

## Calcium Targets for Production of the Medical Sc Radioisotopes in Reactions with p, d or $\alpha$ Projectiles

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The scandium radioisotopes for medical application can be produced in reactions of calcium with proton, deuteron or alpha projectiles and in reaction of titanium with protons.

Majority of our studies was performed using reaction of Ca, both natural and enriched material, with various projectiles. The research quantities of scandium radioisotopes are produced at HIL UW with two charged particle accelerators: the heavy ion cyclotron U200P for reaction with  $\alpha$ -particles and medical high current PETtrace cyclotron for studying the reactions with protons and deuterons.

Enriched isotopic calcium material is commercially available as calcium carbonate which can be, and was, used directly or can be converted into other calcium compounds or into metallic form. Each form can be used for production of Sc isotopes and pros and cons of use of each target chemical form will be discussed.

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