

Product Data Sheet

Product Name: Melatonin-OH

Cat. No.: GC79599

Chemical Properties

Cas. No. 67199-08-0

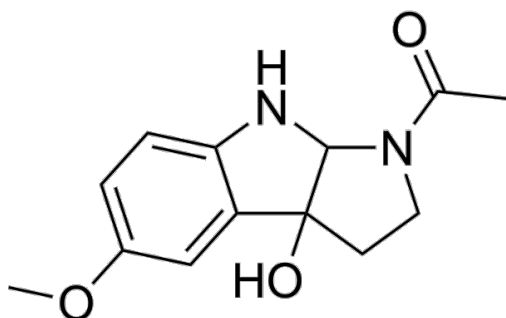
Formula $C_{13}H_{16}N_2O_3$ M.Wt 248.28

Solubility DMSO: ≥ 100 mg/mL (402.77 mM) Storage Store at -20°C , protect from light

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Melatonin -OH is an oxidative Melatonin metabolite with free radical-scavenging activity. Melatonin -OH forms via Melatonin's reaction with hydroxyl radicals ($\cdot\text{OH}$). Melatonin -OH forms via Melatonin's reaction with peroxynitrous acid or its activated form ONOOH [1] [2] [3].

In Vitro, Melatonin-OH (Cyclic 3-hydroxymelatonin) (3COHM) ($5\text{ }\mu\text{g/mL}$) can be accurately detected and quantified via optimized HPLC, with a measured concentration of $4.93\text{ }\mu\text{g/mL}$ for a $5\text{ }\mu\text{g/mL}$ standard solution and a retention time of 8.1 min with excellent peak resolution^[1]. Cyclic 3-hydroxymelatonin (3COHM) ($5\text{ }\mu\text{g/mL}$) can be detected and quantified via optimized MEKC, with a

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measured concentration of 4.70 µg/mL for a 5 µg/mL standard solution, though results differ significantly from HPLC measurements^[1].

References:

- [1]. Hevia D, et al. Development and validation of new methods for the determination of melatonin and its oxidative metabolites by high performance liquid chromatography and capillary electrophoresis, using multivariate optimization. J Chromatogr A. 2010;1217(8):1368-1374.
- [2]. Galano A, et al. Melatonin as a natural ally against oxidative stress: a physicochemical examination. J Pineal Res. 2011;51(1):1-16.
- [3]. Reiter RJ, et al. Free radical-mediated molecular damage. Mechanisms for the protective actions of melatonin in the central nervous system. Ann N Y Acad Sci. 2001 Jun;939:200-15.

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