

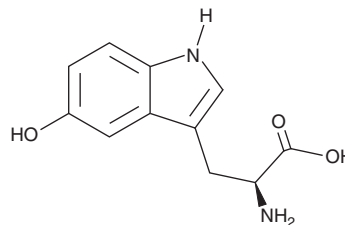
# PRODUCT INFORMATION



## 5-hydroxy-L-Tryptophan

Item No. 20539

**CAS Registry No.:** 4350-09-8  
**Formal Name:** 5-hydroxy-L-tryptophan  
**Synonyms:** 5-HTP, L-5-Hydroxytryptophan, Oxitriptan  
**MF:** C<sub>11</sub>H<sub>12</sub>N<sub>2</sub>O<sub>3</sub>  
**FW:** 220.2  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 209, 275 nm  
**Supplied as:** A crystalline solid  
**Storage:** Room temperature  
**Stability:** ≥4 years



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

### Laboratory Procedures

5-hydroxy-L-Tryptophan (5-HTP) is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-HTP in the solvent of choice, which should be purged with an inert gas. 5-HTP is soluble in organic solvents such as methanol and acetic acid (2%). The solubility of 5-HTP in these solvents is approximately 0.1 and 1 mg/ml, respectively.

### Description

5-HTP is an intermediate in the biosynthesis of serotonin from tryptophan.<sup>1</sup> When injected systemically in animals, 5-HTP is converted to serotonin and has both peripheral and central nervous system effects.<sup>2-4</sup> In *ex vivo* studies, 5-HTP can be metabolized to melatonin with circadian rhythmicity, using serotonin as an intermediate.<sup>5</sup> 5-HTP can also be synthesized by gut microbiota and acts as an activator of the aryl hydrocarbon receptor.<sup>6</sup>

### References

1. Martinez, A., Knappskog, P.M., and Haavik, J. A structural approach into human tryptophan hydroxylase and its implications for the regulation of serotonin biosynthesis. *Curr. Med. Chem.* **8(9)**, 1077-1091 (2001).
2. Haberzettl, R., Fink H., and Bert, B. The murine serotonin syndrome - Evaluation of responses to 5-HT-enhancing drugs in NMRI mice. *Behav. Brain Res.* **277**, 204-210 (2015).
3. Laporta, J., Moore, S.A.E., Weaver, S.R., *et al.* Increasing serotonin concentrations alter calcium and energy metabolism in dairy cows. *J. Endocrinol.* **226(1)**, 43-55 (2015).
4. Schmid, C.L. and Bohn, L.M. Serotonin, but not N-methyltryptamines, activates the serotonin 2A receptor via a β-arrestin2/Src/Akt signaling complex *in vivo*. *J. Neurosci.* **30(40)**, 13513-13524 (2010).
5. Cahill, G.M., and Besharse, J.C. Circadian regulation of melatonin in the retina of *Xenopus laevis*: Imitation by serotonin availability. *J. Neurochem.* **54(2)**, 716-719 (1990).
6. Sridharan, G.V., Choi, K., Klemashevich, C., *et al.* Prediction and quantification of bioactive microbiota metabolites in the mouse gut. *Nat. Commun.* **5**, 5492 (2014).

#### 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, 02/03/2023

#### 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