Product Data Sheet

Product Name: NCX899
Cat. No.: GC32560

Chemical Properties

Cas. No.	690655-41-5		
SMILES	O=C(OCCCO[N+]([O-])=O)[C@H]1N(C([C@H](C)N[C@H](C(OCC)=O)CCC2=CC=CC=C2)=O)CCC1		
Formula	$C_{23}H_{33}N_3O_8$	M.Wt	479.52
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	NCX899		

Protocol

Animal experiment:	Enalapril (40 nmol/kg per min), NCX899 (35 nmol/kg per min) or sterile saline are infused at a flow rate of 0.5 mL/min over 15 min. Next, cumulative doses of NG-nitro-l-arginine methyl ester (l-NAME; 0.1-10 mg/kg) are injected during infusion of enalapril, NCX899 or saline infusion. The l-NAME is infused at a rate of 0.5 mL/min over 15 min for each dose. At the end of each infusion, the resulting haemodynamic changes are recorded. The total dose administered of NCX899 and enalapril throughout the protocols is 3.5 and 4.0 μmol/kg, respectively. The haemodynamic variables are measured before and after each l-NAME dose in all groups. The MABP and HR are displayed continuously on a computer monitor and are recorded on a printer coupled to this system. Measurements of the haemodynamic events are performed in triplicate for each time period.

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References:

[1]. Iwanaga Y, et al. A nitric oxide-releasing derivative of enalapril, NCX 899, prevents progressive cardiac dysfunction and remodeling in hamsters with heart failure. FASEB J. 2004 Mar;18(3):587-8. Epub 2004 Jan 20.
[2]. Okuyama CE, et al. Pharmacokinetics and pharmacodynamics of a nitric oxide-releasing derivative of enalapril in male beagles. Clin Exp Pharmacol Physiol. 2007 Apr;34(4):290-5.

Background

NCX899 is a NO-releasing derivative of enalapril, and shows inhibitory activity against angiotensin-converting enzyme (ACE) activity.

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NCX 899 (NCX, 25 mg/kg, n=10) decreases the end-diastolic dimension in cardiomyopathic (CM) with heart failure. NCX 899 inhibits ACE activity and increases the plasma nitrate levels in CM hamster[1]. NCX899 (4 micromol/kg, i.v.) inhibits the activity of serum angiotensin-converting enzyme in dogs. NCX899 significantly attenuates both arterial hypertension and bradycardia[2].

[1]. Iwanaga Y, et al. A nitric oxide-releasing derivative of enalapril, NCX 899, prevents progressive cardiac dysfunction and remodeling in hamsters with heart failure. FASEB J. 2004 Mar;18(3):587-8. Epub 2004 Jan 20. [2]. Okuyama CE, et al. Pharmacokinetics and pharmacodynamics of a nitric oxide-releasing derivative of enalapril in male beagles. Clin Exp Pharmacol Physiol. 2007 Apr;34(4):290-5.

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