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Actinium Provides Comprehensive Patent Portfolio Update Including New IP Filings

- Patent Portfolio comprised of 28 patent families, including 111 issued and pending U.S. and international patents

- Broad intellectual property portfolio, know-how, and trade secrets support Actinium's leadership position in Antibody Radiation-Conjugates, Targeted Conditioning and Actinium-225 based therapies

NEW YORK, March 15, 2019 /PRNewswire/ -- Actinium Pharmaceuticals, Inc. (NYSE American: ATNM), announced today that the rejuvenation of R&D activity has bolstered its patent portfolio to a total of 111 issued and pending patents in the U.S. and internationally, which is up from the 75 reported previously. This intellectual property portfolio, contained within 28 patent families, covers key areas of Actinium's business. The estate covers ARC or Antibody Radiation-Conjugate generation, composition of matter, formulations, and methods of administration for solid and liquid cancers as well as radionuclide production including the manufacturing of Ac-225 or Actinium-225.

Actinium's recent patent filings pertain to its planned pivotal Actimab-MDS targeted conditioning trial, ARC combination trials of Actimab-A with venetoclax and CLAG-M, as well as its next-generation ARC's resulting from its AWE or Antibody Warhead Enabling Technology Platform. These follow recent patent filings from Actinium related to its Iomab-ACT next generation lymphodepletion program for CAR-T and adoptive cell therapies that includes four pending patents and one provisional patent application for cancer and non-malignant diseases. These new filings are in addition to Actinium's broad intellectual property and patent portfolio that cover direct labeling, or conjugation and labeling of a biomolecular targeting agent to a radionuclide warhead, and its development and use as a therapeutic regimen for the treatment of diseases such as cancer. Actinium has patents on the use of the "gold standard" chelator DOTA, an organic compound used to attach, or conjugate, the radionuclide Ac-225 to monoclonal antibodies and any conceivable derivative thereof, as well key patents covering the manufacturing of Ac-225 in a cyclotron. In addition, Actinium extensive know-how and trade secrets in the application of its AWE Technology Platform to support its existing pipeline and potential collaborations.

Sandesh Seth, Actinium's Chairman and CEO, said, "As the value of targeted radiation

approaches continue to create significant value in the industry, we are confident that our renewed technology development efforts will allow us to generate returns. Actinium is accomplishing this through a rekindled focus on research and innovation by investing in our people, capabilities, and intellectual property to support our objectives. Our efforts are focused on solidifying and maintaining our leadership position in the fields of targeted conditioning, the use of Actinium-225 including in generating new and next generation ARC's and finding new uses for ARC's via rational therapeutic combinations. Visible evidence of our efforts since we renewed our focus on research and technology development is supported by this enlarged patent estate that consists of intellectual property and filings for Iomab-ACT, next generation ARC's, ARC combinations including with venetoclax, and our research collaboration with Astellas. As we continue our efforts in this area, we look forward to further build and monetize our AWE platform."

Actinium's Chief Scientific Officer, Dr. Dale Ludwig, said, "This expansion of our intellectual property portfolio is an exciting reflection of the significant potential of our ARC technology and of Actinium's strategic vision for the future. Actinium-225 is a highly differentiated radionuclide payload where we have significant domain expertise and intellectual property that is of great value to us and to potential partners. Our recent accomplishments, including the rapid advancement of our Iomab-ACT program and preclinical demonstration of potential clinical synergy via ARC-therapeutic combinations, are emblematic of what can be achieved with our AWE technology platform. Through AWE, there are many ways in which we can apply targeted internalized radiation via our ARC's to achieve results unmatched by other technologies and therapeutic modalities. We are motivated and committed to continuing to build our leadership position in the high-value areas of ARC's, targeted conditioning and Ac-225."

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 Radiation-Conjugates that combine the targeting ability of monoclonal antibodies with the cell killing ability of radioisotopes. Actinium's pipeline of clinical-stage targeted conditioning ARC's target the antigens CD45 and CD33 for patients with a broad range of hematologic malignancies including AML or Acute Myeloid Leukemia, MDS or Myelodysplastic Syndrome and MM or Multiple Myeloma.

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. Iomab-B (Iodine-131 apamistamab), 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 300 patients in over 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 1 clinical trials for targeting conditioning, in combinations 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 over 110 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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