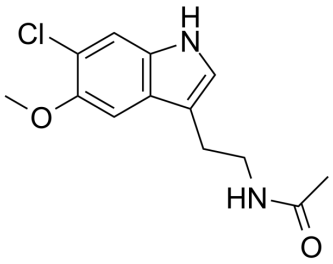
6-Chloromelatonin

Cat. No.:	HY-100940
CAS No.:	63762-74-3
Molecular Formula:	$C_{13}H_{15}ClN_2O_2$
Molecular Weight:	266.72
Target:	Melatonin Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	6-Chloromelatonin is a potent melatonin receptor agonist with greater metabolic stability than melatonin. 6-Chloromelatonin compete for [^{3}H]-melatonin and 2-[^{125}I]-iodomelatonin binding to MT1 receptors (pK_i=8.9 and 9.1, respectively). 6-Chloromelatonin compete for [^{3}H]-melatonin binding to MT2 receptors (pK_i=9.77)[1][2].	
IC_{50} & Target	MT1 8.9 (pKi)	MT2 9.1 (pKi)
In Vitro	6-Chloromelatonin competes for [^{3}H]-melatonin binding sites in human platelet (K_i=11.4 nM)[3]. 6-chloromelatonin (10 pM, 1 nM, 100 nM, 10 μM; 72 hours) inhibits, in a dose-dependent manner, forskolin-stimulated hCG-beta secretion in JEG-3 and BeWo cells but had no effect on basal human chorionic gonadotrophin (hCG-beta) levels[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	Rats injected with the melatonin agonist, 6-chloromelatonin (0.5 mg/kg) on the day after the phase shift has markedly higher excretion rates of 6-sulphatoxymelatonin compared to those of the controls[5]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

REFERENCES

[1]. Browning C, et al. Pharmacological characterization of human recombinant melatonin mt(1) and MT(2) receptors. Br J Pharmacol. 2000;129(5):877-886.

[2]. Clemens JA, et al. Inhibition of luteinizing hormone release and ovulation by 6-chloro- and 6-fluoromelatonin. Neuroendocrinology. 1980;30(2):83-87.

[3]. Vacas MI, et al. Binding sites for [3H]-melatonin in human platelets. J Pineal Res. 1992;13(2):60-65.

[4]. Lanoix D, et al. Expression of melatoninergic receptors in human placental choriocarcinoma cell lines. Hum Reprod. 2006;21(8):1981-1989.

[5]. Kennaway DJ, et al. A melatonin agonist and N-acetyl-N2-formyl-5-methoxykynurenamine accelerate the reentrainment of the melatonin rhythm following a phase advance of the light-dark cycle. Brain Res. 1989;495(2):349-354.

Caution: Product has not been fully validated for medical applications. For research use only.

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