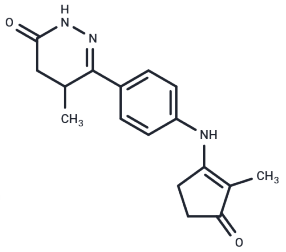
Data Sheet (Cat.No.T12267)

TargetMol

NSP-805

Chemical Properties



CAS No. : 125068-54-4

Formula: C17H19N3O2

Molecular Weight: 297.35

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	NSP-805 is a potent and selective inhibitor of guinea pig cardiac phosphodiesterase 3 (PDE3).
Targets(IC50)	PDE
In vitro	In isolated guinea pig left atria, the positive inotropic EC50 values (microM) ranked by potency were approximately 0.18 (NSP-805), 0.39 (indolidan), 1.1 (MCI-154), 1.7 (NSP-804, milrinone), 2.0 (denopamine), 4.0 (papaverine), 4.4 3-isobutyl-1-methylxanthine (IBMX), 6.5 (imazodan), and 27 (amrinone)[1].
In vivo	In anesthetized dogs, intravenous (i.v.) injection of NSP-804 and NSP-805 produced dose-dependent increases in left ventricular VVdp/dtmax and decreases in aortic blood pressure (ABP) with relatively small increases in heart rate (HR). The ED50 values (micrograms/kg) for LVdP/dtmax of NSP-804, NSP-805, denopamine, milrinone, MCI-154, and indolidan were 15, 12, 22, 23, 15, and 7.3, respectively. When administered intraduodenally to anesthetized dogs, the ED50 values (micrograms/kg) for LVdP/dtmax of NSP-804, NSP-805, milrinone, and indolidan were approximately 30, 10, 200, and 25, respectively. In the propranolol-induced heart failure model, NSP-804 and NSP-805 completely normalized the hemodynamic state. The in vitro positive inotropic effects of NSP-804 and NSP-805 were accompanied by increases in tissue cyclic AMP and abolished by carbachol. NSP-805 was the most potent and selective inhibitor of guinea pig cardiac phosphodiesterase (PDE) III among the agents examined, while NSP-804 was a potent and selective inhibitor of PDE III similar to indolidan[1].

Solubility Information

Solubility	DMSO: 20 mg/mL (67.26 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.363 mL	16.8152 mL	33.6304 mL
5 mM	0.6726 mL	3.363 mL	6.7261 mL
10 mM	0.3363 mL	1.6815 mL	3.363 mL
50 mM	0.0673 mL	0.3363 mL	0.6726 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

Mochizuki N, et al. Cardiovascular effects of NSP-804 and NSP-805, novel cardiotonic agents with vasodilator properties. J Cardiovasc Pharmacol. 1993 Jun;21(6):983-95.
Uchida H, et al. [The effect of phosphodiesterase type 3 inhibitor on chorio-retinal blood flow in rabbits eyes]. Nippon Ganka Gakkai Zasshi. 2002 Oct;106(10):615-20.