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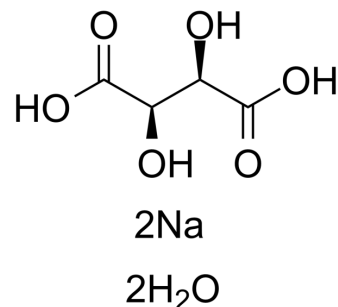
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## Tartaric acid disodium dihydrate

<b>Cat. No.:</b>	HY-D0850
<b>CAS No.:</b>	6106-24-7
<b>Molecular Formula:</b>	C <sub>4</sub> H <sub>10</sub> Na <sub>2</sub> O <sub>8</sub>
<b>Molecular Weight:</b>	232.1
<b>Target:</b>	Phosphatase; Endogenous Metabolite
<b>Pathway:</b>	Metabolic Enzyme/Protease
<b>Storage:</b>	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	H <sub>2</sub> O : 100 mg/mL (430.85 mM; Need ultrasonic)				
	DMSO : < 1 mg/mL (insoluble or slightly soluble)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	4.3085 mL	21.5424 mL	43.0849 mL
	5 mM	0.8617 mL	4.3085 mL	8.6170 mL	
	10 mM	0.4308 mL	2.1542 mL	4.3085 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: PBS Solubility: 20 mg/mL (86.17 mM); Clear solution; Need ultrasonic				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Tartaric acid disodium dehydrate (L-(+) -tartaric acid) is an orally active weak organic acid that can be isolated from grapes. Tartaric acid disodium dehydrate has vasodilatory and antihypertensive effects. Tartaric acid disodium dehydrate can be used as flavorings and antioxidants in a range of foods and beverages. Tartaric acid disodium dehydrate can be used in laser frequency doubling and optical limiting applications <sup>[1][2][3][4]</sup> .	
<b>IC<sub>50</sub> &amp; Target</b>	Microbial Metabolite	Human Endogenous Metabolite
<b>In Vitro</b>	L-Tartaric acid (1.66-6.64 mM) significantly reduces NEP and KCL-induced aortic ring vasoconstriction with EC <sub>50</sub> values of 4.119 mM and 4.00 mM, respectively <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
<b>In Vivo</b>	L-Tartaric acid (80-240 mg/kg; P.O.; Single dose) reduces blood pressure in hypertensive mice induced by L-NAME (60 mg/kg)	

[3].

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

Animal Model:	Hypertensive Wistar rat model <sup>[3]</sup>
Dosage:	80 mg/kg, 240 mg/kg
Administration:	Oral gavage (p.o.); Single dose. After L-NAME treatment (60.mg/kg; p.o.)
Result:	Reduced systolic blood pressure (SABP) and mild blood pressure (mid-BP) in rats at a dose of 240mg/kg, but had no effect on mean artery pressure, diastolic blood pressure, pulse pressure level, and heart rate.

## REFERENCES

- [1]. Sasikala V, et al. Growth, molecular structure, NBO analysis and vibrational spectral analysis of l-tartaric acid single crystal. Spectrochim Acta A Mol Biomol Spectrosc. 2014 Apr 5;123:127-41.
- [2]. DeBolt S, et al. L-tartaric acid synthesis from vitamin C in higher plants. Proc Natl Acad Sci U S A. 2006 Apr 4;103(14):5608-13.
- [3]. Amssayef A, et al. L-Tartaric Acid Exhibits Antihypertensive and Vasorelaxant Effects: The Possible Role of eNOS/NO/cGMP Pathways. Cardiovasc Hematol Agents Med Chem. 2023;21(3):202-212.
- [4]. EFSA Panel on Food Additives and Flavourings (FAF); Younes M, et al. Re-evaluation of l(+)-tartaric acid (E 334), sodium tartrates (E 335), potassium tartrates (E 336), potassium sodium tartrate (E 337) and calcium tartrate (E 354) as food additives. EFSA J. 2020 Mar 11;18(3):e06030.

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

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