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Battelle Number(s):

11892-E

Patent(s) Issued

Available for licensing in all fields

Available Technologies

Improved Separation and Purification Method for Gadolinium

SUMMARY

Gadolinium-153 (Gd-153, half-life of 242 days) is used in both the early detection and tracking of the crippling brittle bone disease of osteoporosis and as a calibration source for single photon emission computerized tomography (SPECT) cameras. Production of Gd-153 is typically performed by the neutron irradiation of natural europium oxide targets followed by chemical separation of the gadolinium from the transmuted (and now radioactive) europium. This patented technology is an improved separation and purification technique that eliminates the need for an ion exchange step and is capable of supporting large scale production. The technique provides a high purity (greater than 99.9% europium removed) and high yield (greater than 90%) Gd product.

RELATED LINKS

» PNNL Radioisotopes Program

Information about Pacific Northwest National Laboratory's Radioisotope Program

<http://radioisotopes.pnl.gov/>



Patents & Intellectual Property

- » Patent #: 6,245,305

Technology Portfolio(s)

- » Radiochemical Processing

Potential Industry Applications

- » Chemicals
- » Healthcare, Pharma, Biotech & Medical

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