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Actinium Pharmaceuticals Launches Actinium-225 Focused Strategic Initiative to Leverage Proprietary Cyclotron Based Manufacturing Technology to Address Growing Market Demand

- Actinium's cyclotron produced Actinium-225 material has demonstrated radiochemical and radionuclidic purity identical to current gold-standard methods and has the potential to be significantly lower cost at commercial scale than currently available production methods
- Proprietary manufacturing technology supported by 5 issued U.S. patents, 49 issued international patents and significant technical know-how
- Actinium to commit to multi-million-dollar investment and pursue collaborations on a global basis to scale its technology for commercial purposes to support internal programs and address growing demand for Actinium-225

NEW YORK, March 11, 2024 /PRNewswire/ -- **Actinium Pharmaceuticals, Inc.** (NYSE AMERICAN: ATNM) (Actinium or the Company), a leader in the development of Antibody-Radio Conjugates (ARCs) and other targeted radiotherapies, today announced that it has launched a strategic initiative focused on the manufacture of the highly sought after medical isotope Actinium-225 (Ac-225) leveraging its propriety cyclotron-based method. Actinium-225 is a potent alpha-particle emitter that has high linear energy transfer capable of killing targeted cancer cells via double-strand breaks in DNA for which there is no known resistance or repair mechanism, making it a highly sought after isotope for targeted radiotherapies. Actinium's intellectual property portfolio relating to its cyclotron-based production method includes 5 issued U.S. patents and 49 issued international patents as well as significant technical know-how. Ac-225 produced using Actinium's method is highly pure and identical to the current gold-standard manufacturing method using a Thorium-229 generator but has the potential to be lower-cost at commercial scale and is a higher yielding approach. Specifically, Actinium's Ac-225 based technology and production methods are grounded in several U.S. and International patents that cover the following areas:



- End-to-end solution including processing and recycling of Radium-226 starting material

- Production of up to 100 mCi of Ac-225 per production cycle
- Utilizes a medium energy cyclotron
- Expected cost 10 – 20 times lower than currently available material
- Radiochemical purity > 99%
- Radioisotopic purity 99.8% with no long-lived contaminants

Sandesh Seth, Actinium's Chairman and CEO, said, "Significant efforts and investments have been made by Actinium in developing our proprietary method and related intellectual property and know-how. With our Ac-225 based Actimab-A program advancing to late-stage trials under our CRADA with the NCI and the rapidly increasing number of Ac-225 based programs in development, the time is now to fully realize the potential of our production method. We are excited to launch this initiative and are committed to making further strategic investments to bring our method to commercial scale while engaging with potential collaborators and partners globally to maximize the value of our patents and capabilities, as well as to ensure supply for our increasing Ac-225 based product development efforts and address the growing clinical demand."

Currently, the majority of Ac-225 is supplied by the United States Department of Energy (DOE) who derives Ac-225 from the natural decay of thorium-229 from so-called "thorium-cows". Actinium Pharmaceuticals, Inc. has maintained supply agreements with the DOE since 2009. The DOE has stated that it is exploring the generation of new thorium cows and production via a cyclotron. In addition, multiple government and non-governmental entities globally are focused on Ac-225 production using various methods and have represented that clinical grade Ac-225 could be available over the next several years. However, at this time, the majority of material available is research grade and there is limited availability of clinical grade Ac-225 outside of the material supplied by the DOE. The relative scarcity of Ac-225 has led to rapidly escalating procurement costs in recent years.

Mr. Seth, added, "Having already produced highly pure material at scale, we believe our method can be implemented rapidly thereby accelerating supply of highly sought after clinical grade Ac-225. From a technical perspective, our proprietary method addresses the limited availability of source material needed to generate Ac-225 via a cyclotron by purifying and recycling from a variety of different sources. This enables us to leverage the large infrastructure of cyclotrons that already exists globally or the ability to establish new facilities for significantly less cost and faster than reactor or linear accelerator-based production methods. In addition, we have developed several additional technical benefits enabling scalability and manufacturing efficiencies. Based on our experience to date, we expect to be able to produce material with high radiochemical purity and at yields not possible with thorium-cow based methods. This has the potential to further establish Actinium as a leader in alpha-particle therapies and remain at the forefront of innovation while addressing a significant and rapidly growing addressable patient population."

For more information, please visit Actinium Pharmaceuticals, Inc. website <https://www.actiniumpharma.com/actinium-225-technology> or email sseth-bd@actiniumpharma.com

About Actinium Pharmaceuticals, Inc.

Actinium develops targeted radiotherapies to meaningfully improve survival for people who have failed existing oncology therapies. Advanced pipeline candidates lomab-B (pre-BLA &

MAA (EU)), an induction and conditioning agent prior to bone marrow transplant, and Actimab-A (National Cancer Institute CRADA pivotal development path), a therapeutic agent, have demonstrated potential to extend survival outcomes for people with relapsed and refractory acute myeloid leukemia. Actinium plans to advance lomab-B for other blood cancers and next generation conditioning candidate lomab-ACT to improve cell and gene therapy outcomes. Actinium holds more than 220 patents and patent applications including several patents related to the manufacture of the isotope Ac-225 in a cyclotron.

For more information, please visit: <https://www.actiniumpharma.com/>

Forward-Looking Statements

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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