

¹⁷²Gd

¹⁷²Gd was discovered in 2022 by Kiss et al. as reported in “Measuring the β -decay Properties of Neutron-rich Exotic Pm, Sm, Eu, and Gd Isotopes to Constrain the Nucleosynthesis Yields in the Rare-earth Region” (2022Ki23). A 345 MeV/nucleon ²³⁸U primary beam impinged on a 5 mm thick ⁹Be target at the RIKEN Nishina Center and the fragmentation products were separated with the large-acceptance BigRIPS separator and deposited in the AIDA implantation detector which consisted of a stack of six double-sided silicon strip detectors. “Only a few hundred (or even fewer) ions of the most neutron-rich isotopes (¹⁶⁶Pm, ^{167,168}Sm, ¹⁷⁰Eu, and ^{170–172}Gd) were implanted in the AIDA detector.” ¹⁷²Gd had previously been reported in an RIKEN accelerator progress report (2015FuZX).

Adapted from reference (2023Th03)

- 2015FuZX N. Fukuda, N. Inabe, D. Kameda, H. Suzuki *et al.*, REPT-RIKEN **48**, p. 72 (2015).
- 2022Ki23 G. G. Kiss, A. Vitez-Sveicz, Y. Saito, A. Tarifeno-Saldivia *et al.*, *Astrophys. J.* **936**, 107 (2022).
- 2023Th03 M. Thoennessen, *Int. J. Mod. Phys. E* **32**, 2330001 (2023).

Please cite this abstract as: “FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152”