November 12, 2021

Actinium Presents First Ever Data with a CD47 Immunotherapy in Combination with a HER2-Directed Targeted Radiotherapy in Solid Tumors at the Society for Immunotherapy for Cancer (SITC) Conference

- Enhanced therapeutic efficacy demonstrated with both Actinium-225 and Lutetium-177 enabled radiation conjugates

- Studies support mechanistic rationale aimed at upregulating calreticulin to turn on "eat me" signal in cancer cells via targeted radiation

NEW YORK, Nov. 12, 2021 /PRNewswire/ **-- Actinium Pharmaceuticals, Inc.** (NYSE AMERICAN: ATNM) ("Actinium" or the "Company"), a leader in the development of targeted radiotherapies for patients with unmet needs, today announced that data highlighting an anti-HER2 antibody radiation conjugate (ARC) in combination with a CD47 blocking antibody immunotherapy in solid tumor models are being presented at the 36th Annual Meeting of the Society for Immunotherapy for Cancer (SITC 2021) November 12th – 14th. Actinium evaluated the anti-HER2 antibody trastuzumab (Herceptin®) conjugated with either Actinium-225 (Ac-225) or Lutetium-177 (Lu-177) radioisotope payloads to explore potential synergies in combination with CD47 blocking antibodies. CD47 is a macrophage checkpoint which is upregulated in certain cancers, that acts as a "don't eat me" signal on cancer cells to suppress phagocytosis and evade detection and destruction by the immune system. Actinium is exploring ARC combinations with CD47 blocking antibodies in solid tumors and blood cancers to evaluate mechanistic synergies including the ability to upregulate the cell surface "eat me" signal calreticulin via targeted radiotherapy.

HER2-ARC + anti-CD47 SITC Poster Highlights

- HER2 targeting properties remained intact after radiolabeling trastuzumab with Ac-225

or Lu-177 as determined by binding to HER2 expressing cells
- Calreticulin cell surface levels were increased in multiple cell lines after exposure to HER2-ARC
- Phagocytosis was increased as much as 2-fold with the combination of a HER2-ARC and an anti-CD47 antibody compared to either as a single agent
- Enhanced therapeutic efficacy with both improved tumor control and survival with the HER2-ARC and anti-CD47 blocking antibody combination compared to either as a single agent shown solid tumors in vivo models

Dr. Helen Kotanides, Vice President, Translational Research and Preclinical Development, stated, "We're excited to present the first combination data from a CD47 targeting agent with an ARC in solid tumors. CD47 blocking agents hold tremendous potential but have yet to produce meaningful responses in solid tumors as monotherapies. Given our expertise in the area of targeted radiotherapy, we strongly believe that an ARC could synergize with CD47 blocking therapies given their immunogenic and cytotoxic properties. Specifically, we hypothesized that targeted radiotherapy could upregulate calreticulin, an "eat me" signal, to enhance phagocytosis and anti-tumor activity when combined with a CD47 blocking therapy. These results being presented at SITC are highly encouraging and support not only our hypothesis of mechanistic synergy but also the continued development of this combination in HER2-positive and other solid tumor indications."

Sandesh Seth, Actinium's Chairman and CEO, said, "We are excited to present this data at SITC as it emanates from our renewed R&D focus on creating value by demonstrating the power of combining ARCs with immunotherapy for a better clinical effect by leveraging our platform capabilities. These data will support our pipeline expansion into solid tumors and combinations with immunotherapy. With the field of CD47 targeting agents growing rapidly, there is increasing competition not only in blood cancer indications but also in solid tumors, resulting in a need for differentiation. This data will also allow us to explore collaborations and partnerships with companies developing CD47 targeting agents with the goal of improving patient outcomes via the mechanistic synergy and highly differentiated profile of ARCs."

SITC Poster Details

Poster Title: Enhancement of the anti-tumor effects of CD47 blockade in solid tumors by combination with targeted radioimmunotherapy

Poster Number: 589

Location: Poster Hall, Walter E. Washington Convention Center in Washington, D.C.

Dates and Times: 11/12/2021 - 11/14/2021, 7:00 am - 5:00 pm

The poster will be accessible on Actinium's website on the Presentations & Webinars page: https://ir.actiniumpharma.com/presentations-webinars

About Actinium Pharmaceuticals, Inc.
Actinium Pharmaceuticals, Inc. is a clinical-stage biopharmaceutical company developing targeted radiotherapies to deliver cancer-killing radiation with cellular level precision to treat patients with high unmet needs not addressed by traditional cancer therapies. Actinium's

current clinical pipeline is led by ARCs or Antibody Radiation-Conjugates that are being applied to targeted conditioning, which is intended to selectively deplete a patient's disease or cancer cells and certain immune cells prior to a BMT or Bone Marrow Transplant, Gene Therapy or Adoptive Cell Therapy (ACT) such as CAR-T to enable engraftment of these transplanted cells with minimal toxicities. Actinium's targeted conditioning ARCs seek to improve patient outcomes and access to these potentially curative treatments by eliminating or reducing the non-targeted chemotherapy that is used for conditioning in standard practice currently. Our lead product candidate, I-131 apamistamab (Iomab-B) has been studied in several hundred patients including in the recently completed, 150-patient, pivotal Phase 3 Study of Iomab-B in Elderly Relapsed or Refractory Acute Myeloid Leukemia (SIERRA) trial for BMT conditioning. Iomab-ACT, low dose I-131 apamistamab is being studied as a targeted conditioning agent in a Phase 1 study with a CD19 CAR T-cell Therapy with Memorial Sloan Kettering Cancer Center. In addition, we are leaders in the field of Actinium-225 alpha therapies. Actimab-A, our clinical stage CD33 targeting ARC alpha therapy has been studied in nearly 150 patients including our ongoing combination trials with the salvage chemotherapy CLAG-M and the Bcl-2 targeted therapy venetoclax. Underpinning our clinical programs is our proprietary AWE (Antibody Warhead Enabling) technology platform. This is where our intellectual property portfolio of over 160 patents, know-how, collective research and expertise in the field are being leveraged to construct and study novel ARCs and ARC combinations to bolster our pipeline for strategic purposes. Our AWE technology platform is currently being utilized in a collaborative research partnership with Astellas Pharma, Inc. Website: https://www.actiniumpharma.com/

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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cancer-sitc-conference-301422935.html

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