D-Alanine-d_4

Cat. No.: HY-41700S1

CAS No.: 1202063-27-1

Molecular Formula: $C_3H_3D_4NO_2$

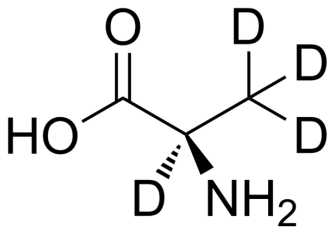
Molecular Weight: 93.12

Target: Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 125 mg/mL (1342.35 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	10.7388 mL	53.6942 mL	107.3883 mL
5 mM	2.1478 mL	10.7388 mL	21.4777 mL
10 mM	1.0739 mL	5.3694 mL	10.7388 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

D-Alanine-d_4 is the deuterium labeled D-Alanine. D-Alanine is a weak GlyR (inhibitory glycine receptor) and PMBA agonist, with an EC50 of 9 mM for GlyR.

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;53(2):211-216.

[2]. Schmieden V, et al. Pharmacology of the inhibitory glycine receptor: agonist and antagonist actions of amino acids and piperidine carboxylic acid compounds. Mol

Pharmacol. 1995 Nov;48(5):919-27.

[3]. Saitoh T, et al. A novel antagonist, phenylbenzene omega-phosphono-alpha-amino acid, for strychnine-sensitive glycine receptors in the rat spinal cord. Br J Pharmacol. 1994 Sep;113(1):165-70.

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