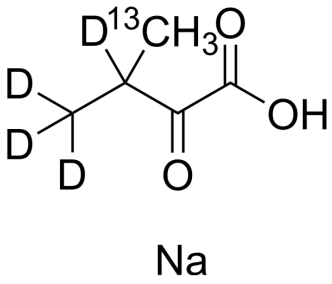
Sodium 3-methyl-2-oxobutanoate-$^{13}C,d_4$

Cat. No.:	HY-W006057AS14
CAS No.:	1202865-40-4
Molecular Formula:	$C_4{}^{13}CH_4D_4NaO_3$
Molecular Weight:	144.12
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Sodium 3-methyl-2-oxobutanoate-$^{13}C,d_4$ is the deuterium and ^{13}C labeled Sodium 3-methyl-2-oxobutanoate[1]. Sodium 3-methyl-2-oxobutanoate is a precursor of pantothenic acid in Escherichia coli[2][3][4].
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]. MAAS WK, et al. alpha-Ketoisovaleric acid, a precursor of pantothenic acid in Escherichia coli. J Bacteriol. 1953 Apr;65(4):388-93.

[3]. Schauder P, et al. Oral administration of alpha-ketoisovaleric acid or valine in humans: blood kinetics and biochemical effects. J Lab Clin Med. 1984 Apr103(4):597-605.

[4]. Coitinho AS, et al. Pharmacological evidence that alpha-ketoisovaleric acid induces convulsions through GABAergic and glutamatergic mechanisms in rats. Brain Res. 2001 Mar 9894(1):68-73.

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