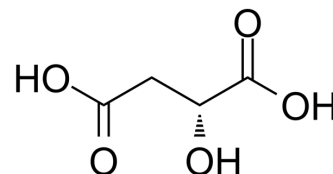


## D-(+)-Malic acid

Cat. No.:	HY-20558
CAS No.:	636-61-3
Molecular Formula:	C <sub>4</sub> H <sub>6</sub> O <sub>5</sub>
Molecular Weight:	134.09
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (745.77 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	7.4577 mL	37.2884 mL	74.5768 mL
		5 mM	1.4915 mL	7.4577 mL	14.9154 mL
		10 mM	0.7458 mL	3.7288 mL	7.4577 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (18.64 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (18.64 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (18.64 mM); Clear solution				

### BIOLOGICAL ACTIVITY

Description	D-(+)-Malic acid (D-Malic acid), an active enantiomer of Malic acid, is a competitive inhibitor of L(-)-malic acid transport <sup>[1]</sup> .	
IC <sub>50</sub> & Target	Human Endogenous Metabolite	Human Endogenous Metabolite
In Vitro	Some bacteria belonging to Arthrobacter, Brevibacterium, Corynebacterium, Pseudomonas, Bacillus, and Acinetobacter produced D-(+)-Malic acid (D-Malic acid) from Maleic acid when the cells grown in a medium containing citraconic acid are reacted aerobically with Maleic acid in the pH 7.0 phosphate buffer containing 0.1% sodium chloride <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

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## REFERENCES

- [1]. Manuela Côrte-Real, et al. Transport of L(-)malic acid and other dicarboxylic acids in the yeast *Candida sphaerica*. *Appl Microbiol Biotechnol* (1989) 31:551-555.
- [2]. Kiyoshi Nakayama, et al. D-malic acid production from maleic acid using microorganism: Screening of microorganism. *Biotechnology Letters* volume 15, 271-276(1993).
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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