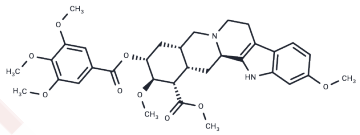
Data Sheet (Cat.No.T0791)

TargetMol

Reserpine

Chemical Properties



CAS No. : 50-55-5

Formula: C33H40N2O9

Molecular Weight: 608.68

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	Reserpine (Serpalan) is an alkaloid isolated from the root of Rauwolfia serpentina. As an inhibitor of vesicular monoamine transporter 2 (VMAT2), it suppresses the uptake of norepinephrine into storage vesicles, leading to depletion of catecholamines and serotonin in central and peripheral nerve terminals. It has antihypertensive and antipsychotic effects and can be used to induce gastric ulcer and depression models.
Targets(IC50)	Autophagy,Monoamine Transporter,MRP,Potassium Channel
In vitro	Compared to the control group, alternate-day subcutaneous injections of reserpine solution (1 mg/kg s.c.) for three days significantly increased the duration of vacuous chewing, tongue protrusion, and facial twitching in rats. Reserpine reduced glutamate uptake in the cortical region of rats and caused a significant depletion of vasopressin/oxytocin - neurophysin-like immunoreactivity (LI) and CRH-L1 in the rat's median eminence. Additionally, reserpine notably restored performance in the delayed response task in monkeys. At a dose of 5 mg/kg, reserpine significantly increased pointless jaw movements in monkeys and reduced grooming behavior across all age groups in rats. A subcutaneous injection of 5 mg/kg reserpine in intact rats decreased extracellular dopamine levels to 4% of baseline values. The impact of reserpine on performance in a visual discrimination task, a reference memory task not reliant on the prefrontal cortex, was minimal.
In vivo	Reserpine was demonstrated to inhibit efflux pumps in 11, 21, and 48 out of the 102 unrelated clinical isolates tested, resulting in a fourfold decrease in the IC50 values and MICs of sparfloxacin, moxifloxacin, and ciprofloxacin, respectively.

Solubility Information

Solubility	DMSO: 50 mg/mL (82.14 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 mg/mL (3.29 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 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	1.6429 mL	8.2145 mL	16.429 mL
5 mM	0.3286 mL	1.6429 mL	3.2858 mL
10 mM	0.1643 mL	0.8214 mL	1.6429 mL
50 mM	0.0329 mL	0.1643 mL	0.3286 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

Schmitz FJ, et al. J Antimicrob Chemother, 1998, 42(6), 807-810.
Kannari K, et al. J Neurochem, 2000, 74(1), 263-269.
Ceccatelli S, et al. Brain Res Mol Brain Res, 1991, 9(1-2), 57-69.
Cai JX, et al. Brain Res, 1993, 614(1-2), 191-196.
Burger ME, et al. Brain Res, 2005, 1031(2), 202-210.
Antkiewicz-Michaluk L, et al. Withdrawal from repeated administration of a low dose of reserpine induced opposing adaptive changes in the noradrenaline and serotonin system function: a behavioral and neurochemical ex vivo and in vivo studies in the rat. Prog Neuropsychopharmacol Biol Psychiatry. 2015 Mar 3;57:146-54.
Hong B, et al. Reserpine Inhibit the JB6 P+ Cell Transformation Through Epigenetic Reactivation of Nrf2-Mediated Anti-oxidative Stress Pathway. AAPS J. 2016 May;18(3):659-69.