

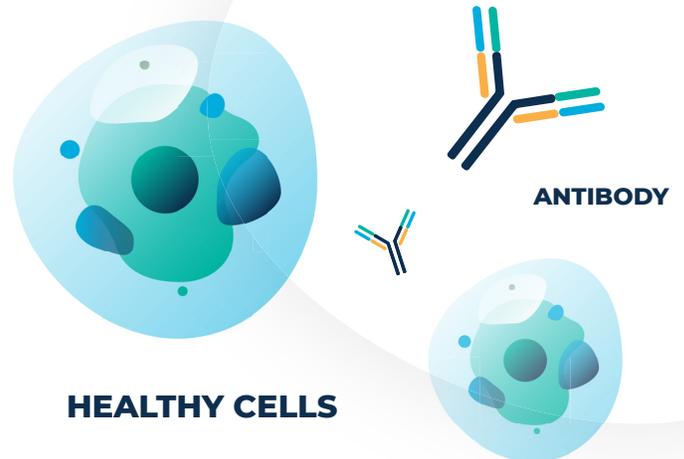
TERRAPOWER ISOTOPES

Transforming the fight against cancer

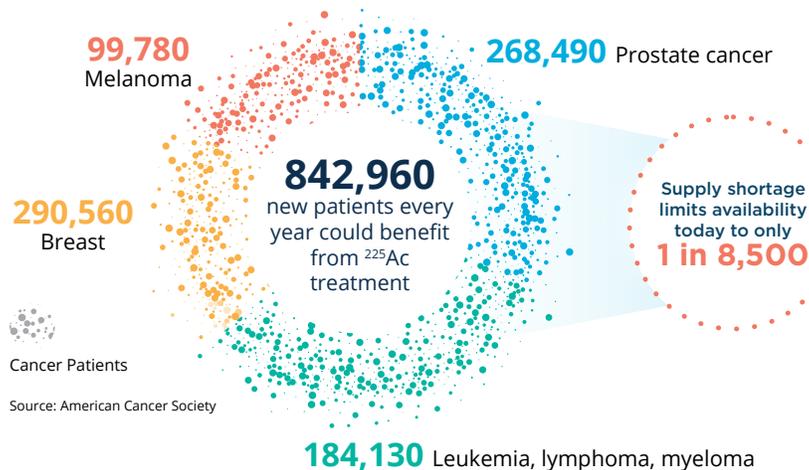
More than one in three people will be diagnosed with cancer in their lifetime. A little over 1.9 million new cancer cases are expected to be diagnosed in the US in 2022.¹ Fortunately, **outcomes for cancer patients have improved tremendously**, in part, due to advances in nuclear science and technology, and new approaches to the medical application of radioisotopes.

SUPPORTING THE ADVANCEMENT OF NEW CANCER TREATMENTS

TerraPower Isotopes (TPI) is bringing together the company's focus on nuclear science and innovation to apply it to the health care sector. TPI is advancing the next generation of isotopes by developing advanced radioisotope generators that efficiently extract a rare isotope that would be further manufactured to develop pharmaceuticals with potentially lifesaving qualities. In this case, the material of interest is Actinium-225², an alpha emitting radionuclide that may be applied to new medical applications that aim to target and treat cancer.



NEW U.S. DIAGNOSES FOR SELECT CANCERS PROJECTED FOR 2022

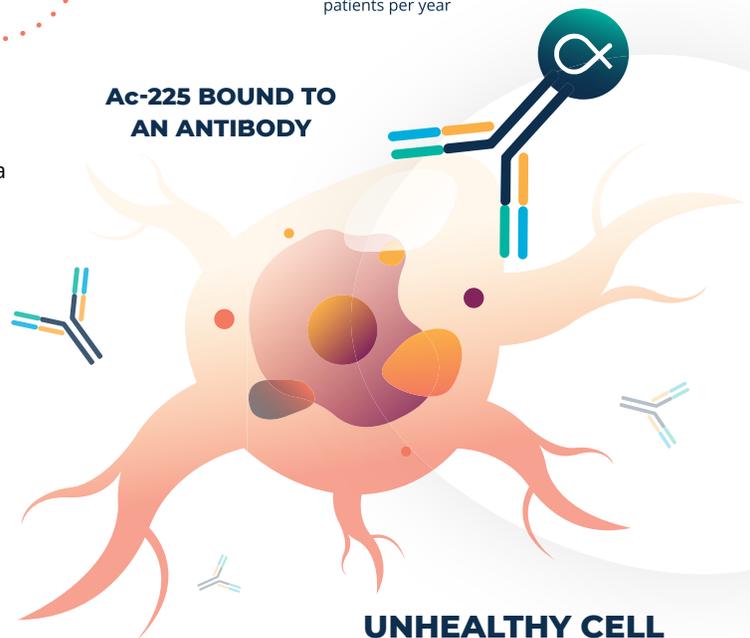


CURRENT SOURCES OF ²²⁵AC FAIL TO MEET THE NEED

OAK RIDGE NATIONAL LABORATORY & INTERNATIONAL SOURCES

100 patients per year

Ac-225 BOUND TO AN ANTIBODY



TARGETING CANCER WITH ACTINIUM-225

Actinium-225, through further manufacturing, may be attached to a molecule for targeted delivery to the cancer site. When injected, Actinium-225 labeled drug products, if developed and approved, can destroy the cancerous tissue with minimum damage to nearby healthy cells, leading to effective and targeted therapy treatments.

Despite the potential, the current volume of Actinium-225 fails to meet current manufacturing, research and development needs.

INCREASING THE SUPPLY OF ACTINIUM-225

TPI experts have developed a process to extract research-grade Actinium-225 through a natural decay method from Thorium-229. This methodology will increase the scarce global supply of Actinium-225, allowing more drug trials to explore the effectiveness of this innovative contribution to precision medicine.

TPI is also investing in the extraction of Thorium-229, the source of Actinium-225, from Uranium-233. TPI is working with Isotek to recover Thorium-229 from Uranium-233 stockpiles managed by the U.S. Department of Energy. Along with increasing the supply of Actinium-225, TPI is helping to reduce the cleanup time and cost associated with the ultimate disposal of Uranium-233.

RADIOCHEMISTRY HELPING HUMANITY IN THE REGION



-  TerraPower Headquarters
-  TerraPower Laboratory
-  UW Radiochemistry Resources
-  Center for Radiochemistry Research
-  Environmental and Agriculture
-  Industrial Testing Analysis
-  Fred Hutchinson Cancer Research Center

¹<https://www.cancer.org/>

²TPI produced Actinium-225 is intended to be used as a starting material for further manufacturing processes and, as starting materials, is not manufactured in accordance with current good manufacturing practices.

TERRAPOWER ISOTOPES AIMS TO INCREASE THE Ac-225 SUPPLY BY **75 TO 100 TIMES**

PARTNERING TO BRING PRECISION MEDICINE TO MARKET

Medical research arrangements between the government and private companies represent a crucial step forward in the fight against cancer. New supplies of radioisotopes provide opportunities to create new markets and advance higher-impact technologies.

TerraPower Isotopes is actively working to provide research grade Actinium-225 to pharmaceutical companies for potential drug development through partnerships.

- TPI expects to provide Actinium-225 to drug innovation companies for clinical trials of this treatment as soon as 2023.
- TPI and Cardinal Health have an agreement to work together developing and producing Actinium-225 for drug development and commercial sales, which will further enhance the supply of Actinium-225.
- The U.S. Food and Drug Administration (FDA) acknowledged receipt in 2022 of Oak Ridge National Laboratory's (ORNL) drug master file for Actinium-225 nitrate. This sets the stage for innovative pharmaceutical and biotech companies to further advance their development of important therapeutic radiopharmaceuticals which use Actinium-225 as a critical pharmaceutical ingredient, without disclosing proprietary information.

These efforts to provide Actinium-225 to the medical community bring advanced cancer treatments another step closer to patients.