

¹⁵⁵Sm

The observation of ¹⁵⁵Sm by Winsberg was published as part of the Plutonium Project in 1951: “Study of 25m Sm⁽¹⁵⁵⁾ in fission” ([1950Wi07](#)). U²³⁵ and Pu²³⁹ were irradiated with neutrons at the Los Alamos Homogenous Pile. Decay curves and absorption spectra were measured following chemical separation. “In order to fit on the fission-yield–mass curves for U²³⁵ and Pu²³⁹, this samarium species must have a mass of 155. Since 2y Eu¹⁵⁵ is already known, this is strong evidence for the existence of the following chain: 25min Sm¹⁵⁵ → 2y Eu¹⁵⁵ → stable Gd¹⁵⁵.” Earlier a 21 min half-life was assigned to ¹⁵¹Sm ([1938Po05](#)) and it was also published only as a conference abstract without a mass assignment ([1942Ku03](#)).

Adapted from reference ([2013Ma01](#))

- [1938Po05](#) M. L. Pool and L. L. Quill, Phys. Rev. **53**, 437 (1938).
[1942Ku03](#) J. D. Kurbatov, D. C. MacDonald, M. L. Pool, and L. L. Quill, Phys. Rev. **61**, 106 (1942).
[1950Wi07](#) L. Winsberg, Nat. Nucl. Ener. Ser. **9**, paper196 p. 1284 (1950).
[2013Ma01](#) E. May and M. Thoennessen, At. Data Nucl. Data Tables **99**, 1 (2013).

Please cite this abstract as: “FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:[10.11578/frib/2279152](https://doi.org/10.11578/frib/2279152)”