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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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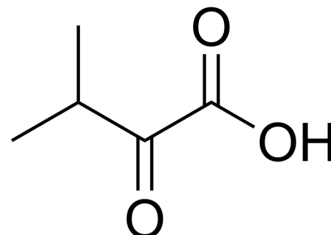
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3-Methyl-2-oxobutanoic acid

Cat. No.:	HY-W006057		
CAS No.:	759-05-7		
Molecular Formula:	C ₅ H ₈ O ₃		
Molecular Weight:	116.12		
Target:	Endogenous Metabolite		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Pure form	-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 (861.18 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	8.6118 mL	43.0589 mL	86.1178 mL
		5 mM	1.7224 mL	8.6118 mL	17.2236 mL
10 mM		0.8612 mL	4.3059 mL	8.6118 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: ≥ 2.17 mg/mL (18.69 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.17 mg/mL (18.69 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.17 mg/mL (18.69 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	3-Methyl-2-oxobutanoic acid is a precursor of pantothenic acid in Escherichia coli.	
IC₅₀ & Target	Microbial Metabolite	Human Endogenous Metabolite
In Vitro	3-Methyl-2-oxobutanoic acid (alpha-Ketoisovaleric acid) is a precursor of pantothenic acid in Escherichia coli ^[1] . 3-Methyl-2-oxobutanoic acid (alpha-Ketoisovaleric acid) enhances alpha-ketoisocaproic acid and alpha-keto-beta-methyl-n-valeric acid, but diminishes the corresponding amino acids, and causes an early decline of ornithine along with a late augmentation	

of plasma arginine^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

3-Methyl-2-oxobutanoic acid (alpha-Ketoisovaleric acid) induces convulsions through GABAergic and glutamatergic mechanisms in rats^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. MAAS WK, et al. alpha-Ketoisovaleric acid, a precursor of pantothenic acid in Escherichia coli. J Bacteriol. 1953 Apr;65(4):388-93.

[2]. Schauder P, et al. Oral administration of alpha-ketoisovaleric acid or valine in humans: blood kinetics and biochemical effects. J Lab Clin Med. 1984 Apr;103(4):597-605.

[3]. Coitinho AS, et al. Pharmacological evidence that alpha-ketoisovaleric acid induces convulsions through GABAergic and glutamatergic mechanisms in rats. Brain Res. 2001 Mar 9;894(1):68-73.

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

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