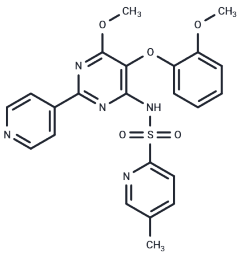
Data Sheet (Cat.No.TQ0282)

TargetMol

Avosentan

Chemical Properties



CAS No. : 290815-26-8

Formula: C23H21N5O5S

Molecular Weight: 479.51

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	Avosentan(Ro 67-0565; SPP-301) is a potent endothelin receptor (ETA) antagonist with strong inhibitory effects on endothelin-1-induced contraction and may have protective effects against chronic kidney disease. [2]
Targets(IC50)	Endothelin Receptor
In vivo	**METHODS**: Avosentan (Ro 67-0565; SPP-301) was administered by intragastric administration in a single dose (6 rats per group: 0.1, 1.0, 10, 100 mg/kg). Rats were placed in metabolic cages for 24 hours after administration to assess body fluid electrolyte homeostasis. **RESULTS** The highest dose (100 mg/kg) of Avosentan (Ro 67-0565; SPP-301) resulted in reduced 24-hour diuresis (18.3%) and natriuresis (17.6%), hematocrit, and hematocrit in a hypertensive dTGR model Then it dropped. [1] **METHODS**: Apolipoprotein E (Apoe) knockout (KO) mice were randomly assigned to the following groups: nondiabetic controls and streptozotocin-induced diabetic animals treated daily with placebo, Avosentan (Ro 67-0565; SPP -301) (high dose: 30 mg/kg, or low dose: 10 mg/kg) by intragastric administration for 20 weeks. **RESULTS** Blood pressure remained unchanged after Avosentan (Ro 67-0565; SPP-301) treatment. High-dose Avosentan (Ro 67-0565; SPP-301) could significantly reduce diabetes-related albuminuria after 10 and 20 weeks of treatment. Creatinine clearance was normalized with Avosentan (Ro 67-0565; SPP-301). In diabetic mice, high-dose Avosentan (Ro 67-0565; SPP-301) treatment significantly attenuated the glomerulosclerosis index, mesangial matrix accumulation, glomerular accumulation of the matrix protein collagen IV, and the encoded connective tissue growth factor , renal expression of genes for vascular endothelial growth factor, transforming growth factor beta, and nuclear factor kappa B (p65 subunit). [2]

Solubility Information

Solubility	H2O: Insoluble, DMSO: 45 mg/mL (93.85 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: 1 mg/mL (2.09 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*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	2.0855 mL	10.4273 mL	20.8546 mL
5 mM	0.4171 mL	2.0855 mL	4.1709 mL
10 mM	0.2085 mL	1.0427 mL	2.0855 mL
50 mM	0.0417 mL	0.2085 mL	0.4171 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

Baltatu OC, et al. Avosentan is protective in hypertensive nephropathy at doses not causing fluid retention. Pharmacol Res. 2014 Feb;80:9-13.

Watson AM,et al. The endothelin receptor antagonist avosentan ameliorates nephropathy and atherosclerosis in diabetic apolipoprotein E knockout mice. Diabetologia. 2010 Jan;53(1):192-203.

Dieterle W, Hengelage T. Absolute bioavailability and pharmacokinetics of avosentan in man. Int J Clin Pharmacol Ther. 2009 Sep;47(9):587-94.

Mann JF, Green D, Jamerson K, Ruilope LM, Kuranoff SJ, Littke T, Viberti G; ASCEND Study Group. J Am Soc Nephrol. 2010 Mar;21(3):527-35.

Effect of SPP 301, an Endothelin Antagonist, on Intraocular Pressure in Glaucomatous Monkey Eyes By Wang, Rong-Fang; Podos, Steven M.; Serle, Janet B.; Baltatu, Ovidiu C. From Current Eye Research (2011), 36(1), 41-46.

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