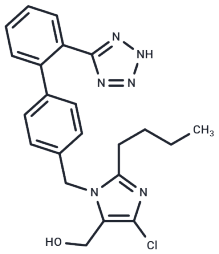
Data Sheet (Cat.No.T0215L)

TargetMol

Losartan

Chemical Properties



CAS No. : 114798-26-4

Formula: C22H23ClN6O

Molecular Weight: 422.91

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Losartan (DuP-753) is an angiotensin II receptor antagonist.
Targets(IC50)	RAAS
In vitro	Losartan competes with the binding of angiotensin II to AT1 receptors, with an IC50 of 20 nM[1]. At 40 μM, losartan affects ISC and prevents the effect of ANGII on ISC[2]. It significantly reduces Ang II-mediated cell proliferation in endometrial cancer cells, with a greater antiproliferative effect when combined with anti-miR-155 compared to each drug alone[3].
In vivo	Losartan (0.6 g/L, p.o.)-treated Fbn1C1039 g/+ mice show reduced distal airspace caliber compared to placebo-treated counterparts. The dosages of losartan and propranolol are titrated to achieve similar hemodynamic effects. Analysis of pSmad2 nuclear staining indicates that losartan antagonizes TGF-β signaling in the aortic wall of Fbn1C1039 g/+ mice, improving lung disease manifestations independently of hemodynamics[4]. Losartan (10 mg/kg, intraarterial injection) increases blood angiotensin levels by four- to sixfold. Losartan (10 mg/kg, i.p.) increases plasma renin levels by 100-fold, decreases plasma angiotensinogen levels to 24% of control, and leaves plasma aldosterone levels unchanged[5].
Cell Research	An MTT assay is used to measure cell proliferation and viability. For the assay, 5000 cells in 200?μL media per well are seeded in a 96 well plate. After overnight incubation to allow for cell attachment, the medium is removed by suction. MTT at 1?mg/mL concentration in serum-free medium is added and then incubated for 4?h at 37°C. After removal of MTT solution, 100?μL of DMSO is added to dissolve formazan crystals. Absorbance at 570?nm and at 600?nm as a reference is then measured using a microplate reader. The difference in absorbance is thus relative to the extent of cell survival.

Solubility Information

Solubility	DMSO: 45 mg/mL (106.41 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3646 mL	11.8228 mL	23.6457 mL
5 mM	0.4729 mL	2.3646 mL	4.7291 mL
10 mM	0.2365 mL	1.1823 mL	2.3646 mL
50 mM	0.0473 mL	0.2365 mL	0.4729 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.

Reference

Burnier, M. Angiotensin II type 1 receptor blockers. Circulation, 2001. 103(6): p. 904-12.
Zhang Y, Song Z, Huang S, et al. Aloe emodin relieves Ang II-induced endothelial junction dysfunction via promoting ubiquitination mediated NLRP3 inflammasome inactivation. Journal of Leukocyte Biology. 2020, 108(6): 1735-1746
Zhang L, Zhang B, Yu Y, et al. Angiotensin II Increases HMGB1 Expression in the Myocardium Through AT1 and AT2 Receptors When Under Pressure Overload. International Heart Journal. 2021: 20-384
Ashry, O., et al. Evidence for expression and function of angiotensin II receptor type 1 in pulmonary epithelial cells. Respir Physiol Neurobiol, 2014.
Choi, C.H., et al. Angiotensin II type I receptor and miR-155 in endometrial cancers: synergistic antiproliferative effects of anti-miR-155 and losartan on endometrial cancer cells. Gynecol Oncol, 2012. 126(1): p. 124-31.
Habashi, J.P., et al. Losartan, an AT1 antagonist, prevents aortic aneurysm in a mouse model of Marfan syndrome. Science, 2006. 312(5770): p. 117-21.
Campbell, D.J., et al. Effects of losartan on angiotensin and bradykinin peptides and angiotensin-converting enzyme. J Cardiovasc Pharmacol, 1995. 26(2): p. 233-40.
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Zhang Y, Song Z, Huang S, et al. Aloe emodin relieves Ang II-induced endothelial junction dysfunction via promoting ubiquitination mediated NLRP3 inflammasome inactivation[J]. Journal of Leukocyte Biology. 2020, 108 (6): 1735-1746.