

## IAEA SUPPORT FOR ACCELERATOR-BASED RADIOISOTOPES AND RADIOPHARMACEUTICALS PRODUCTION

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Medical radioisotopes and radiopharmaceuticals are major content of nuclear medicine procedures. The production of positron emitter radioisotopes is routinely performed via accelerators called cyclotrons in Member States. The International Atomic Energy Agency (IAEA) is supporting Member States in the production and application cyclotron-based radioisotopes (such as F-18, C-11) and radiopharmaceuticals via activities such as Coordinated Research Projects (CRPs), Technical Meetings (TMs), national/regional training courses and conferences. A large list of theranostic radioisotopes including but not limited to Zr-89, Cu-64, Ga-68 can be produced using cyclotrons using liquid and solid targets and offer new opportunities for clinicians with access to medical cyclotrons. Photodynamic route empowered by electron accelerators provide another interesting approach for important medical radioisotopes such as Mo-99, Cu-67 and Sc-47 and an IAEA CRP focused on this subject. The IAEA support the Member States with empowering regulatory aspects, education, pharmacopeial monographs, development of databases and last but not the least supporting and empowering women in radiopharmaceutical society. IAEA publications on the accelerators subject provide a worldwide, freely accessible platform for Member States for knowledge transfer.

Key words: cyclotrons, electron beams, radioisotopes, radiopharmaceuticals; theranostics, diagnosis

### References

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