

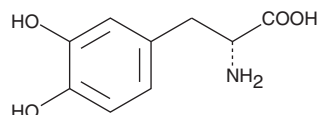
# PRODUCT INFORMATION



## D-DOPA

Item No. 13249

**CAS Registry No.:** 5796-17-8  
**Formal Name:** 3-hydroxy-D-tyrosine  
**MF:** C<sub>9</sub>H<sub>11</sub>NO<sub>4</sub>  
**FW:** 197.2  
**Purity:** ≥95%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

D-DOPA is supplied as a crystalline solid. A stock solution may be made by dissolving the D-DOPA in the solvent of choice, which should be purged with an inert gas. D-DOPA is soluble in the solvent 0.1 M HCl at a concentration of approximately 10 mg/ml.

### Description

D-DOPA is an enantiomer of the dopamine precursor L-DOPA (Item No. 13248). It can be converted to L-DOPA *via* sequential oxidation and transamination, which are mediated by D-amino acid oxidase (DAAO) and DOPA transaminase, respectively, in rat kidney homogenates.<sup>1</sup> It reduces the number of dopaminergic neurons in primary rat embryonic mesencephalic cultures in a concentration-dependent manner.<sup>2</sup> Intraventricular administration of D-DOPA (200 µg/animal) increases striatal dopamine levels in rats.<sup>3</sup> D-DOPA (20 mg/kg, i.p.) induces contralateral turns in a rat model of Parkinson's disease induced by 6-OHDA (Item No. 25330).<sup>4</sup>

### References

1. Wu, M., Zhou, X.-J., Konno, R., *et al.* D-dopa is unidirectionally converted to L-dopa by D-amino acid oxidase, followed by dopa transaminase. *Clin. Exp. Pharmacol. Physiol.* **33(11)**, 1042-1046 (2006).
2. Ling, Z.-D., Pieri, S.C., and Carvey, P.M. Comparison of the neurotoxicity of dihydroxyphenylalanine stereoisomers in cultured dopamine neurons. *Clin. Neuropharmacol.* **19(4)**, 360-365 (1996).
3. Karoum, F., Freed, W.J., Chuang, L.-W., *et al.* D-dopa and L-dopa similarly elevate brain dopamine and produce turning behavior in rats. *Brain Res.* **440(1)**, 190-194 (1988).
4. Moses, J., Siddiqui, A., and Silverman, P.B. Sodium benzoate differentially blocks circling induced by D- and L-dopa in the hemi-parkinsonian rat. *Neurosci. Lett.* **218(3)**, 145-148 (1996).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/28/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM