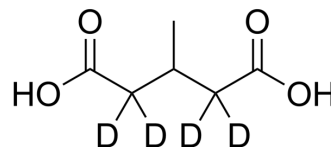


3-Methylglutaric acid-d₄

Cat. No.:	HY-113410S
CAS No.:	1219798-68-1
Molecular Formula:	C ₆ H ₆ D ₄ O ₄
Molecular Weight:	150.17
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	3-Methylglutaric acid-d ₄ is the deuterium labeled 3-Methylglutaric acid[1]. 3-Methylglutaric acid, a leucine metabolite, is a conspicuous C6 dicarboxylic organic acid classically associated with two distinct leucine pathway enzyme deficiencies, 3-hydroxy-3-methylglutaryl CoA lyase (HMGCL) and 3-methylglutaconyl CoA hydratase (AUH)[2][3].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.
- [2]. Barich DH, et al. 3-Methylglutaric acid as a 13C solid-state NMR standard. *Solid State Nucl Magn Reson*. 2006 Oct;30(3-4):125-9.
- [3]. Dylan E Jones, et al. 3-Methylglutaric acid in energy metabolism. *Clin Chim Acta*. 2020 Mar;502:233-239.

Caution: Product has not been fully validated for medical applications. For research use only.

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