10.5           | Intentionally left blank.  |
| 10.6           | Form of Subscription Agreement, dated December 19, 2012 (incorporated by reference to Exhibit 10.6 to Form 8-K filed on January 2, 2013).  |
| 10.7           | Form of Unit Purchase Agreement, dated December 19, 2012 (incorporated by reference to Exhibit 10.7 to Form 8-K filed on January 2, 2013).   |

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- 10.8 Employment Agreement, dated January 2, 2006, between Actinium Pharmaceuticals, Inc. and Dragan Cicic (incorporated by reference to Exhibit 10.8 to Form 8-K/A filed on January 4, 2013).
  - 10.9 License, Development and Commercialization Agreement between Sloan-Kettering Institute of Cancer Research, and Actinium Pharmaceuticals, Inc., dated February 11, 2002; as amended by the First Amendment dated August 7, 2006 (incorporated by reference to Exhibit 10.9 to Form 8-K/A filed on January 4, 2013).
  - 10.10 Phase I/II Study on the safety and efficiency of 225ACAc-HuM195 in patients with advanced Myeloid malignancies with Millennix Oncology, Averion Project, dated December 6, 2006 (incorporated by reference to Exhibit 3.5 to Form 8-K filed on January 4, 2013).
  - 10.11 Product Development and Patent License Agreement, dated February 27, 2003, by and between Abbott Biotherapeutics and Actinium Pharmaceuticals, Inc. (incorporated by reference to Exhibit 10.11 to Form 8-K/A filed on January 4, 2013).
  - 10.12 Clinical Trial Agreement, dated July 19, 2012, by and between Fred Hutchinson Cancer Center and Actinium Pharmaceuticals, Inc. (incorporated by reference to Exhibit 10.12 to Form 8-K/A filed on January 4, 2013).
  - 10.13 Employment Letter between Jack V. Talley and Actinium Pharmaceuticals, Inc., effective August 15, 2012 (incorporated by reference to Exhibit 3.5 to Form 8-K filed on January 4, 2013).
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- 10.14 Employment Letter between Enza Guagenti and Actinium Pharmaceuticals, Inc., effective August 15, 2012 (incorporated by reference to Exhibit 10.14 to Form 8-K/A filed on January 4, 2013).
- 10.15 Clinical Trial Agreement, dated January 18, 2001, between Actinium Pharmaceuticals, Inc. and Memorial Sloan Kettering Cancer Center for the purpose of conducting a clinical trial entitled “Phase I/II trial of 213Bi-M195 and cytarabine for Acute Myeloid Leukemia.” (incorporated by reference to Exhibit 10.15 to Form 8-K/A filed on January 4, 2013).
- 10.16 Clinical Trial Agreement with The Trustees of the University of Pennsylvania, dated November 8, 2012 (incorporated by reference to Exhibit 10.16 to Form 8-K/A filed on January 4, 2013).
- 10.17 Clinical Trial Agreement, dated March 27, 2012, with Memorial Sloan-Kettering Cancer Center (incorporated by reference to Exhibit 10.17 to Form 8-K/A filed on January 4, 2013).
- 10.18 Clinical Trial Agreement, dated September 22, 2012, with Johns Hopkins University, dated September 24, 2012 (incorporated by reference to Exhibit 10.18 to Form 8-K/A filed on January 4, 2013).
- 10.19 License Agreement, dated June 14, 2012, for BC8 antibody with Fred Hutchinson Cancer Research Center (incorporated by reference to Exhibit 10.19 to Form 8-K/A filed on January 4, 2013).
- 10.20 2012 Unit Investor Rights Agreement, dated December 19, 2012, by and among Actinium Pharmaceuticals, Inc., the persons identified on Exhibit A attached thereto hereto, and the Placement Agent (incorporated by reference to Exhibit 10.20 to Form 8-K/A filed on January 4, 2013).
- 10.21 Project Agreement, dated September 30, 2011, between Actinium Pharmaceuticals, Inc. and Aptiv Solutions, Inc. (incorporated by reference to Exhibit 10.21 to Form 8-K/A filed on January 4, 2013).
- 10.22 Proposal, dated March 30, 2007, with IsoTherapeutics Group, LLC (incorporated by reference to Exhibit 10.22 to Form 8-K/A filed on January 4, 2013).
- 10.23 Clinical Trial Agreement with The University of Texas M.D. Anderson Cancer, dated March 1, 2012 (incorporated by reference to Exhibit 10.23 to Form 8-K/A filed on January 4, 2013).
- 10.24 Amendment No. 1 to Research Agreement, dated November 7, 2012, between Actinium Pharmaceuticals, Inc. and The University of Texas M.D. Anderson Cancer (incorporated by reference to Exhibit 10.24 to Form 8-K/A filed on January 4, 2013).
- 10.25 Letter Agreement, dated June 19, 2011, between Actinium Pharmaceuticals, Inc. and Sloan-Kettering Institute for Cancer Research (incorporated by reference to Exhibit 10.25 to Form 8-K/A filed on January 4, 2013).
- 10.26 Letter Agreement, dated April 9, 2010, between Actinium Pharmaceuticals, Inc. and Sloan-Kettering Institute for Cancer Research (incorporated by reference to Exhibit 10.26 to Form 8-K/A filed on January 4, 2013).
- 10.27 Letter Agreement, dated July \_\_, 2010, between Actinium Pharmaceuticals, Inc. and Actinium Holdings Limited (Waiver of Anti-Dilution Rights) (incorporated by reference to Exhibit 10.27 to Form 8-K/A filed on January 4, 2013).
- 10.28 Clinical Trial Agreement, dated April 12, 2006, with Sloan-Kettering Institute for Cancer Research and Memorial Hospital for Cancer and Allied Diseases (incorporated by reference to Exhibit 10.28 to Form 8-K/A filed on January 4, 2013).
- 10.29 Letter Agreement, dated \_\_, 2011, between Actinium Pharmaceuticals, Inc. and Actinium Holdings Limited (Waiver of Registration Rights) (incorporated by reference to Exhibit 10.29 to Form 8-K/A filed on January 4, 2013).
- 10.30 Agreement, dated November 29, 2012, by and between Oak Ridge National Laboratory and Actinium Pharmaceuticals, Inc. (incorporated by reference to Exhibit 10.30 to Form S-1/A filed on August 22, 2013).
- 10.31 Transaction Management Agreement, dated May 9, 2011, by and between James Capital Group, LLC (fka, AmerAsia Capital Group LLC) and Actinium Corporation (fka, Actinium Pharmaceuticals Inc.) (incorporated by reference to Exhibit 10.31 to Form S-1 filed on September 30, 2013).
- 10.32 Employment Agreement, effective September 16, 2013, by and between Actinium Pharmaceuticals, Inc. and Kaushik J. Dave.\*\*
- 14.1 Code of Ethics (incorporated by reference to Exhibit 14.1 to Form 8-K filed on January 2, 2013).

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- 16.1 Letter from R.R. Hawkins (prior auditor) (incorporated by reference to Exhibit 16.1 to Form S-1/A filed on August 22, 2013).
- 21.1 List of Subsidiaries (incorporated by reference to Exhibit 21.1 to Form 10-K filed on March 29, 2013).
- 23.1 Consent of GBH CPAs, PC \*\*
- 23.2 Consent of Hiscock & Barclay, LLP (included in Exhibit 5.1).
- 101 Interactive Data File for six month period ended June 30, 2013 furnished XBRL and Interactive Data File for the six month period ended June 30, 2012, and the Interactive Data File for the year ended December 31, 2012 furnished in XBRL and Interactive Data File for the year ended December 31, 2011 furnished in XBLR. \*\*

\*\* Filed herewith.

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