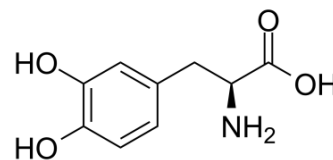


## L-DOPA

<b>Cat. No.:</b>	HY-N0304
<b>CAS No.:</b>	59-92-7
<b>Molecular Formula:</b>	C <sub>9</sub> H <sub>11</sub> NO <sub>4</sub>
<b>Molecular Weight:</b>	197.19
<b>Target:</b>	Dopamine Receptor; Endogenous Metabolite
<b>Pathway:</b>	GPCR/G Protein; Neuronal Signaling; Metabolic Enzyme/Protease
<b>Storage:</b>	4°C, stored under nitrogen

\* The compound is unstable in solutions, freshly prepared is recommended.



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 5 mg/mL (25.36 mM; ultrasonic and adjust pH to 1-2 with HCl)  
 H<sub>2</sub>O : 1 mg/mL (5.07 mM; Need ultrasonic)

Concentration	Solvent	Mass	1 mg	5 mg	10 mg
			1 mM	5.0713 mL	25.3563 mL
5 mM			1.0143 mL	5.0713 mL	10.1425 mL
10 mM			0.5071 mL	2.5356 mL	5.0713 mL

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

L-DOPA (Levodopa) is an orally active metabolic precursor of neurotransmitters dopamine. L-DOPA can cross the blood-brain barrier and is converted into dopamine in the brain. L-DOPA has anti-allodynic effects and the potential for Parkinson's disease<sup>[1][2][3]</sup>.

#### IC<sub>50</sub> & Target

Human Endogenous Metabolite

#### In Vivo

L-DOPA (Levodopa; 20 mg/kg; oral) reduces Rotenone-induced motor dysfunction<sup>[3]</sup>.  
 L-DOPA (Levodopa; 10, 30, 50, 70, and 100 mg/kg; oral) reverses tactile, cold and heat allodynia in neuropathic rat without any side effect in sprague-Dawley rats (male 100-150 g)<sup>[4]</sup>.  
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model: 7-week-old C57BL/6J mice<sup>[3]</sup>

Dosage: 20 mg/kg

Administration:	Oral
Result:	Reduced Rotenone-induced motor dysfunction.

## CUSTOMER VALIDATION

- Int J Biol Macromol. 2020 Jun 15;153:88-99.
- FEMS Yeast Res. 2021 Jan 13;foab001.
- Mol Med Rep. 2020 Aug;22(2):733-738.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

- [1]. Hyland K, et al. Aromatic L-amino acid decarboxylase deficiency: diagnostic methodology. Clin Chem. 1992 Dec;38(12):2405-10.
- [2]. Merims D, et al. Dopamine dysregulation syndrome, addiction and behavioral changes in Parkinson's disease. Parkinsonism Relat Disord. 2008;14(4):273-80. Epub 2007 Nov 7.
- [3]. Perez-Pardo P, et al. Additive Effects of Levodopa and a Neurorestorative Diet in a Mouse Model of Parkinson's Disease. Front Aging Neurosci. 2018 Aug 3;10:237.
- [4]. Park HJ, et al. Anti-allodynic effects of levodopa in neuropathic rats. Yonsei Med J. 2013 Mar 1;54(2):330-5.

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

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