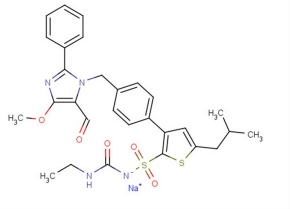
Data Sheet (Cat.No.T14354)

TargetMol
A DRUG SCREENING EXPERT

AVE 0991 sodium salt

Chemical Properties



CAS No.:	306288-04-0
Formula:	C29H31N4NaO5S2
Molecular Weight:	602.7
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	AVE 0991 competes for high-affinity binding of [125I]-Ang-(1-7) to bovine aortic endothelial cell membranes, with IC50 of 21±35 nM. AVE 0991 sodium salt is a nonpeptide and orally active Ang-(1-7) receptor Mas agonist.
Targets(IC_{50})	Ang-1-7 receptor: 21±35 nM
In vitro	AVE 0991 is a nonpeptide compound that evokes effects similar to Ang-(1-7) on the endothelium. Peak concentrations of NO and O2- release by AVE 0991 sodium salt and Ang-(1-7) (both 10 μM) are not significantly different (NO: 295±20 and 270±25 nM; O2-: 18±2 and 20±4 nM), but the released amount of bioactive NO is ≈5 times higher for AVE 0991 in comparison to Ang-(1-7)[1]. AVE 0991 and unlabeled Ang-(1-7) compete for high-affinity binding of [125I]-Ang-(1-7) to bovine aortic endothelial cell membranes with IC50s of 21±35 and 220±280 nM, respectively.
In vivo	The antidiuretic effect of AVE 0991 (AVE) is associated with an increase in urine osmolality (1669±231.0 mOsm/KgH2O versus 681.1±165.8 mOsm/KgH2O in vehicle-treated mice; P<0.01). AVE 0991 (0.58 nmol/g) produces a significant decrease of water diuresis in WT mice compared with vehicle-treated animals (0.06±0.03 mL versus 0.27±0.05; n=9 for each group; P<0.01). As observed with C57BL/6 mice, administration of AVE 0991 (0.58 nmol/g) in water-loaded Swiss mice also produces a significant decrease of the urinary volume compared with vehicle-treated animals (0.13±0.05 mL [n=16] versus 0.51±0.04 mL [n=40]; P<0.01)[2]. The genetic deletion of Mas abolishes the antidiuretic effect of AVE 0991 during water loading (0.37±0.10 mL [n=9] versus 0.27±0.03 mL [n=11] in AVE 0991-treated mice). One week of treatment with AVE-0991 produces a significant decrease in perfusion pressure (56.55±0.86 vs. 68.73±0.69 mmHg in vehicle-treated rats) and an increase in systolic tension (11.40±0.05 vs. 9.84±0.15 g in vehicle-treated rats), rate of tension rise (+dT/dt; 184.30±0.50 vs. 155.20±1.97 g/s in vehicle-treated rats), rate of tension fall (−dT/dt; 179.60±1.39 vs. 150.80±2.42 g/s in vehicle-treated rats). A slight increase in heart rate (HR) is also observed (220.40±0.71 vs. 214.20±0.74 beats/min in vehicle-treated rats[3].

Solubility Information

Solubility	DMSO: 55 mg/mL (91.26 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.659 mL	8.296 mL	16.592 mL
5 mM	0.332 mL	1.659 mL	3.318 mL
10 mM	0.166 mL	0.83 mL	1.659 mL
50 mM	0.033 mL	0.166 mL	0.332 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Wiemer G, et al. AVE 0991, a nonpeptide mimic of the effects of angiotensin-(1-7) on the endothelium. Hypertension. 2002 Dec;40(6):847-52.

2. Pinheiro SV, et al. Nonpeptide AVE 0991 is an angiotensin-(1-7) receptor Mas agonist in the mouse kidney. Hypertension. 2004 Oct;44(4):490-6.

3. Ferreira AJ, et al. The nonpeptide angiotensin-(1-7) receptor Mas agonist AVE-0991 attenuates heart failure induced by myocardial infarction. Am J Physiol Heart Circ Physiol. 2007 Feb;292(2):H1113-9.

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