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Actinium Highlights Two Presentations at the Health Physics Society Annual Meeting Supporting the Safety Profile of Iomab-B for SIERRA Trial Caregivers

- Studies observed minimal cumulative radiation exposure to clinical staff providing care to patients treated with Iomab-B in the SIERRA trial of 0.09 mSv, contributing minimal exposure to the 50 mSv annual occupational dose limit

NEW YORK, July 11, 2019 /PRNewswire/ --**Actinium Pharmaceuticals, Inc.** (NYSE AMERICAN: ATNM) ("Actinium") today highlighted its presence at the Health Physics Society ("HPS") 64th Annual Meeting that is being held July 7th – 11th in Orlando, Florida. During HPS, Actinium presented the findings of two studies that support the safety of healthcare professionals who provide care to patients treated with Iomab-B, Actinium's lead product candidate, which is being studied in the pivotal Phase 3 SIERRA trial. The studies evaluated radiation exposure to healthcare professionals who cared for patients treated with Iomab-B and the exposure from handling blood samples from patients following Iomab-B infusion. Both studies reported minimal radiation exposure to the respective healthcare professionals. One study of 105 healthcare professionals from 5 SIERRA sites that provided care to patients receiving Iomab-B observed a mean cumulative radiation exposure of 0.09 mSv or millisieverts, which is significantly less than the 50 mSv annual occupational dose limit for staff. Iomab-B is an ARC or Antibody Radiation-Conjugate comprised of the CD45 targeting antibody, apamistamab, and the radioisotope iodine-131 that is intended to be a re-induction and conditioning agent prior to a BMT or Bone Marrow Transplant. The SIERRA trial is a multicenter, 150 patient study for patients with active, relapsed or refractory AML or Acute Myeloid Leukemia that is the only randomized Phase 3 trial to offer a potentially curative BMT to this patient population for which there is no standard of care.

Details of the HPS presentations on Iomab-B are as follows:

Title: Occupational Radiation Exposures to Clinical Staff Working With ^{131}I – Iomab-B

Summary: Data from 105 healthcare professionals from five SIERRA sites was analyzed. Staff monitored when only providing care to Iomab-B treated patients had a mean cumulative exposure of 0.07 mSv despite high levels of radiation being administered with targeted Iomab-B while staff who provided care for multiple patients, including those receiving other forms or radiation therapy, had a mean cumulative exposure of 0.11 mSv.

Radiation exposure levels to all staff were found to be minimal, with mean cumulative exposure of 0.09 mSv, contributing minimal exposure to the 50 mSv annual occupational limit. The study sited training, education, customized physical shielding and more advanced safety procedures as leading to minimal additional radiation exposure.

Title: Iomab-B Study Blood Sample Handling and Occupational Radiation Extremity Exposure

Summary: Radiation exposure levels were minimal and not a safety concern to clinical staff involved in blood specimen collecting and handling.

Dr. Qing Liang, Actinium's Vice President, Head of Radiation Sciences, said, "The safety of patients and site staff is our number one concern, so I am excited that the data from these studies demonstrated minimal radiation exposure to staff caring for patients in the Iomab-B SIERRA trial. I am confident that our collective efforts, together with the supportive data presented here at the Health Physics Society Meeting, will have a positive impact on the SIERRA trial, Iomab-B and our other ARC therapeutic candidates."

"Staff at clinical sites are often surprised to learn that they can be exposed to higher amounts of radiation when flying on an airplane than compared to providing care to patients treated with Iomab-B. These study data solidly support this fact with the 0.09 mSv mean exposure to staff significantly lower than the 50 mSv annual occupational limit and even lower than the annual radiation 3 mSv, we all receive from natural background. Since joining Actinium, I have focused on building relationships with the radiation safety and nuclear medicine caregivers at existing and prospective sites for our SIERRA trial, educating site staff and working with my clinical colleagues to further optimize the SIERRA trial for patients and site staff. I believe that such efforts bode well not only for the SIERRA trail but also for Iomab-B in a commercial setting, assuming its approval," Concluded Dr. Liang."

The Health Physics Society has nearly 4,000 members including scientists, safety professionals, physicists, engineers and other professionals from academia, industry, the federal government and national laboratories.

Dr. Mark Berger, Actinium's Chief Medical Officer, said, "The SIERRA trial is a complex study involving multiple stakeholders at sites, including transplant physicians, radiation safety officers, nuclear medicine physicians and the nursing staff who provide care that is critical for these patients. Our team has worked intensely to address the needs of each of these stakeholders and I am proud that our efforts have taken Iomab-B from the single center where it was originally studied at to 19 clinical trials sites in the SIERRA trial thus far. The two studies presented at HPS which demonstrated that staff can safely provide care to patients with minimal radiation exposure are important and augment the promising interim feasibility and safety data that we have presented from the SIERRA trial. We are focused on continuing to generate positive data from the SIERRA trial for Iomab-B as we see a tremendous opportunity to improve outcomes for a significant number of patients with our ARC's focused on targeted conditioning for BMT and cell therapies."

About Actinium Pharmaceuticals, Inc.

Actinium Pharmaceuticals, Inc. is a clinical-stage biopharmaceutical company focused on improving patient access and outcomes to cellular therapies such as BMT or Bone Marrow

Transplant and CAR-T with its proprietary ARC or Antibody Radiation-Conjugate targeted conditioning technology. Actinium is also developing its proprietary AWE or Antibody Warhead Enabling technology platform, which utilizes radioisotopes including iodine-131 and the highly differentiated actinium-225 coupled with antibodies, to target a variety of antigens that are expressed in hematological and solid tumor indications. It is developing a multi-disease, multi-target pipeline of clinical-stage ARC's targeting the antigens CD45 and CD33 for targeting conditioning and as a therapeutic either in combination with other therapeutic modalities or as a single agent for patients with a broad range of hematologic malignancies including Acute Myeloid Leukemia (AML), Myelodysplastic Syndrome (MDS) and Multiple Myeloma (MM). Actinium's lead product candidate, Iomab-B, is in a pivotal Phase 3 trial for re-induction and conditioning prior to a BMT for patients with active relapsed or refractory AML or Acute Myeloid Leukemia. BMT is the only curative treatment option for this patient population and currently no standard of care exists. Actimab-MDS is its second pivotal program for targeted conditioning that will study the ARC comprised of the anti-CD33 monoclonal antibody lintuzumab linked to the radioisotope actinium-225 in patients with high-risk MDS in combination with RIC or Reduced Intensity Conditioning prior to a BMT. Its ACT or Adoptive Cell Therapy program targets CD45 and utilizes a lower dose of iodine-131 than Iomab-B or lutetium-177 and is intended to be used for targeted conditioning or lymphodepletion prior to CAR-T and adoptive cell therapies as a replacement to non-optimized chemotherapies, such a Flu/Cy or fludarabine and cyclophosphamide, that is used in standard practice today. Actinium also has multiple clinical trials ongoing, in startup phase, or in planning, to use its CD33 ARC in combination with other therapeutic modalities such as chemotherapy, targeted agents or immunotherapy. It has initiated several combination trials, including a doublet combination trial with its CD33 ARC and venetoclax, a BCL-2 inhibitor, for patients with relapsed or refractory AML, a triplet combination trial with venetoclax and an HMA or hypomethylating agent and in combination with the salvage chemotherapy regimen CLAG-M (cladribine, cytarabine, filgrastim and mitoxantrone) for patients with relapsed or refractory AML. Actinium is also studying its CD33 ARC as single agent for patients with penta-refractory multiple myeloma. Its AWE technology platform enables Actinium's internal pipeline and with the radioisotope actinium-225 is being utilized in a collaborative research partnership with Astellas Pharma, Inc. Actinium's clinical programs and AWE technology platform are covered by a portfolio of over 100 patents covering composition of matter, formulations, methods of use, the DOTA linker technology for actinium-225 applications and methods of manufacturing the actinium-225 radioisotope in a cyclotron.

Forward-Looking Statements for Actinium Pharmaceuticals, Inc.

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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