Web: www.taiclone.com
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# 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 : ≥ 68 mg/mL (292.75 mM); Ethanol : ≥ 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.

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