THE SECURE PROJECT: TOWARDS A STABLE EUROPEAN SUPPLY OF MEDICAL RADIOISOTOPES

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The SECURE project contributes to the sustainability of medical isotope production and its safe application in Europe. It focuses on promising developments in the design of irradiation targets, and production routes for existing and new isotopes in nuclear therapy and diagnostics. Isotopes critical to the success of nuclear medicine are selected and research activities are identified to address some of the major challenges in securing its future availability. The objectives include:1) to remove critical barriers along the production of its selected alpha and beta emitting isotopes that restrict a sustainable production, 2) to develop a framework of guidance and recommendations that enables exploring the full clinical potential of alpha and beta particle therapy and its safe application, and 3) to provide important lessons learned that act as a demonstration case for addressing issues in upscaling and sustained isotope production. The expected demand for nuclear medicine of novel alpha- and beta-emitters requires a re-evaluation of their production methods and inventories of target materials and parent radionuclides. In response, the SECURE consortium efficiently uses the current resources for new radionuclides, particularly alpha emitters and relevant beta-emitting theranostic radionuclides. By integrating scientific and technological knowledge within its multidisciplinary team, the consortium addresses critical challenges in production, improving sustainability and enhancing patient treatments.

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