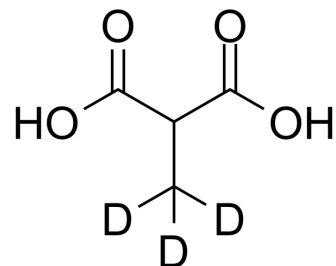


Methylmalonic acid-d₃

Cat. No.:	HY-103395S		
CAS No.:	42522-59-8		
Molecular Formula:	C ₄ H ₃ D ₃ O ₄		
Molecular Weight:	121.11		
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	DMSO : 100 mg/mL (825.70 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	8.2570 mL	41.2848 mL	82.5696 mL
		5 mM	1.6514 mL	8.2570 mL	16.5139 mL
10 mM		0.8257 mL	4.1285 mL	8.2570 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (20.64 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (20.64 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (20.64 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	Methylmalonic acid-d ₃ is the deuterium labeled Methylmalonic acid. Methylmalonic acid (Methylmalonate) is an indicator of Vitamin B-12 deficiency in cancer[1][2].
In Vitro	<p>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].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.
- [2]. Vashi P, et al. Methylmalonic Acid and Homocysteine as Indicators of Vitamin B-12 Deficiency in Cancer. *PLoS One.* 2016 Jan 25;11(1):e0147843.
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Caution: Product has not been fully validated for medical applications. For research use only.

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