

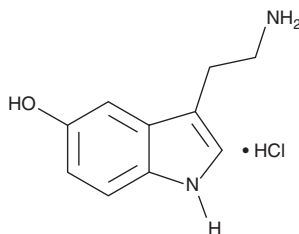
PRODUCT INFORMATION



Serotonin (hydrochloride)

Item No. 14332

CAS Registry No.: 153-98-0
Formal Name: 3-(2-aminoethyl)-1H-indol-5-ol, monohydrochloride
Synonyms: 5-HT, 5-Hydroxytryptamine
MF: C₁₀H₁₂N₂O • HCl
FW: 212.7
Purity: ≥98%
UV/Vis.: λ_{max}: 276, 302 nm
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

Serotonin (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the serotonin (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Serotonin (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of serotonin (hydrochloride) in these solvents is approximately 1.2, 10, and 16 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of serotonin (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of serotonin (hydrochloride) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Serotonin is a monoamine neurotransmitter that is biochemically derived from tryptophan and produced in serotonergic neurons in the central nervous system and in enterochromaffin cells in the gastrointestinal tract.¹⁻⁴ Serotonin is important in the regulation of mood, sleep, vomiting, sexuality, and appetite. Low levels of serotonin are associated with several disorders, including depression, migraines, bipolar disorder, and anxiety. Its actions are terminated primarily via uptake of serotonin from the synapse. Serotonin reuptake can be inhibited with MDMA, cocaine, tricyclic antidepressants, and selective serotonin reuptake inhibitors.

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. Liu, Q., Yang, Q., Sun, W., et al. Discovery and characterization of novel tryptophan hydroxylase inhibitors that selectively inhibit serotonin synthesis in the gastrointestinal tract. *J. Pharmacol. Exp. Ther.* **325**(1), 47-55 (2008).
3. Schmid, C.L. and Bohn, L.M. Serotonin, but not N-methyltryptamines, activates the serotonin 2A receptor via a b-arrestin2/Src/Akt signaling complex in vivo. *J. Neurosci.* **30**(40), 13513-13524 (2010).
4. Berger, M., Gray, J.A., and Roth, B.L. The expanded biology of serotonin. *Annu. Rev. Med.* **60**, 355-366 (2009).

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.

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