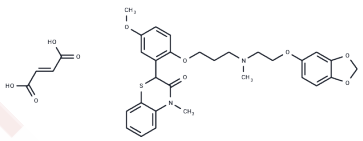
Data Sheet (Cat.No.T12880)

TargetMol

Semotiadil recemate fumarate

Chemical Properties



CAS No. : 123388-25-0

Formula: C33H36N2O10S

Molecular Weight: 652.71

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	Semotiadil recemate fumarate, the recemate of Semotiadil fumarate, is a novel antagonist of vasoselective Ca2+ channel.
Targets(IC50)	Calcium Channel
In vitro	Semotiadil at a concentration of 1 μM inhibits ICa by 12.4±9.7%, and at 10 μM, the inhibition increases to 25±11.0%[1]. When applied at concentrations of 0.1 μM or higher in DMSO, Semotiadil inhibits ICa in a dose-dependent manner with an IC50 of 2.0 μM at a holding potential of -100 mV. At holding potentials of -80 mV or -60 mV, Semotiadil shifts the concentration-inhibition curve and the voltage-dependent inactivation curve to the left, indicating enhanced inhibition compared with -100 mV. Analysis of ICa decay reveals two time constants, with Semotiadil at concentrations below 1 μM reducing the slow time constant without affecting the fast one. Additionally, in the recovery from ICa inactivation characterized by two time constants, Semotiadil at 1 μM prolongs the slow recovery phase. Notably, Semotiadil is more potent in inhibiting ICa when dissolved in deionized water than in DMSO[2].
In vivo	Semotiadil fumarate, an innovative benzothiazine calcium antagonist, is administered either solo or concomitantly with Enalapril or trichlormethiazide to conscious, spontaneously hypertensive rats for a duration of two weeks. Notably, the antihypertensive effects of Semotiadil (10 mg/kg, p.o.) and Enalapril (5 mg/kg, p.o.) begin to manifest after the third administration, with daily progressive enhancement of effects, although efficacy diminishes before subsequent doses. A regimen comprising low-dose daily co-administration of Semotiadil and Enalapril, in particular, shows promise for sustained hypertension management.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.5321 mL	7.6604 mL	15.3207 mL
5 mM	0.3064 mL	1.5321 mL	3.0641 mL
10 mM	0.1532 mL	0.766 mL	1.5321 mL
50 mM	0.0306 mL	0.1532 mL	0.3064 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

Koidl B, et al. A novel benzothiazine Ca
Teramoto N. Mechanisms of the inhibitory action of Semotiadil fumarate, a novel Ca antagonist, on the voltage-dependent Ca current in smooth muscle cells of the rabbit portal vein. Jpn J Pharmacol. 1993 Mar;61(3):183-95.
Ichikawa M, et al. Antihypertensive effects of a novel calcium antagonist, Semotiadil fumarate (SD-3211), alone and in combination with Enalapril or trichlormethiazide in spontaneously hypertensive rats. Biol Pharm Bull. 1994 Nov;17(11):1513-5.