

# Synchrotron announces first shipment of medical isotopes

November 17 2014

---



Medical Isotope Project facility

Scientists at the Canadian Light Source have announced the first shipment of medical isotopes produced in its dedicated linear accelerator.

The Medical Isotope Project (MIP) facility at the CLS is the first of its

kind in the world, relying on powerful X-rays to produce the isotopes, unlike traditional nuclear reactor-based methods. The project was funded by Natural Resources Canada's Isotope Technology Acceleration Program (ITAP), and the Government of Saskatchewan, in partnership with the Prairie Isotope Production Enterprise (PIPE), a not-for-profit corporation based in Manitoba, whose goal is to develop a reliable supply of isotopes for Canadian patients.

"We are excited to be producing medical isotopes at this critical time in history," said CLS CEO Rob Lamb. "To be part of a project that will meet the health needs of so many Canadians, that is the most gratifying element."

The MIP uses a particle accelerator to bombard a target made of enriched molybdenum-100 metal (Mo-100) with high-energy X-rays. The X-rays knock a neutron out of the nuclei of some of the Mo-100 atoms in the target, converting them to the isotope Mo-99. The Mo-99 decays into technetium-99m (Tc-99m), which is used for tagging radiopharmaceuticals for medical diagnostic tests. After the Mo-99 has decayed, the remaining Mo-100 in the solution is recovered and recycled into additional targets.

"Today's achievement is welcome news for Canadian families and our communities," said Kelly Block, Parliamentary Secretary to the Honorable Greg Rickford, Minister of Natural Resources. "Our investments in new technologies are supporting new milestones contributing to reliable global supplies of medical isotopes."

Tc-99m is by far the most used [medical isotope](#) in Canada with about 5,000 medical scans daily. Two or three accelerator systems like the MIP facility could produce enough medical isotopes to supply all of Canada.

"We are committed to building a strong Saskatchewan by supporting

world leading innovative research and development programs such as the medical isotopes project," Minister Responsible for Innovation Jeremy Harrison said. "Thanks to the dedicated scientists at CLS who have developed this world-leading technology, now thousands of patients from across Canada and around the world will benefit from isotopes tests for serious medical issues."

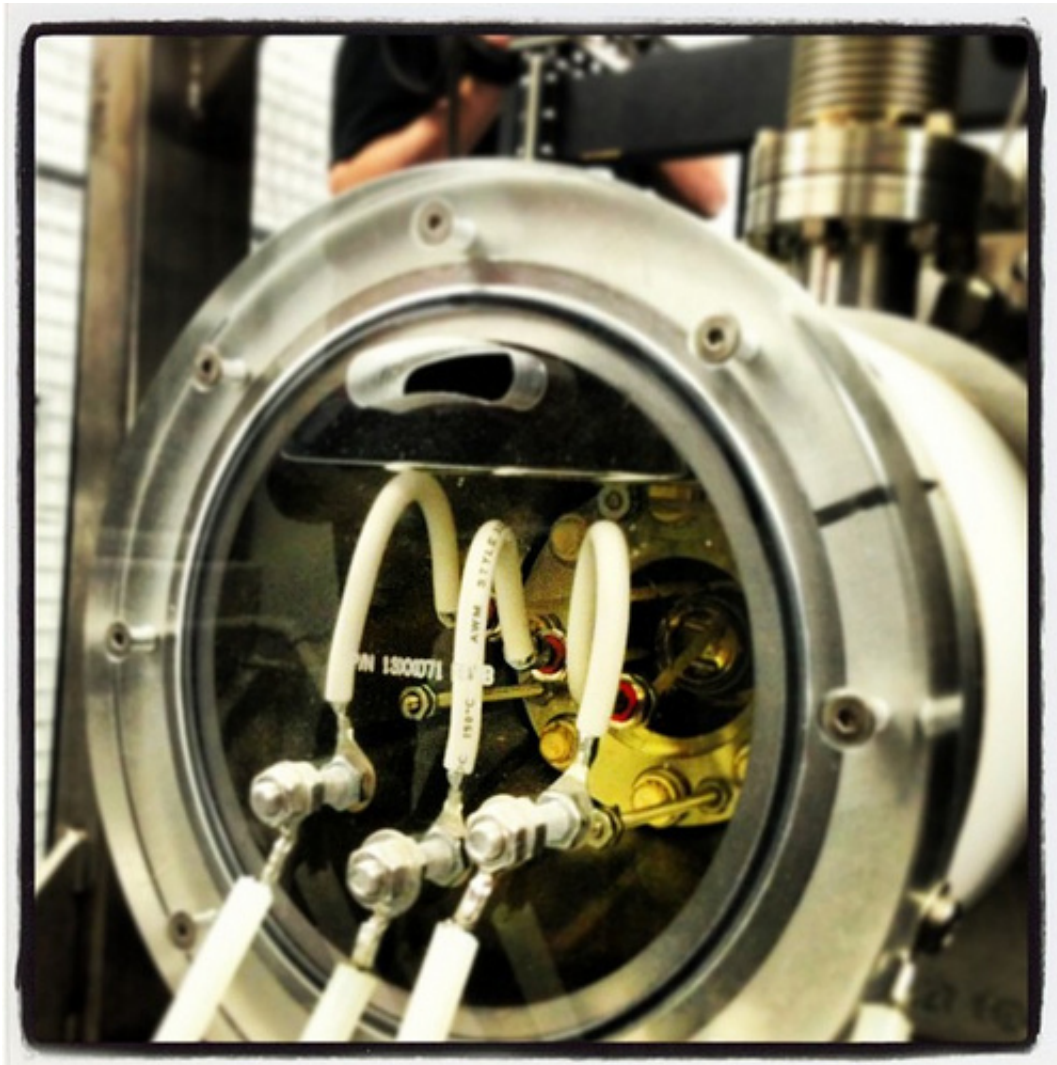


CLS Director of Accelerators Mark de Jong in the Medical Isotope Project facility

The MIP will continue to test the production of the isotopes until

approval from Health Canada is obtained, at which time the CLS and PIPE will become leading suppliers of isotopes to healthcare facilities across Saskatchewan, Manitoba and Northwest Ontario, by 2016.

CLS, PIPE, and their partners, will continue to work together to expand this unique and first-in-the-world technology, to ensure sustainable secure access to medical isotopes for all Canadians. In addition, through commercialization and spin off opportunities, the partners plan to export this made-in-Canada technology around the world, creating new Canadian businesses and jobs.



Medical Isotope Project facility

Provided by Canadian Light Source

Citation: Synchrotron announces first shipment of medical isotopes (2014, November 17)  
retrieved 24 April 2024 from

<https://phys.org/news/2014-11-synchrotron-shipment-medical-isotopes.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.