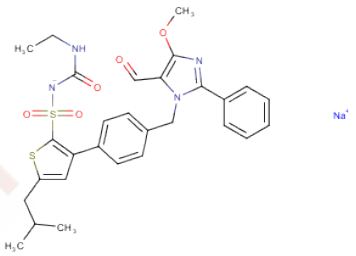
Data Sheet (Cat.No.T14354)

TargetMol

AVE 0991 sodium salt

Chemical Properties



CAS No. : 306288-04-0

Formula: C29H31N4NaO5S2

Molecular Weight: 602.7

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	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(IC50)	RAAS,Others
In vitro	AVE 0991 is a nonpeptide compound that elicits effects similar to Ang-(1-7) on the endothelium. The 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 amount of bioactive NO released is approximately five times higher for AVE 0991. Both 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[1].
In vivo	AVE 0991 (AVE) demonstrates an antidiuretic effect marked by an elevated urine osmolality (1669±231.0 mOsm/KgH2O compared to 681.1±165.8 mOsm/KgH2O in vehicle-treated mice; P<0.01) and significantly reduces water diuresis in WT mice (0.06 ±0.03 mL versus 0.27±0.05 mL; n=9 per group; P<0.01). Similarly, in water-loaded Swiss mice, AVE 0991 administration (0.58 nmol/g) significantly lowers urinary volume (0.13 ±0.05 mL [n=16] versus 0.51±0.04 mL [n=40]; P<0.01). However, the antidiuretic effect is negated by the genetic deletion of Mas (0.37±0.10 mL [n=9] versus 0.27±0.03 mL [n=11] in AVE 0991-treated mice). Furthermore, a week-long treatment with AVE-0991 notably decreases perfusion pressure (56.55±0.86 vs. 68.73±0.69 mmHg in vehicle-treated rats), enhances systolic tension (11.40±0.05 vs. 9.84±0.15 g), increases both the rate of tension rise (+dT/dt; 184.30±0.50 vs. 155.20±1.97 g/s) and fall (–dT/dt; 179.60±1.39 vs. 150.80 ±2.42 g/s), and slightly raises heart rate (220.40±0.71 vs. 214.20±0.74 beats/min in vehicle-treated rats).

Solubility Information

Solubility	DMSO: 55 mg/mL (91.26 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: 2.5 mg/mL (4.15 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*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	1.6592 mL	8.296 mL	16.592 mL
5 mM	0.3318 mL	1.6592 mL	3.3184 mL
10 mM	0.1659 mL	0.8296 mL	1.6592 mL
50 mM	0.0332 mL	0.1659 mL	0.3318 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

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.
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.
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.