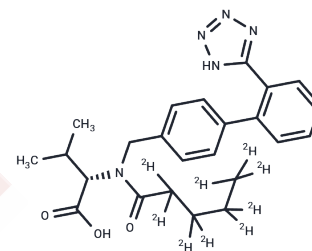


Valsartan-D9

Chemical Properties

| | |
|-------------------|---|
| CAS No. : | 1089736-73-1 |
| Formula: | C ₂₄ H ₂₉ N ₅ O ₃ |
| 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- β 1 and HIF-1 α 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.

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