Web: www.taiclone.com
Tel: +886-2-2735-9682
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Angiotensin (1-7)

Catalog No: tcsc3413

Available Sizes

Size: 5mg

Size: 10mg

Size: 25mg

Size: 50mg

Specifications

CAS No:
51833-78-4

Formula:
$C_{41}H_{62}N_{12}O_{11}$

Pathway:
Metabolic Enzyme/Protease;GPCR/G Protein

Target:
Angiotensin-converting Enzyme (ACE);Angiotensin Receptor

Purity / Grade:
>98%

Solubility:
H2O : ≥ 30.2 mg/mL (33.59 mM)

Alternative Names:
Angiotensin-(1-7);Ang-(1-7)

Observed Molecular Weight:
899

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Product Description

Angiotensin (1-7) inhibits purified canine angiotensin converting enzyme (**ACE**) activity with an **IC_{50}** of 0.65 μM.

IC50 & Target: IC50: 0.65 μM (ACE)[1]

In Vitro: Angiotensin 1-7 (Ang 1-7) acts as a local synergistic modulator of kinin-induced vasodilation by inhibiting ACE and releasing nitric oxide (NO). Angiotensin (1-7) augments the vasodilation induced by bradykinin (BK) in a concentration-dependent manner in rings preconstricted with the thromboxane analog U46619. The EC_{50} of BK (2.45±0.51 nM versus 0.37±0.08 nM) is shifted leftward by 6.6-fold in the presence of 2 μM concentration of Angiotensin (1-7). The BK-induced relaxation response is augmented by Angiotensin (1-7) (0.1 to 2 μM) in a dose-dependent manner. At a concentration of 2 μM Angiotensin (1-7), relaxation to BK is increased 92% compared to BK alone (41±4.4% versus 92±2.5%, P[1]. Angiotensin 1-7 (Ang 1-7) abrogates the methylglyoxal-modified albumin (MGA)-stimulated myofibroblast phenotype by inhibiting the chronic stimulation of the TGF-β-ERK pathway in NRK-52E cells[2].

In Vivo: A seven fold decrease in the plasma level of Angiotensin 1-7 (Ang 1-7) is demonstrated in dextran sulfate sodium (DSS) treated mice compare to untreated (UT) group at day 7 post colitis induction. On the other hand, a significant increase in Ang 1-7 is observed in colon homogenates of DSS treated mice at day 7 (0.09 ng/mL) compare to UT mice (0.04 ng/mL)[3]. The ovariectomized (OV) female Wistar-rats receive estradiol (500 μg/kg/week) or vehicle for two weeks. The animals are anesthetized, cannulated, and the responses including mean arterial pressure, renal blood flow (RBF), and renal vascular resistance at the constant level of renal perfusion pressure to graded infusion of Angiotensin 1-7 (Ang 1-7) at 0, 100 and 300 ng/kg/min are determined in OV and OV estradiol-treated (OVE) rats, treated with vehicle or MasR antagonist; A779. RBF response to Ang 1-7 infusion increased dose-dependently in vehicle (P_{dose}dose[4].