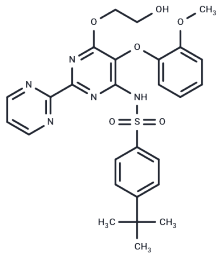
Data Sheet (Cat.No.T6264)

TargetMol

Bosentan

Chemical Properties



CAS No. : 147536-97-8

Formula: C27H29N5O6S

Molecular Weight: 551.614

Storage: Store at low temperature
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	Bosentan (Benzenesulfonamide) is a sulfonamide-derived, competitive and specific endothelin receptor antagonist with a slightly higher affinity for the endothelin A receptor than endothelin B receptor. Bosentan blocks the action of endothelin 1, an extremely potent endogenous vasoconstrictor and bronchoconstrictor, by binding to endothelin A and endothelin B receptors in the endothelium and vascular smooth muscle. Bosentan decreases both pulmonary and systemic vascular resistance and is particularly used in the treatment of pulmonary arterial hypertension.
Targets(IC50)	Endothelin Receptor
In vitro	In vitro, bosentan has been shown to improve human endothelial cell and reduce neointimal and smooth muscle proliferation[3].
In vivo	In pigs in vivo, bosentan has been shown to partially restore hypoxia-induced reductions in nitric oxide[3].
Cell Research	Incubation solutions containing bosentan (1, 10 and 100 μM) are prepared in cell culture medium. On the sixth day of culturing of the sandwich-cultured hepatocytes, cell culture medium is removed from the wells and incubation solution containing bosentan is added to the cells. The cells were incubated with the solution for 24 h at 37°C. After the exposure, the incubation solution id removed and the cells are rinsed with Plus (+) or Minus (−) buffer. The buffer solution is then removed and the cells are incubated with fresh Plus (+) or Minus (−) buffer for 5 min at 37°C. Following this 5 minute incubation, the buffer solution is collected and any remaining buffer is removed. The cells are then washed three times with ice-cold Plus (+) buffer and the plates are frozen at −80°C until processed for bioanalysis. (Only for Reference)

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: 3 mg/mL (5.44 mM),Sonication is recommended. DMSO: 245 mg/mL (444.15 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 (3.63 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	1.8129 mL	9.0644 mL	18.1288 mL
5 mM	0.3626 mL	1.8129 mL	3.6258 mL
10 mM	0.1813 mL	0.9064 mL	1.8129 mL
50 mM	0.0363 mL	0.1813 mL	0.3626 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

Dhillon S, et al. Am J Cardiovasc Drugs,2009;9(5):331-50.
Yoon J, Lee D G, Song H, et al.Xelaglifam, a novel GPR40/FFAR1 agonist, exhibits enhanced β-arrestin recruitment and sustained glycemic control for type 2 diabetes.Biomedicine & Pharmacotherapy.2024, 177: 117044.
Iglarz M, et al. Life Sci. 2014, 118(2):333-339.
Ilsar R, et al. Eur Respir J. 2010, 36(6):1483-1485.
Lepist EI, et al. PLoS One. 2014, 9(1):e87548.