



ARGONNE RESEARCHERS PROVIDE RADIOISOTOPE THAT OFFERS ENHANCED CANCER TREATMENT

THE OPPORTUNITY

Nuclear medicine uses radiation to provide diagnostic information about the function of a person's specific organs, identify abnormalities and treat diseases. Radiotherapy can be used to treat some medical conditions, especially cancer, using radiation to weaken or destroy particular targeted cells.

Over 40 million nuclear medicine procedures are performed each year, and demand for radioisotopes is increasing at up to 5% annually.

Radiopharmaceuticals made with theragnostic radioisotopes represent a highly attractive class of drugs for the treatment of cancer. Having both diagnostic and therapeutic emissions provides multiple critical advantages, including:

- Real-time monitoring of treatment
- Lower overall dose to the patient
- Potentially fewer treatments

THE PIVOTAL DISCOVERY

The U.S. Department of Energy's (DOE) Argonne National Laboratory has developed and patented a process for producing Copper-67, a radioisotope that has garnered considerable attention in the medical community because it has emissions suitable for both diagnostic imaging and targeted cancer therapy.

Copper-67 is produced at Argonne with an electron linear accelerator in quantity and purity sufficient to support clinical trials. This important radioisotope is now routinely available through the DOE Isotope Program (www.isotopes.gov).

According to researchers and clinicians, Cu-67 has great potential in a class of new drugs for the treatment of neuroendocrine tumors (NETs), prostate cancer, non-Hodgkin's lymphoma and other cancers.

THE IMPACT

- Cu-67 had been used successfully in a number of targeted radioisotope therapy studies, but until Argonne began production, it had not been available in sufficient quantity and purity for consideration for clinical trials.
- Argonne regularly produces batches of Cu-67 for distribution by the DOE Isotope Program to researchers and hospitals.
- Argonne's production of Cu-67 increases availability to researchers and hospitals, enabling the development of new therapies and ultimately saving lives.

CONTACT

Argonne National Laboratory
9700 South Cass Avenue
Lemont, Illinois 60439
Phone: 630-252-2000
www.anl.gov/partners