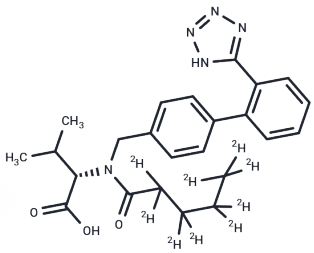
Data Sheet (Cat.No.T13282)

TargetMol

Valsartan-D9

Chemical Properties



CAS No. : 1089736-73-1

Formula: C24H29N5O3

Molecular Weight: 444.574

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	Valsartan-D9 is a deuterium-labeled valsartan. Valsartan (T6716) is an antagonist of the angiotensin II receptor and for the treatment of high blood pressure and heart failure.
Targets(IC50)	RAAS
In vitro	In ageing aorta endothelial cells, Valsartan is a synthetic antagonist of non-peptide angiotensin II type 1 receptor that dilates blood vessels and reduces blood pressure by blocking the action of angiotensin. Valsartan significantly decreases the expression of AT1R [1].The pretreatment of valsartan can inhibit TLR2 signaling and proinflammatory cytokines. The expression of AGTR1 was up-regulated after alcohol exposure and was blocked by valsartan pretreatment[2].
In vivo	In rats after MI. Heart function, Valsartan significantly attenuates the expression of TGF-β/Smad, Hif-1α and fibrosis-related protein , infarcted size, wall thickness as well as myocardial vascularization of ischaemic hearts are also significantly improved by valsartan compared with saline and hydralazine[3]. Valsartan partially reverses the effects of high-salt diet on hypertension, cardiac injuries such as fibrosis and inflammatory cell infiltration, and inhibition of aquaporin 1 and angiogenic factors; valsartan alone does not exert such effects[4]. Valsartan is an effective antidepressant/antianxiety reagent and can promote the hippocampal neurogenesis and expression of BDNF.Long-term use of valsartan (5-40 mg/kg/d, oral) increases the time spent in OFT field centers and the latency to eating in NSF, reduces the fixed time of TST and FST, and increases the preference for sucrose SPT[5].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2494 mL	11.2468 mL	22.4936 mL
5 mM	0.4499 mL	2.2494 mL	4.4987 mL
10 mM	0.2249 mL	1.1247 mL	2.2494 mL
50 mM	0.045 mL	0.2249 mL	0.4499 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

Shan H, et al. Valsartan ameliorates ageing-induced aorta degeneration via angiotensin II type 1 receptor-mediated ERK activity. J Cell Mol Med. 2014 Jun;18(6):1071-80.
Wang Y, et al. Valsartan blocked alcohol-induced, Toll-like receptor 2 signaling-mediated inflammation in human vascular endothelial cells. Alcohol Clin Exp Res. 2014 Oct;38(10):2529-40.
Sui X, et al. Novel mechanism of cardiac protection by valsartan: synergetic roles of TGF-β1 and HIF-1α in Ang II-mediated fibrosis after myocardial infarction. J Cell Mol Med. 2015 Aug;19(8):1773-82.
Jiang Y, et al. Cardioprotective effect of valsartan in mice with short-term high-salt diet by regulating cardiac aquaporin 1 and angiogenic factor expression. Cardiovasc Pathol. 2015 Jul-Aug;24(4):224-9.
Ping G, et al. Valsartan reverses depressive/anxiety-like behavior and induces hippocampal neurogenesis and expression of BDNF protein in unpredictable chronic mild stress mice. Pharmacol Biochem Behav. 2014 Sep;124:5-12.