

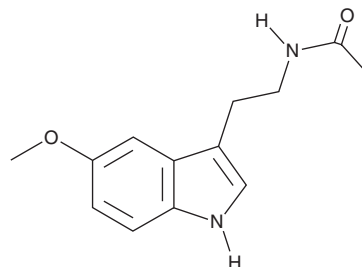
PRODUCT INFORMATION



Melatonin

Item No. 14427

CAS Registry No.: 73-31-4
Formal Name: N-[2-(5-methoxy-1H-indol-3-yl)ethyl]-acetamide
Synonyms: NSC 56423, NSC 113928, Regulin
MF: C₁₃H₁₆N₂O₂
FW: 232.3
Purity: ≥98%
UV/Vis.: λ_{max}: 224, 279 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

Melatonin is supplied as a crystalline solid. A stock solution may be made by dissolving the melatonin in the solvent of choice, which should be purged with an inert gas. Melatonin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of melatonin in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Melatonin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, melatonin should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Melatonin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Melatonin is an indoleamine neurohormone whose levels vary in a daily cycle, thereby allowing the entrainment of the circadian rhythms of several biological functions in animals, plants, and microbes.¹ Many biological effects of melatonin are transduced through melatonin receptors, including the MT₁, MT₂, and MT₃ subtypes.¹ Melatonin also acts as a powerful antioxidant that protects lipids, proteins, and DNA against oxidative damage.^{2,3} Glutathione peroxidase, superoxide dismutases, and catalase are upregulated by melatonin, and melatonin scavenges free radicals as a terminal antioxidant.^{2,3}

References

1. Boutin, J.A., Audinot, V., Ferry, G., *et al.* Molecular tools to study melatonin pathways and actions. *Trends Pharmacol. Sci.* **26(8)**, 412-419 (2005).
2. Reiter, R.J., Tan, D.-X., Manchester, L.C., *et al.* Biochemical reactivity of melatonin with reactive oxygen and nitrogen species. *Cell Biochem. Biophys.* **34(2)**, 237-256 (2001).
3. Reiter, R.J., Tang, L., Garcia, J.J., *et al.* Pharmacological actions of melatonin in oxygen radical pathophysiology. *Life Sci.* **60(25)**, 2255-2271 (1997).

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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