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**FOR IMMEDIATE RELEASE****CNL & TRIUMF SUCCESSFULLY PRODUCE RARE MEDICAL ISOTOPE THAT COULD REVOLUTIONIZE FIGHT AGAINST CANCER**

*Leading Canadian research organizations complete first trial production run of actinium-225, demonstrating capability to produce “the rarest drug on Earth”*

**Vancouver, BC and Chalk River, ON – October 23, 2019** – TRIUMF, Canada’s particle accelerator centre, and Canadian Nuclear Laboratories (CNL), Canada’s premier nuclear science and technology organization, are pleased to announce that they have completed the first joint production run of actinium-225, a rare medical isotope that shows great promise as the basis for new, cutting-edge cancer therapies. This accomplishment is a major milestone in making high-purity actinium-225, which is produced using TRIUMF’s high-energy cyclotron in Vancouver and processed at CNL’s Chalk River Laboratories in Ontario, more widely available for use in critical clinical trials.

An alpha-emitting isotope with a short half-life, actinium-225 can be combined with a protein or antibody that specifically targets and kills cancer cells; the cancer-specific molecules seek out and destroy only cancer cells while leaving the surrounding healthy tissue unharmed. With a short half-life of just ten days, the actinium then decays without accumulating in a patient’s body. Known as targeted alpha therapy, this form of treatment has shown exciting potential in early studies with prostate cancer patients for whom conventional cancer therapies have not worked. Researchers are eager to try this targeted alpha therapy approach with a wide range of cancers. However, current global supplies of actinium-225 would only be enough to treat a handful of patients every year, leading to its apt nickname, “the rarest drug on Earth.”

“The 520MeV cyclotron at the heart of TRIUMF allows us to produce actinium-225 at a level of purity not possible with smaller cyclotrons,” said Dr. Jonathan Bagger, Director of TRIUMF. “Canada’s long history of scientific excellence at TRIUMF and CNL is a foundation on which we can build new capabilities and opportunities for the future.”

“While targeted alpha therapy using actinium-225 is one of the most promising new forms of cancer treatment, research has been limited due to global scarcity of the isotope,” explained Mark Lesinski, President and CEO of CNL. “Together, CNL and TRIUMF have now successfully demonstrated the viability of our production and separation processes, which could eventually enable hundreds of thousands of medical treatments every year across Canada and around the world. This achievement is a major leap forward in the availability of one of the rarest medical isotopes in the world.”

“This actinium-225 initiative brings together researchers and industry partners in an exciting collaboration that leverages the infrastructure and expertise at TRIUMF and CNL to develop new technologies with the potential to enable new therapies for patients in Canada and around the world, as well as new commercialization opportunities.” said Kathryn Hayashi, CEO of TRIUMF Innovations, the commercialization arm for TRIUMF.

“We have now successfully demonstrated a method of production that can be scaled up to produce meaningful quantities of actinium-225,” says Kathryn McCarthy, Vice-President of Science and Technology at CNL. “There is still a long road to travel before these treatments are generally available to the public, but we’ve overcome a big hurdle that has prevented researchers from verifying the promising results that have been seen in early laboratory testing.”

### **About TRIUMF**

TRIUMF is Canada’s particle accelerator centre. From the hunt for the smallest particles in the universe to the development of new technologies, including next-generation batteries and medical isotopes, TRIUMF is pushing the frontiers in research to advance science, medicine, and business.

Discover more at [www.triumf.ca](http://www.triumf.ca) and connect on Facebook, Twitter, and Instagram: TRIUMFLab.

### **About TRIUMF Innovations**

TRIUMF Innovations Inc. is the TRIUMF’s business interface and commercialization arm, connecting Canada’s particle accelerator centre to the private sector via industry partnerships, licensing, and company creation. TRIUMF Innovations provides pathways for businesses to access the expertise and infrastructure at TRIUMF and across the TRIUMF network.

Learn more at [www.triumfinnovations.ca](http://www.triumfinnovations.ca) and connect on Twitter at TRIUMFINNO.

### **About Canadian Nuclear Laboratories (CNL)**

Canadian Nuclear Laboratories (CNL) is a world leader in nuclear science and technology offering unique capabilities and solutions across a wide range of industries. Actively involved with industry-driven research and development in nuclear, transportation, clean technology, energy, security and life sciences, we provide solutions to keep these sectors competitive internationally.

With ongoing investments in new facilities and a focused mandate, Canadian Nuclear Laboratories is well positioned for the future. A new performance standard reinforced with a strong safety culture underscores every activity.

For more information on the complete range of Canadian Nuclear Laboratories services, please visit [www.cnl.ca](http://www.cnl.ca) or contact [communications@cnl.ca](mailto:communications@cnl.ca).

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