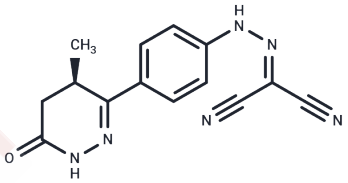
Data Sheet (Cat.No.T2530)

TargetMol

Levosimendan

Chemical Properties



CAS No. : 141505-33-1

Formula: C14H12N6O

Molecular Weight: 280.28

Storage: 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	Levosimendan (OR1259) is a calcium sensitizer used in the management of acutely decompensated congestive heart failure. It increases the sensitivity of the heart to calcium, thus increasing cardiac contractility without a rise in intracellular calcium. Levosimendan exerts its effect by increasing calcium sensitivity of myocytes by binding to cardiac troponin C in a calcium-dependent manner.
Targets(IC50)	Carbonic Anhydrase,Autophagy,PDE,Potassium Channel
In vitro	Levosimendan caused contraction and relaxation of failing human cardiomyocytes, with a mean maximum increase in twitch tension of 47% at 0.8 μM Levosimendan. Levosimendan induced a rapid dose-dependent increase in hemodynamic functions in patients with compensated heart failure.Levosimendan caused a significant hyperpolarization (EPS) of resting potential (EPS) in rat mesenteric artery myocytes. The resting potential of rat mesenteric artery myocytes was markedly hyperpolarized by Levosimendan (EC50: 2.9 μM), with a maximal effect at 10 μM (19.5 mV), which may be produced by activation of glibenclamide-sensitive K+ channels.Levosimendan (3 μM) reduced the Ca50 from 2.73 μM to 1.19 μM.
In vivo	Levosimendan caused contraction and relaxation of failing human cardiomyocytes, with a mean maximum increase in twitch tension of 47% at 0.8 μM Levosimendan. Levosimendan induced a rapid dose-dependent increase in hemodynamic functions in patients with compensated heart failure.Levosimendan caused a significant hyperpolarization (EPS) of resting potential (EPS) in rat mesenteric artery myocytes. The resting potential of rat mesenteric artery myocytes was markedly hyperpolarized by Levosimendan (EC50: 2.9 μM), with a maximal effect at 10 μM (19.5 mV), which may be produced by activation of glibenclamide-sensitive K+ channels.Levosimendan (3 μM) reduced the Ca50 from 2.73 μM to 1.19 μM.

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 250 mg/mL (891.97 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 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 (7.14 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	3.5679 mL	17.8393 mL	35.6786 mL
5 mM	0.7136 mL	3.5679 mL	7.1357 mL
10 mM	0.3568 mL	1.7839 mL	3.5679 mL
50 mM	0.0714 mL	0.3568 mL	0.7136 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

Haikala H, J Mol Cell Cardiol, 1995, 27(9), 1859-1866.
Yokoshiki H, Eur J Pharmacol, 1997, 333(2-3), 249-259.
Hasenfuss G, Circulation, 1998, 98(20), 2141-2147.
Slawsky MT, Circulation, 2000, 102(18), 2222-2227.
Edes I, Circ Res, 1995, 77(1), 107-113.