



Actinium Launches Iomab-ACT Program Offering Its Targeted, Chemo-Free, Lymphodepletion Technology as a Universal Solution to CAR-T Product Developers

- Iomab-ACT program provides a single dose, outpatient, targeted lymphodepletion technology with the potential to improve CAR-T access and outcomes
- Iomab-ACT Program launched to CAR-T industry following key patent filings, validating data, and KOL support for clinical advancement

NEW YORK, Oct. 1, 2018 /PRNewswire/ --Actinium Pharmaceuticals, Inc. (NYSE American: ATNM) ("Actinium" or "the Company"), announced today that it has launched its Iomab-ACT program offering its next-generation, chemo-free, targeted lymphodepletion technology to the CAR-T industry. Lymphodepletion is a necessary part of the CAR-T process that is currently achieved primarily by non-targeted, cytotoxic chemotherapy like Fludarabine and Cyclophosphamide (Flu/Cy). The Iomab-ACT program technology has the potential to be a major improvement over current lymphodepletion regimens due to its targeted mechanism of action that may improve CAR-T cell expansion, reduce CAR-T related toxicities and expand patient access to CAR-T treatment. Actinium recently announced that it has developed an initial estate of six patents related to the Iomab-ACT program supported by its internal research and that it has the support of key physicians from the Froedtert and the Medical College of Wisconsin for the clinical use of Iomab-ACT in conjunction with CAR-T therapy. Actinium intends to offer its Iomab-ACT program technology as a universal solution to developers of CAR-T products from academia and industry.

Dr. Dale Ludwig, Actinium's Chief Scientific Officer said, "The field of CAR-T has grown and evolved rapidly, but little innovation has been directed at lymphodepletion. Our commitment to providing improved conditioning regimens prior to adoptive cell therapies has allowed us to extend our focus beyond myeloablation in the case of Iomab-B to lymphodepletion with the Iomab-ACT program. By targeting CD45 expressing cells with our clinically validated, targeted radiation-based approach, we are able to target myeloid derived suppressor cells and regulatory T-cells that can modulate adoptive cell therapy responses and may improve CAR-T cell expansion and outcomes. Besides mediating effective lymphodepletion, the

Iomab-ACT construct also targets macrophages, cells that have been implicated in CAR-T toxicities like cytokine release syndrome (CRS) and neurotoxicity. Finally, we can potentially reduce a patient's tumor burden and lymphodeplete without chemotherapy, leaving the patient in a better physical condition prior to their CAR-T therapy, and which we believe has the potential to expand patient access to the promising treatment option of CAR-T therapy."

Actinium's Iomab-ACT program is an expansion of Actinium's extensive experience in targeted conditioning focused on myeloablation for BMT or Bone Marrow Transplant. This experience has been gained with Iomab-B, its Phase 3 drug candidate that has been studied in over 500 patients across 10 clinical trials and a variety of hematological malignancies. The Iomab-ACT program for lymphodepletion prior to Adoptive Cell Therapies such as CAR-T is based on the same CD45 targeting ARC or Antibody Radio-Conjugate used in the Iomab-B program for BMT. However, the Iomab-ACT program features a lower dose range that is expected to be as much as 6x-20x less than the dose range used in its Iomab-B program for myeloablation prior to BMT. As a result, the Iomab-ACT program is able to offer targeted lymphodepletion via a single dose and in an outpatient setting. The extensive safety, efficacy and pharmacokinetic data available from use of the drug at much higher doses for BMT, as well as other research studies conducted by the Company, inform and support the intended dosing schedule and dose range that will likely be required to achieve effective lymphodepletion in the setting of CAR-T. The Iomab-ACT program is supported by a portfolio of patent filings covering composition of matter, formulation, and methods of use.

Actinium formally introduced its Iomab-ACT program on September 26th, 2018 via a webcast in conjunction with the Froedtert and Medical College of Wisconsin, a leading CAR-T and FACT accredited medical institution that is working with the company on clinical advancement of the program. The webcast is available for replay on Actinium's website: <https://www.actiniumpharma.com/product-pipeline/iomab-act-program-for-car-t>.

Sandesh Seth, Actinium's Chairman and CEO said, "The Iomab-ACT program went from ideation to launch in less than one year. This program is another major step in generating value from our AWE or Antibody Warhead Enabling technology platform. Note that in less than 6 months from launch of our AWE partnering program, we were able to secure a research collaboration with Astellas that resulted in the AWE program being a profit center for the company. Our expectation is that, over time, the Iomab-ACT program will also enable the company to generate value enhancing collaborations. We expect this to occur as CAR-T developers begin to recognize the potential value of Iomab-ACT to improve access and outcomes of their products or product candidates due to its potentially superior safety and efficacy balance compared to the current chemotherapy-based regimens which are standard of care. We are very excited to have launched our Iomab-ACT program as it advances our commitment to improving patient access and outcomes to adoptive cellular therapies via our targeted conditioning approach."

About Actinium Pharmaceuticals, Inc.

Actinium Pharmaceuticals Inc. is focused on improving patient access and outcomes to cellular therapies such as bone marrow transplant (BMT) and CAR-T with its proprietary, chemotherapy free, targeted conditioning technology. Actinium is the only company with a multi-disease, multi-target, drug development pipeline focused on targeted conditioning. Its targeted conditioning technology is enabled by ARC's or Antibody Radio-Conjugates that combine the targeting ability of monoclonal antibodies with the cell killing ability of

radioisotopes. Actinium's pipeline of clinical-stage targeted conditioning ARCs target the antigens CD45 and CD33 for patients with a broad range of hematologic malignancies including acute myeloid leukemia (AML), myelodysplastic syndrome (MDS) and multiple myeloma (MM).

Iomab-B, Actinium's lead targeted conditioning product candidate, is currently enrolling patients in the pivotal Phase 3 SIERRA trial in patients age 55 or older, with active, relapsed or refractory AML. Iodine-131-apamistamab (Iomab-B), combines the anti-CD45 monoclonal antibody labeled with iodine-131 for myeloablation prior to a bone marrow transplant. CD45 is expressed on leukemia, lymphoma and normal immune cells. Iomab-B has been studied in over 500 patients in 10 clinical trials in numerous hematologic diseases. Actinium's Iomab-ACT program is an expansion of its CD45 program that is intended to be a universal, chemo-free solution for targeted lymphodepletion prior to CAR-T. Through targeted lymphodepletion, the Iomab-ACT program is expected to improve CAR-T cell expansion, reduce CAR-T related toxicities and expand patient access to CAR-T treatment and potentially other adoptive cell therapies. Due to its lower payload dose, lymphodepletion with the Iomab-ACT program can be accomplished through a single outpatient infusion. Actinium intends to advance its Iomab-ACT program with CAR-T focused collaborators from academia and industry.

Actinium's pipeline also includes a potentially best-in-class CD33 program with its ARC comprised of the anti-CD33 antibody lintuzumab labeled with the alpha-particle emitter actinium-225. Its CD33 program is currently being studied in multiple Phase 2 and Phase 1 clinical trials for targeting conditioning and as a therapeutic in multiple diseases and indications including AML, MDS and MM.

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 cancers. The AWE technology 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 77 patents covering composition of matter, formulations, methods of use and also methods of manufacturing the radioisotope Actinium-225 in a cyclotron.

More information is available at www.actiniumpharma.com and our Twitter feed @ActiniumPharma, www.twitter.com/actiniumpharma.

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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