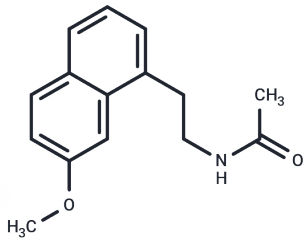
Data Sheet (Cat.No.T1445)

TargetMol

Agomelatine

Chemical Properties



CAS No. : 138112-76-2

Formula: C15H17NO2

Molecular Weight: 243.30

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Agomelatine (Valdoxan) is structurally closely related to melatonin. Agomelatine is a potent agonist at melatonin receptors and an antagonist at serotonin-2C (5-HT2C) receptors, tested in an animal model of depression.
Targets(IC50)	Melatonin Receptor,5-HT Receptor,Endogenous Metabolite
In vitro	Agomelatine enhances cell proliferation and neurogenesis in the ventral hippocampus (VH) of adult rats, a region associated with emotional disorders. It effectively reverses behavior alterations in transgenic mice observed in Porsolt forced swimming tests and elevated plus mazes. Agomelatine significantly accelerates the re-adjustment of circadian rhythms of temperature and activity after induced phase shifts. It increases the duration of positive social interactions in mice exposed to new environments. In the ventral dentate gyrus of rats, which is involved in emotional responses, Agomelatine promotes cell proliferation and neurogenesis, consistent with its anti-depressant and anti-anxiety properties. Across the entire dentate gyrus, Agomelatine boosts the survival of newly generated neurons. It enhances the ratio of mature to immature neurons and promotes dendritic sprouting in the granule cells of adult rats, indicating accelerated maturation. Furthermore, Agomelatine activates several cellular signaling pathways (extracellular signal-regulated kinases 1/2, protein kinase B, and glycogen synthase kinase 3 beta) known to be modulated by antidepressants and involved in proliferation/survival control.
In vivo	In mice subjected to chronic electroshock stress, Agomelatine fully normalized the survival of stress-affected cells in the hippocampus and partially reversed the reduction in glucocorticoid receptor expression.

Solubility Information

Solubility	DMSO: 250.00 mg/mL (1027.54 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: 42.00 mg/mL (172.63 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2.00 mg/mL (8.22 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and*

In vivo Formulation	*used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.1102 mL	20.5508 mL	41.1015 mL
5 mM	0.822 mL	4.1102 mL	8.2203 mL
10 mM	0.411 mL	2.0551 mL	4.1102 mL
50 mM	0.0822 mL	0.411 mL	0.822 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Dagytė G, et al. Behav Brain Res, 2011, 218(1), 121-128.
Barden N, et al. Prog Neuropsychopharmacol Biol Psychiatry, 2005, 29(6), 908-916.
Soumier A, et al. Neuropsychopharmacology, 2009, 34(11), 2390-2403.
Millan MJ, et al. Psychopharmacology (Berl), 2005, 177(4), 448-458.
Banasr M, et al. Biol Psychiatry, 2006, 59(11), 1087-1096.

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