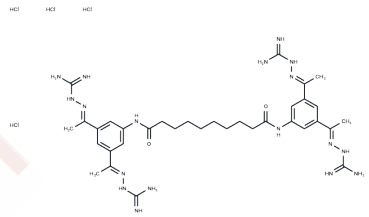
Data Sheet (Cat.No.T35593)

TargetMol

Semapimod tetrahydrochloride

Chemical Properties



CAS No. : 164301-51-3

Formula: C34H56Cl4N18O2

Molecular Weight: 890.74

Storage: Keep away from direct sunlight,Keep away from moisture
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	Semapimod tetrahydrochloride (CPSI-2364 tetrahydrochloride) is a synthetic ornithine mitogen-activated protein kinase blocker and pro-inflammatory cytokine production inhibitor that interferes with macrophage and microglia function. Sematimod tetrahydrochloride inhibits TLR4 signaling, TNF-α, IL-1β, and IL-6, and is used in the study of Crohn's disease and other inflammatory conditions.
Targets(IC50)	MAPK,Interleukin,p38 MAPK,TLR,TNF
In vivo	In male OZ rats, Semapimod tetrahydrochloride (5 mg/kg; i.p.; once daily for 2 weeks) restored endothelium-dependent vasorelaxation[1].

Solubility Information

Solubility	DMSO: 1 mg/mL (1.12 mM),Sonication is recommended. H2O: 1 mg/mL (1.12 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1227 mL	5.6133 mL	11.2266 mL
5 mM	0.2245 mL	1.1227 mL	2.2453 mL
10 mM	0.1123 mL	0.5613 mL	1.1227 mL
50 mM	0.0225 mL	0.1123 mL	0.2245 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

Nishimatsu H, et al. Blockade of endogenous proinflammatory cytokines ameliorates endothelial dysfunction in obese Zucker rats. Hypertens Res. 2008;31(4):737-743.
Wehner S, Set al. Inhibition of p38 mitogen-activated protein kinase pathway as prophylaxis of postoperative ileus in mice. Gastroenterology. 2009;136(2):619-629.
Wang J, et al. Experimental Anti-Inflammatory Drug Semapimod Inhibits TLR Signaling by Targeting the TLR Chaperone gp96. J Immunol. 2016;196(12):5130-5137.
Miller IS, et al. Semapimod sensitizes glioblastoma tumors to ionizing radiation by targeting microglia. PLoS One. 2014 May 9;9(5):e95885.