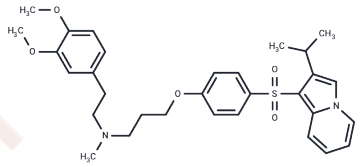
Data Sheet (Cat.No.T4669)

TargetMol

Fantofarone

Chemical Properties



CAS No. : 114432-13-2

Formula: C31H38N2O5S

Molecular Weight: 550.71

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	Fantofarone (SR 33557) is a highly potent antagonist of Calcium Channel.
Targets(IC50)	Calcium Channel,Parasite
In vitro	Calcium channel blockers VIZ and Fantofarone (SR) exhibit modest antimalarial effects compared to chloroquine (CQ), with slightly greater efficacy against CQ-resistant parasites. Notably, Fantofarone is approximately 10 times more effective than verapamil. Isobologram analysis indicates these blockers enhance CQ sensitivity in CQ-resistant P. falciparum, with verapamil being 2 to 3 times more effective than Fantofarone in reducing CQ resistance at comparable subinhibitory concentrations.
In vivo	Administration of isosorbide dinitrate (0.3 mg/kg, i.v.) or Fantofarone (50 mg/kg, i.v.) results in a decrease in both the frequency and severity of vasospasm, with Fantofarone showing the greatest efficacy in mitigating vasospasm across both distal and proximal regions. In contrast, verapamil (0.2 mg/kg, i.v.) exhibits markedly less effectiveness. While isosorbide dinitrate effectively suppresses distal arterial intraluminal volume (AIV) reduction, it does not significantly impact the decrease in proximal diameter. Conversely, Fantofarone stands out for its substantial reduction of AIV across the experiment, whereas verapamil fails to significantly affect AIV.
Animal Research	Male White rabbits are used in this study (3.0-3.2 kg). All surgical procedures are performed under anaesthesia with a mixture of ketamine and xylazine. At the end of the experiments, the animals are sacrificed by a pentobarbital overdose. The proximal femoral arteries are exposed, and the isolated arterial segments are desiccated by air infusion delivered at a rate of 80 mL/min for 8 min. After desiccation is completed, the ligatures are released and flow is restored. At the day of surgery, a 2% cholesterol/6% peanut oil diet is started for 2 weeks. Before angioplasty, the animals are randomized in 4 groups of 10 animals:1. Placebo, 1 mL/kg of NaCl 0.9%, 2. Isosorbide dinitrate, 0.3 mg/kg, 3. Verapamil, 0.2 mg/kg, 4. Fantofarone, 50 mg/kg. The doses of isosorbide dinitrate, verapamil, and fantofarone are defined in a pilot experiment as the highest doses which did not show any hypotensive effect per se and are chosen very carefully according to their activity measured in other pharmacological models.

Solubility Information

Solubility	DMSO: 150 mg/mL (272.38 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: 4 mg/mL (7.26 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	1.8158 mL	9.0792 mL	18.1584 mL
5 mM	0.3632 mL	1.8158 mL	3.6317 mL
10 mM	0.1816 mL	0.9079 mL	1.8158 mL
50 mM	0.0363 mL	0.1816 mL	0.3632 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

Adovelande J, et al. Synergy between two calcium channel blockers, verapamil and fantofarone (SR33557), in reversing chloroquine resistance in Plasmodium falciparum. Biochem Pharmacol. 1998 Feb 15;55(4):433-40.
Dongay B, et al. Effect of fantofarone, a new Ca2+ channel antagonist, on angioplasty-induced vasospasm in an atherosclerotic rabbit model. Biochem Pharmacol. 1998 Jun 15;55(12):2047-50.

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