Cyclotron Production of Ac-225 for Targeted Alpha Therapy

Abstract:
The feasibility of producing Ac-225 by proton irradiation of Ra-226 in a cyclotron through the reaction Ra-226(p,2n)Ac-225 has been experimentally demonstrated for the first time. Proton energies were varied from 8.8 to 24.8MeV and cross-sections were determined by radiochemical analysis of reaction yields. Maximum yields were reached at incident proton energies of 16.8 MeV. Radiochemical separation of Ac-225 from the irradiated target yielded a product suitable for targeted alpha therapy of cancer.

URI:

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