

# Melatonin

Catalog No: **tcsc1769**



## Available Sizes

**Size:** 1g

**Size:** 5g



## Specifications

**CAS No:**

73-31-4

**Formula:**

$C_{13}H_{16}N_2O_2$

**Pathway:**

GPCR/G Protein;Neuronal Signaling;Autophagy;Autophagy;Metabolic Enzyme/Protease

**Target:**

Melatonin Receptor;Melatonin Receptor;Autophagy;Mitophagy;Endogenous Metabolite

**Purity / Grade:**

>98%

**Solubility:**

DMSO :  $\geq 68$  mg/mL (292.75 mM); Ethanol :  $\geq 50$  mg/mL (215.26 mM)

**Alternative Names:**

N-Acetyl-5-methoxytryptamine

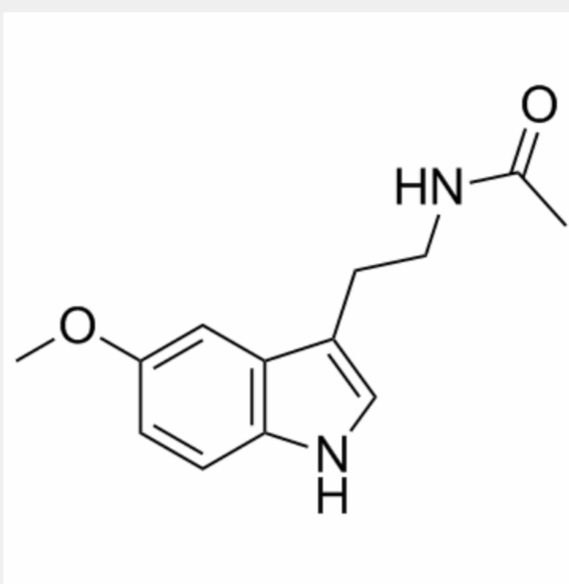
**Observed Molecular Weight:**

232.28

## Product Description

Melatonin, a hormone produced in the brain, is a potent **melatonin receptor** activator, and possesses important antioxidative and anti-inflammatory properties.

**In Vivo:** Melatonin increases the levels of activated PTEN, RSK-1, mTOR and AMPK $\alpha$  kinases, mildly inhibits ERK-1/2 phosphorylation and Bad phosphorylation, significantly inhibits phosphorylations of S6 Ribosomal Protein, 4E-BP1, GSK-3 $\alpha$  and GSK-3 $\beta$ , and slightly increases PRAS40 phosphorylation in animals<sup>[1]</sup>. Melatonin ameliorates the neurotoxicity and astrocyte activation induced by A $\beta$ <sub>1-42</sub> in the cerebral cortex. Melatonin also blocks the reduction in Reelin and Dab1 expression induced by A $\beta$ <sub>1-42</sub><sup>[2]</sup>. Melatonin treatment and lack of NLRP3<sup>-/-</sup> share similar inhibition of NF- $\kappa$ B and NLRP3 signaling pathway in mice. Melatonin treatment and lack of NLRP3<sup>-/-</sup> share some patterns of clock genes expression, and improve cardiomyocytes morphology in mice<sup>[3]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!