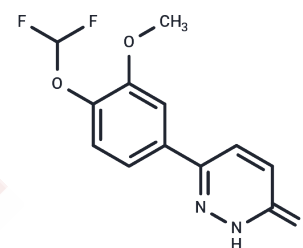


Zardaverine

Chemical Properties

CAS No. :	101975-10-4
Formula:	C ₁₂ H ₁₀ F ₂ N ₂ O ₃
Molecular Weight:	268.22
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	Zardaverine (BY 290) is an orally available, selective and potent PDE3/4 inhibitor with bronchodilator activity and anti-hepatocarcinogenic activity. Zardaverine's action in platelets is mediated by PDE III isoenzymes and can be used in studies of acute renal failure and chronic airflow obstruction.
Targets(IC50)	Apoptosis,PDE
In vitro	Zardaverine selectively inhibits the growth of human hepatocellular carcinoma (HCC) cells in vitro when administered at concentrations ranging from 0 to 30 μM for 72 hours [3]. Selective antitumor activity of Zardaverine is observed, closely related to the regulation of cell cycle-associated proteins, but independent of PDE3/4 inhibition[3]. At a concentration of 0.1 μM for 24 hours, Zardaverine selectively induces G0/G1-phase arrest and dysregulates cell cycle-associated proteins in HCC cells[3]. Zardaverine induces apoptosis in a time- and concentration-dependent manner in Bel-7402 and SMMC-7721 cells. The concentrations used include 0.01, 0.03, 0.1, 0.3, and 1 μM over 48 hours, as well as 0.3 and 1 μM over 24, 36, 48, 60, and 72 hours[3].

Solubility Information

Solubility	DMSO: 20 mg/mL (74.57 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 (7.46 mM), Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7283 mL	18.6414 mL	37.2828 mL
5 mM	0.7457 mL	3.7283 mL	7.4566 mL
10 mM	0.3728 mL	1.8641 mL	3.7283 mL
50 mM	0.0746 mL	0.3728 mL	0.7457 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

- Schudt C, et al. Zardaverine: a cyclic AMP specific PDE III/IV inhibitor. Agents Actions Suppl. 1991;34:379-402.
- Kips JC, et al. The effect of zardaverine, an inhibitor of phosphodiesterase isoenzymes III and IV, on endotoxin-induced airway changes in rats. Clin Exp Allergy. 1993 Jun;23(6):518-23.
- Sun L, et al. Phosphodiesterase 3/4 inhibitor zardaverine exhibits potent and selective antitumor activity against hepatocellular carcinoma both in vitro and in vivo independently of phosphodiesterase inhibition. PLoS One. 2014 Mar 5;9(3):e90627.

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