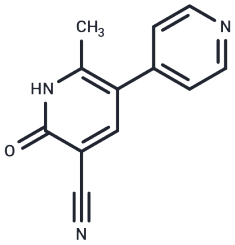
Data Sheet (Cat.No.T1096)

TargetMol

Milrinone

Chemical Properties



CAS No. : 78415-72-2

Formula: C12H9N3O

Molecular Weight: 211.22

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	Milrinone (Win 47203) is a Phosphodiesterase 3 Inhibitor. The mechanism of action of milrinone is as a Phosphodiesterase 3 Inhibitor.
Targets(IC50)	PDE
In vitro	Milrinone is a potent (IC50: 0.16-0.90 μM) and selective (100-fold more potent than peak I) inhibitor of peak III. Milrinone markedly increased cAMP levels and was accompanied by marked vasodilation. The increase in cAMP levels in rabbit coronary artery smooth muscle cells was also concentration-dependent. The concentration-dependent increase in cAMP levels was similar in rabbit and human platelets.Milrinone inhibited human platelet aggregation (IC50: 2 mM). Milrinone increased intracellular cyclic AMP concentrations through an inhibitory effect on type III phosphodiesterase.
In vivo	Milrinone is a potent (IC50: 0.16-0.90 μM) and selective (100-fold more potent than peak I) inhibitor of peak III. Milrinone markedly increased cAMP levels and was accompanied by marked vasodilation. The increase in cAMP levels in rabbit coronary artery smooth muscle cells was also concentration-dependent. The concentration-dependent increase in cAMP levels was similar in rabbit and human platelets.Milrinone inhibited human platelet aggregation (IC50: 2 mM). Milrinone increased intracellular cyclic AMP concentrations through an inhibitory effect on type III phosphodiesterase.

Solubility Information

Solubility	DMSO: 62.5 mg/mL (295.9 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 (9.47 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	4.7344 mL	23.672 mL	47.344 mL
5 mM	0.9469 mL	4.7344 mL	9.4688 mL
10 mM	0.4734 mL	2.3672 mL	4.7344 mL
50 mM	0.0947 mL	0.4734 mL	0.9469 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

Cone J, et al. J Cardiovasc Pharmacol, 1999, 34(4), 497-504.
Li T, Lu D, Yao C, et al. Kansl1 haploinsufficiency impairs autophagosome-lysosome fusion and links autophagic dysfunction with Koolen-de Vries syndrome in mice. Nature Communications. 2022, 13(1): 1-16.
Shipley JB, et al. Am J Med Sci, 1996, 311(6), 286-291.
Silver PJ, et al. J Pharmacol Exp Ther, 1988, 247(1), 34-42.
Shakur Y, et al. Cardiovasc Drugs Ther, 2002, 16(5), 417-427.
Pagel PS, et al. Br J Pharmacol, 1996, 119(3), 609-615.