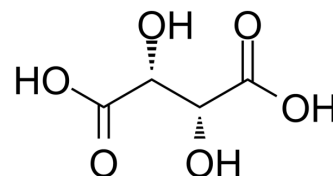


## L-Tartaric acid

<b>Cat. No.:</b>	HY-Y0293		
<b>CAS No.:</b>	87-69-4		
<b>Molecular Formula:</b>	C <sub>4</sub> H <sub>6</sub> O <sub>6</sub>		
<b>Molecular Weight:</b>	150.09		
<b>Target:</b>	Endogenous Metabolite		
<b>Pathway:</b>	Metabolic Enzyme/Protease		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (666.27 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	6.6627 mL	33.3133 mL	66.6267 mL
		5 mM	1.3325 mL	6.6627 mL	13.3253 mL
10 mM		0.6663 mL	3.3313 mL	6.6627 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (16.66 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (16.66 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (16.66 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	L-tartaric acid (L-(+)-tartaric acid) is an orally active weak organic acid that can be isolated from grapes. L-Tartaric acid has vasodilatory and antihypertensive effects. L-Tartaric acid can be used as flavorings and antioxidants in a range of foods and beverages. L-Tartaric acid 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.

#### In Vivo

L-Tartaric acid (80-240 mg/kg; P.O.; Single dose) reduces blood pressure in hypertensive mice induced by L-NAME (60 mg/kg) <sup>[3]</sup>.

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.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA