November 2, 2023

Actinium Announces Oral Presentation at ASH Annual Meeting Highlighting Iomab-B Treatment Significantly Increased Median Overall Survival in Relapsed or Refractory AML Patients with Highly Unfavorable TP53 Gene Mutation in the Phase 3 SIERRA Trial

- Relapsed or refractory AML patients with a TP53 mutation receiving Iomab-B led allogeneic bone marrow transplant had a median Overall Survival of 5.49 months compared to 1.66 months in patients that did not receive Iomab-B (hazard ratio=0.23, p=0.0002)

- Iomab-B's mutation-agnostic mechanism overcomes TP53 mutations and produced similar median Overall Survival outcomes of 6.37 months in TP53 negative patients and 5.72 months in TP53 positive patients

- Twenty-four percent of patients enrolled on SIERRA had a TP53 mutation that is typically associated with worse outcomes

- Oral presentation scheduled for Sunday, December 10, 2023, with two additional poster presentations detailing SIERRA trial results accepted for presentation

- Actinium reports third quarter financial results and provides a business update

NEW YORK, Nov. 2, 2023 /PRNewswire/ -- **Actinium Pharmaceuticals, Inc.** (NYSE AMERICAN: ATNM) (Actinium or the Company), a leader in the development of targeted radiotherapies, today announced that three abstracts detailing results from the completed Phase 3 SIERRA trial of Iomab-B in patients age 55 and above with active relapsed or refractory acute myeloid leukemia (r/r AML) have been accepted for presentation at the 65th Annual American Society of Hematology Annual Meeting & Exposition (ASH) being held in San Diego on December 9-12, 2023. Outcomes of patients with a TP53 gene mutation enrolled in the SIERRA trial have been accepted for an oral presentation and results detailed in the abstract include the following:

- Median Overall Survival (OS) of TP53 positive patients receiving Iomab-B and a bone marrow transplant (BMT) was 5.49 months compared to 1.66 months in patients who did not receive Iomab-B
- Iomab-B produced a statistically significant improvement in median OS in TP53 positive patients with a hazard ratio of 0.23 and p-value of 0.0002
- Median OS of 6.37 months in TP53 negative patients receiving Iomab-B and 5.72 months for TP53 positive patients demonstrating Iomab-B's mutation agnostic mechanism and ability to overcome TP53 gene mutations
- 24% of patients (37/153) enrolled on the SIERRA trial had a TP53 mutation, with 17 being randomized to the Iomab-B arm and 20 randomized to the control arm

Dr. Avinash Desai, Actinium's Chief Medical Officer, commented, "We are very excited by these results which show a statistically significant and greater than three-times increase in median OS in TP53 positive patients receiving Iomab-B. These results further support Iomab-B's differentiated profile and ability to improve outcomes for the most difficult to treat r/r AML patients. A TP53 gene mutation is arguably the most unfavorable risk factor leading to the worst patient outcomes as it is associated with inherent resistance to available therapies, short duration of responses and the lowest survival rates. Despite being a common mutation found in approximately 10-15% of all AML cases and up to 25% of patients over age 60, there are no approved therapies that target TP53. For patients with high-risk AML, particularly those with r/r disease and a TP53 mutation, BMT is associated with the best treatment outcomes and is the only potentially curative therapeutic option. Iomab-B's ability to facilitate a BMT in this patient population continues to demonstrate a strong clinical benefit as supported by these results and we look forward to presenting the full TP53 analysis at ASH in early December."

Detailed results will be presented in an oral presentation on December 10, 2023, as follows:

Session Name: 721. Allogeneic Transplantation: Conditioning Regimens, Engraftment and Acute Toxicities: Novel Conditioning Regimens for Myeloid Malignancies
Session Date: Sunday, December 10, 2023
Session Time: 9:30 AM - 11:00 AM Pacific Time
Presentation Time: 9:30 AM
Room: Marriott Marquis San Diego Marina, Pacific Ballroom Salons 18-19

Publication Number: 469
Title: ^{131}I-Apamistamab-Led Allogeneic Hematopoietic Cell Transplant Significantly Improves Overall Survival in Patients with TP53 Mutated R/R AML
Submission ID: 182177

Sandesh Seth, Actinium's Chairman and CEO, added, "This oral presentation at ASH represents the eighth oral presentation from the SIERRA results in 2023. Through these presentations, we have built strong recognition for Iomab-B's unique clinical profile and utility

in this disease with high unmet medical need amongst key medical and scientific communities comprised of BMT physicians, hematologists, nuclear medicine physicians, nurses and transplant coordinators. These additional data in TP53 positive patients further supports the potential of targeted radiotherapy in heterogenous, difficult-to-treat blood cancers given its mutation-agnostic mechanism of action. Further, we believe the broad expression of CD45 enables development of Iomab-B across various blood cancers, as well as cell and gene therapy with our next-generation conditioning agent, Iomab-ACT, allowing Actinium to address a significant patient need."

Additional SIERRA data will be presented in two poster presentations as follows:

Session Name: 721. Allogeneic Transplantation: Conditioning Regimens, Engraftment and Acute Toxicities: Poster I
Session Date: Saturday, December 9, 2023
Presentation Time: 5:30 PM - 7:30 PM Pacific Time
Location: San Diego Convention Center, Halls G-H

Publication Number: 2159
Title: ^{131}I-Apamistamab Effectively Achieved Durable Responses in Patients with R/R AML Irrespective of the Presence of Multiple High-Risk Factors

Session Name: 721. Allogeneic Transplantation: Conditioning Regimens, Engraftment and Acute Toxicities: Poster II
Session Date: Sunday, December 10, 2023
Presentation Time: 6:00 PM - 8:00 PM Pacific Time
Location: San Diego Convention Center, Halls G-H

Publication Number: 3529
Title: High-Dose Targeted Radiation with ^{131}I-Apamistamab Prior to HCT Demonstrated a Dose-Response for Durable Complete Remission in Patients with R/R AML

Financial results and business update

On November 2, 2023, Actinium reported financial results for the third quarter 2023 and provided a business update. For additional information, refer to the Company's Form 10-Q for the third quarter 2023 filed with the SEC on November 2, 2023, which should be read in addition to this press release.

Cash and cash equivalents: The Company reported cash and cash equivalents of approximately $82.9 million as of September 30, 2023, and maintains its prior cash runway guidance through year-end 2025 based on its current operating plan.

Research and Development Expense, net of reimbursements: Research and development expenses of $11.6 million for the third quarter of 2023 increased $4.8 million from $6.8 million for the same period in 2022. Higher research and development expenses were primarily due to increased CMC activity related to BLA-enabling work for Iomab-B. Once complete, CMC expenses are expected to decrease in 2024 as we expect to use final drug product material produced to support the BLA filing and to supply initial Iomab-B commercialization. Additionally, compensation expense increased $1.1 million as a result of higher headcount necessary to support BLA-enabling CMC activity.

General and Administrative Expense: General and administrative expenses of $2.7 million for the third quarter 2023 decreased by $0.4 million from $3.1 million for the same period in 2022. Lower professional and consulting fees of $0.5 million, lower legal fees of $0.1 million and lower non-cash equity compensation of $0.1 million were partially offset by increased compensation of $0.3 million as a result of higher headcount.

Other Income: Other income is comprised of net interest income in both reporting periods. The amount for the third quarter 2023 of $1.1 million increased from $0.3 million for the same period in 2022 due to a higher average interest rate.

Net Loss: Net loss of $13.3 million for the third quarter 2023 increased by $3.8 million from $9.5 million for the same period in 2022 primarily due to higher research and development expenses, primarily due to increased CMC BLA-enabling activity and CMC headcount that was partially offset by lower general and administrative expenses and higher other income.

Actinium also provided an update on its regulatory activity pertaining to its planned Biologics License Application (BLA) for Iomab-B as well as the planned marketing authorization application (MAA) to the European Medicines Agency (EMA) that will be completed by Immedica Pharma AB (Immedica), Actinium's European, Middle East and North Africa commercial partner for Iomab-B. The Company has been meeting with the FDA regarding its BLA strategies, and has received positive feedback regarding the Chemistry, Manufacturing and Controls (CMC) package for Iomab-B. As a continuation of its regulatory interactions with the FDA, the Company will request a meeting prior to completion of the CMC package to further discuss the clinical and non-clinical modules that will determine the finalization and timing of its planned BLA filing. As a result of the CMC meeting, as well as updated project timelines necessitated by the now complete facility modifications at one of its third-party manufacturers, the Company is progressing with completion of CMC activities and believes it is on track to complete the CMC modules and be in a position to submit a BLA filing in the first half of 2024. The Early Access Program for Iomab-B is also anticipated to start post completion of these activities. Actinium is also simultaneously working with Immedica to support its planned MAA filing for Iomab-B. Europe represents a large commercial market opportunity with approximately twice as many transplants performed in Europe compared to the U.S.

About Iomab-B and the Pivotal Phase 3 SIERRA Trial

Iomab-B is a first-in-class targeted radiotherapy intended to improve patient access to potentially curative BMT by simultaneously and rapidly depleting blood cancer, immune and bone marrow stem cells that uniquely express CD45. Multiple studies have demonstrated increased survival in patients receiving BMT, however, an overwhelming majority of patients with blood cancers do not receive BMT as current approaches do not produce a remission, which is needed to advance to BMT, or are too toxic. Studied in over 400 patients, prior studies with Iomab-B have demonstrated nearly universal access to BMT, increased survival and tolerability in multiple clinical trials including the recently completed pivotal Phase 3 SIERRA trial in patients with active (leukemic blasts >5%), relapsed or refractory acute myeloid leukemia (r/r AML) age 55 and above.

Iomab-B met the primary endpoint of durable Complete Remission (dCR) of 6 months after initial remission post-BMT in the pivotal Phase 3 SIERRA trial with high statistical significance ($p<0.0001$). Iomab-B produced a 75% post-BMT CR rate (44/59 patients), which

is 12-times greater than the post-BMT rate of 6.3% (4/64 patients) in the control arm. Patients receiving Iomab-B had a 78% lower probability of an event, defined as not achieving a CR/CRp, crossover, not receiving a BMT, relapse or death, with a Hazard Ratio of 0.22 ($p<0.0001$). Iomab-B doubled 1-year overall survival with 26.1% compared to 13.1% in the control arm for patients who did not crossover as well as median overall survival with 6.4 months vs 3.2 months. Overall survival statistics are confounded by the crossover arm. Crossover patients had a 35.8% 1-year overall survival rate. Due to its targeted nature, Iomab-B was well tolerated with four times lower rates of sepsis compared to the control arm (6.1% vs. 28.6%) and lower rates of BMT associated adverse events including febrile neutropenia, mucositis and graft versus host disease (GVHD). Actinium intends to submit a Biologics License Application (BLA) seeking approval for Iomab-B in 2024 to address patients age 55+ with r/r AML who cannot access BMT with currently available therapies. Iomab-B has been granted Orphan Drug Designation from the U.S. Food and Drug Administration (FDA) and has patent protection into 2037.

The pivotal Phase 3 SIERRA (Study of Iomab-B in Elderly relapsed or refractory AML) is a 153-patient, randomized, multi-center clinical trial, studying Iomab-B compared to the control arm of physician's choice of salvage therapy. Control arm options included chemotherapies like cytarabine and daunorubicin and targeted agents such as a Bcl-2 inhibitor (Venetoclax), FLT3 inhibitors and IDH 1/2 inhibitors. The SIERRA control arm reflects real-world treatment of r/r AML patients with over 20 agents used alone or in combination as no standard of care exists for this patient population. The SIERRA trial enrolled patients at 24 leading transplant centers in the United States and Canada that perform over 30% of AML BMTs.

Developed at the Fred Hutchinson Cancer Research Center, a pioneer in the field of BMT, Iomab-B is supported by data in six disease indications including leukemias, lymphomas and multiple myeloma, which afflict over 100,000 patients annually. Actinium intends to pursue additional indications for Iomab-B beyond AML. Actinium also intends to pursue international regulatory approvals independently and through partnerships. In April 2022, Actinium licensed the European, Middle East and North African commercial rights for Iomab-B to Immedica Pharma AB, a fully-fledged independent pharmaceutical company headquartered in Sweden. In exchange, Actinium received an upfront payment of $35 million USD with the potential for an additional $417 million USD in regulatory and sales milestones and mid-twenty percent royalties. Europe represents a commercial opportunity approximately double the size of the United States by number of patients with AML receiving BMT. Iomab-B has been granted Orphan Drug Designation by the European Medicines Agency (EMA) and has received positive Scientific Advice from the Committee for Medicinal Products for Human Use (CHMP) of the EMA indicating that the Phase 3 SIERRA trial design, primary endpoint and planned statistical analysis are acceptable as the basis for a Marketing Authorization Application.

About Actinium Pharmaceuticals, Inc.

Actinium develops targeted radiotherapies to meaningfully improve survival for people who have failed existing oncology therapies. Advanced pipeline candidates Iomab-B (pre-BLA), an induction and conditioning agent prior to bone marrow transplant, and Actimab-A (National Cancer Institute CRADA pivotal development path), a therapeutic, have demonstrated potential to extend survival outcomes for people with relapsed and refractory acute myeloid leukemia. Actinium plans to advance Iomab-B for other blood cancers and

next generation conditioning candidate Iomab-ACT to improve cell and gene therapy outcomes. Actinium's technology platform is the basis for collaborations with Astellas Pharma for solid tumors, AVEO Oncology/LG Chem Life Sciences for HER3 solid tumors, and several internal programs in solid tumors. Actinium holds more than 220 patents and patent applications.

For more information, please visit: https://www.actiniumpharma.com/

Forward-Looking Statements

This press release may contain projections or other "forward-looking statements" within the meaning of the "safe-harbor" provisions of the private securities litigation reform act of 1995 regarding future events or the future financial performance of the Company which the Company undertakes no obligation to update. These statements are based on management's current expectations and are subject to risks and uncertainties that may cause actual results to differ materially from the anticipated or estimated future results, including the risks and uncertainties associated with preliminary study results varying from final results, estimates of potential markets for drugs under development, clinical trials, actions by the FDA and other governmental agencies, regulatory clearances, responses to regulatory matters, the market demand for and acceptance of Actinium's products and services, performance of clinical research organizations and other risks detailed from time to time in Actinium's filings with the Securities and Exchange Commission (the "SEC"), including without limitation its most recent annual report on form 10-K, subsequent quarterly reports on Forms 10-Q and Forms 8-K, each as amended and supplemented from time to time.

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Sources: Granowicz EM, Jonas BA. Targeting *TP53*-Mutated Acute Myeloid Leukemia: Research and Clinical Developments. Onco Targets Ther. 2022 Apr 21;15:423-436. doi: 10.2147/OTT.S265637. PMID: 35479302; PMCID: PMC9037178.

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