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Experts in Leukemia Treatment Support Ongoing Phase 1/2 Study of Actinium's Actimab-A, a Low Intensity Therapy for Newly Diagnosed Acute Myeloid Leukemia (AML) Patients Ages 60 and Older

Actinium's Clinical Advisory Board Completes Review of Actimab-A Initial Trial Data Underscoring Their Commitment to Actimab's Development Plan

SAN FRANCISCO, CA and NEW YORK, NY -- (Marketwired) -- 12/08/14 -- Actinium Pharmaceuticals, Inc. (NYSE MKT: ATNM) ("Actinium" or "the Company"), a biopharmaceutical company developing innovative targeted payload immunotherapeutics for the treatment of advanced cancers, announced today that their Clinical Advisory Board (CAB) conducted its year-end meeting to review and accelerate development progress of Actimab-A, an alpha-radiolabeled antibody being developed for newly diagnosed AML in patients ages 60 and older. Actimab-A is expected to enter the Phase 2 portion of an ongoing Phase 1/2 clinical trial early next year.

On December 5, 2014, Actinium's CAB meeting was held in San Francisco prior to the American Society of Hematology (ASH) annual meeting. The CAB is Chaired by Joseph Jurcic, MD, Director of Hematologic Malignancies at Columbia University Medical Center, and has senior members from Memorial Sloan Kettering Cancer Center, MD Anderson Cancer Center and other leading institutions. The CAB's goal is to further the development of Actimab-A as a frontline alternative to high-dose chemotherapy for older, newly diagnosed AML patients. If approved, Actimab-A should be an important and clinically meaningful entrant in a therapeutic area in great need of more therapeutic options.

Dr. Jurcic updated the CAB on newly published Phase 1 interim data on the safety and efficacy of Actimab-A. Most notably, median overall survival ("OS") of the seven secondary AML patients (with prior myelodysplastic syndrome, or MDS) in the study was 9.1 months, which compares favorably to historical norms of 2 to 5 months depending on the treatment modality. The CAB Members reacted positively to this result, which supports the case for additional trials. Older AML patients are already higher risk, with secondary AML patients considered to have the more severe and less treatable form of AML, and as a consequence have shorter expected survival. The clinical abstract was published online in Blood, the official Journal of the American Society of Hematology. Actinium expects additional data to be available from this trial in 2015.

With the support of the CAB, the Company believes that successful Actimab-A development may exemplify the "low-intensity hypothesis" of AML treatment. Since intensive chemotherapy is associated with a high mortality rate and limited benefits to high risk patients, low intensity treatments such as Actimab-A could potentially extend overall survival in elderly patients while significantly decreasing traditional chemotherapy related toxicities, including treatment related early mortality. Advances in the treatment of MDS (myelodysplastic syndrome), an overlapping disease with AML, also inform this reasoning. Furthermore, FDA has guided toward overall survival endpoints as acceptable for frontline treatment of older AML patients.

Joseph Jurcic, MD, Director of Hematologic Malignancies at Columbia University Medical Center stated, "The Actimab-A data shown yielded very interesting results, highlighting the importance of survival in patients who currently have very limited options, and supporting a more nuanced approach using low intensity therapies that focus on both anti-leukemic effect and safety in a difficult-to-treat population."

The Company reaffirmed its support of the Actimab-A development program, including a heightened focus on patient accrual and, correspondingly, manufacturing and supply enhancements.

Dr. Dragan Cicic, Chief Medical Officer of Actinium stated, "We are grateful for the support of our CAB members, comprised of some of the nation's leading practitioners at the forefront of development of new leukemia treatments. Bolstered by the support of leading institutions serving as trial sites, we expect to accelerate the pace of Actimab-A development in 2015 once maximum tolerated dose is determined. We hope to improve the current landscape of AML treatment with our alpha-radiolabeled antibody treatment."

About AML

Acute myeloid leukemia (AML) is an aggressive cancer of the blood and bone marrow. It is characterized by an uncontrolled proliferation of immature blast cells in the bone marrow. The American Cancer Society estimates there will be approximately 18,860 new cases of AML and approximately 10,460 deaths from AML in the U.S. in 2014, most of them in adults. Patients over age 60 comprise the majority of those diagnosed with AML, with a median age of a patient diagnosed with AML being 67 years. Treatment approaches in this population are limited because a majority of these individuals are judged too frail and unable to tolerate standard induction chemotherapy or having forms of disease generally unresponsive to currently available drugs. Elderly, high risk patients ordinarily have a life expectancy of 5 or fewer months if treated with standard chemotherapy, and only about a third of them do receive treatment because of toxicity of and limited responses to the available therapy. The other two-thirds receive best supportive care, with 2 months survival, according to Oran and Weisdorf (Haematologica 2012; 1916-24).

About Actimab-A

Actimab-A is a radiolabeled antibody being developed for newly diagnosed AML in patients over 60, and is currently in a multicenter Phase 1/2 clinical trial. Based on Actinium's alpha-particle immunotherapy (APIT) platform, Actimab-A consists of the CD33 antibody lintuzumab linked to the actinium-225 payload. Actimab-A has attracted support from leading experts at the prestigious and high-volume cancer treatment hospitals due to the potential of

its safety and efficacy profile, as well as its potential potency, specificity and ease of use. Clinical trials are being conducted at world-class cancer institutions such as Memorial Sloan Kettering Cancer Center, MD Anderson Cancer Center, Johns Hopkins Medicine, Columbia University Medical Center, University of Pennsylvania Health System, Fred Hutchinson Cancer Research Center, and the Texas Oncology-Baylor Charles A. Sammons Cancer Center.

About Actinium Pharmaceuticals

Actinium Pharmaceuticals, Inc. (www.actiniumpharma.com) is a New York-based biopharmaceutical company developing innovative targeted payload immunotherapeutics for the treatment of advanced cancers. Actinium's targeted radiotherapy products are based on its proprietary delivery platform for the therapeutic utilization of alpha-emitting actinium-225 and bismuth-213 and certain beta emitting radiopharmaceuticals in conjunction with monoclonal antibodies. The Company's lead radiopharmaceutical product candidate Iomab-B is designed to be used, upon approval, in preparing patients for hematopoietic stem cell transplant, commonly referred to as bone marrow transplant. The Company plans to conduct a single, pivotal, multicenter Phase 3 clinical study of Iomab-B in refractory and relapsed AML patients over the age of 55 with a primary endpoint of durable complete remission. The Company's second product candidate, Actimab-A, is continuing its clinical development in a Phase 1/2 trial for newly diagnosed AML patients over the age of 60 in a single-arm multicenter trial. Additional actinium 225 based drug candidates are in early development for other cancers.

Forward-Looking Statement for Actinium Pharmaceuticals, Inc.

This news release contains "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995. These statements are based on management's current expectations and involve risks and uncertainties, which may cause actual results to differ materially from those set forth in such statements. The forward-looking statements may include statements regarding product development, product potential or financial performance. No forward-looking statement can be guaranteed and actual results may differ materially from those projected. Actinium undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

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