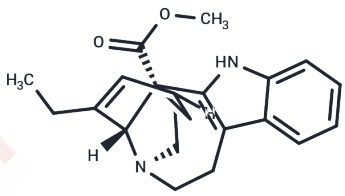
Data Sheet (Cat.No.T2782)

TargetMol

Catharanthine

Chemical Properties



CAS No. : 2468-21-5

Formula: C21H24N2O2

Molecular Weight: 336.43

Storage: Store at low temperature,Keep away from direct sunlight
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	Catharanthine ((+)-3,4-Didehydrocoronaridine) suppresses nicotinic receptor-mediated diaphragm contractions with an IC50 of 59.6 μM.
Targets(IC50)	Calcium Channel,AChR
In vitro	Catharanthine evokes a concentration-dependent attenuation of carbachol responses in the rat ileum preparation, producing rightward curve displacements and decreases in maximal agonist responses. The mixture of serpentine, plus ajmalicine and catharanthine reveals a concentration-dependent inhibitory effect of acethylcholinesterase (AchE), with an IC50 at ca. 2.25 μg/mL. [1] Catharanthine can induce the self-association of tubulin into linear indefinite polymers with an efficacy that is 75% that of vinblastine or vincristine. Catharanthine binds to tubulin alpha-beta dimer with binding constant of 2.8 mM. [2] Catharanthine stimulates release of amylase from pancreatic fragments and to cause extensive degranulation of pancreatic acinar cells with accumulation of membrane material in the Golgi region. Catharanthine induces a delayed release of Ca2+ from prelabeled pancreatic fragments as compared to bethanechol. [3] Catharanthine inhibits epibatidine-induced Ca(2+) influx in TE671-α, -β, -γ, -δ cells in a noncompetitive manner with similar potencies IC50 of 17 mM-25 mM. Catharanthine inhibits [3H]TCP binding to the desensitized Torpedo AChR with higher affinity compared to the resting AChR. Catharanthine enhances [3H]cytisine binding to resting but activatable Torpedo AChRs, suggesting desensitizing properties. [4]

Solubility Information

Solubility	Ethanol: 1 mg/mL (2.97 mM),Sonication is recommended. DMSO: 40 mg/mL (118.9 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (9.81 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	2.9724 mL	14.8619 mL	29.7239 mL
5 mM	0.5945 mL	2.9724 mL	5.9448 mL
10 mM	0.2972 mL	1.4862 mL	2.9724 mL
50 mM	0.0594 mL	0.2972 mL	0.5945 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

Pereira DM, et al. Phytomedicine, 2010, 17(8-9), 646-652.
Prakash V, et al. Biochemistry, 1991, 30(3), 873-880.
Williams JA, et al. Cell Tissue Res, 1978, 192(2), 277-284.
Arias HR, et al. Neurochem Int, 2010, 57(2), 153-161.