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Contact: Austin Fitzgerald
Science Writer
(573) 882-6217
fitzgeraldac@missouri.edu

For first time in 30 years, critical medical radioisotope has domestic supplier

COLUMBIA, Mo. – According to the American Cancer Society, thyroid cancer is “[the most rapidly increasing cancer in the U.S.](#),” with diagnoses tripling in the last three decades. There will be an estimated 53,990 new cases of thyroid cancer in the U.S. in 2018 with an estimated 2,060 deaths from the disease, according to the National Cancer Institute. A domestic supply of Iodine-131 (I-131), a critical radioisotope widely used for diagnosing and treating thyroid cancer and hyperthyroidism, is vital due to increasing demand and the isotope’s short shelf-life.

The [University of Missouri Research Reactor](#) (MURR) recently shipped its first batch of I-131. This milestone shipment makes MURR the only supplier of I-131 in the United States and the first U.S. supplier since the 1980s.

“Supplying I-131 is part of a strategic initiative by the University of Missouri and MURR to address medical isotope shortages and further the University’s research mission,” said [David Robertson](#), executive director of MURR.

I-131 sodium iodide became the first FDA-approved radiopharmaceutical in 1951 and is one of the most widely used radiopharmaceuticals in the United States. The isotope’s unique properties enable both diagnostic imaging and treatment of cancer and hyperthyroidism. Since the thyroid gland naturally absorbs iodine, I-131 can be targeted directly to thyroid tumors to remove cancerous tissue and treat the disease.

With only an eight-day half-life, stockpiling I-131 is impossible and logistics are complicated, making a reliable supplier critical for patients. MURR is one of only a handful of research reactors around the world that supply I-131 to drug manufacturers who, in turn, supply radiopharmaceuticals for distribution to hospitals and patients.

“Having MURR as a domestic producer for I-131 provides a much higher level of stability and reliability in the U.S. for this important isotope,” said Steve Laflin, president and CEO of [International Isotopes, Inc.](#) (INIS). “INIS has been supplying I-131 throughout the U.S. for nearly 15 years using only foreign sources of supply. We are pleased to have an opportunity to enter into a long-term supply agreement, and INIS plans to utilize MURR as one of our major suppliers for I-131 in the future.”

MURR has been a crucial component to research at the university for more than 50 years. Operating 6.5 days a week, 52 weeks a year, scientists from across the campus use the 10-megawatt facility to not only provide crucial radioisotopes for clinical settings globally, but also to analyze artifacts, improve medical diagnostic tools and prevent illness. I-131 joins a growing lineup of isotope active ingredients supplied by MURR for radiopharmaceuticals including Therasphere, Quadramet and Lutathera, which was recently approved by the FDA to treat pancreatic cancer.

Editor's Note: International Isotopes, Inc. manufactures a full range of nuclear medicine calibration and reference standards. The company also provides radiochemicals for clinical research and life sciences, produces and manufactures a variety of cobalt-60 products such as teletherapy sources and provides a wide range of radiological field services.