Product Data Sheet

Product Name: Leucylarginylproline
Cat. No.: GC32520

Chemical Properties

Cas. No.	133943-59-6		
SMILES	Leu-Arg-Pro		
Formula	$C_{17}H_{32}N_6O_4$	M.Wt	384.47
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	Leucylarginylproline		

Protocol

Kinase experiment:	Hip-His-Leu (5mM) and an ACE inhibitor (Leucylarginylproline) are dissolved in a 100 mM sodium borate buffer (pH 8.3) containing 300 mM NaCl, and incubated for 30 min with 8 milliunits of ACE at 37°C. The ACE inhibitor concentration required to inhibit 50% of the ACE activity under the above conditions is defined as IC50[1].
Animal experiment:	Rats: Leucylarginylproline is dissolved in 1.0 mM normal saline. After being warmed up, rats are orally administered (0.18 mmol/kg bw) with peptides or normal saline (control). Tail systolic blood pressures are measured at 2-h intervals (0, 2, 4, 6, 8, 10, and 12 h) after the administration[2].

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References:

[1]. Miyoshi S, et al. Structures and activity of angiotensin-converting enzyme inhibitors in an alpha-zein hydrolysate. Agric Biol Chem. 1991 May;55(5):1313-8.
[2]. Chen TL, et al. Microencapsulation and modification of synthetic peptides of food proteins reduces the blood pressure of spontaneously hypertensive rats. J Agric Food Chem. 2003 Mar 12;51(6):1671-5.

Background

Leucylarginylproline is an angiotensin-converting enzyme (ACE) inhibitor with an IC50 of 0.27μM.

Intravenous injection of Leucylarginylproline (30mg/kg) causes a decrease in the blood pressure. The maximum mean blood pressure reduction (about 15 mmHg) occurrs about 2 min after the injection[1]. Leucylarginylproline peptide reduces the blood pressure by about 15 mmHg at the fourth hour and shows a maximal reduction effect of about 35 mmHg at the eighth hour after oral administration[2].

[1]. Miyoshi S, et al. Structures and activity of angiotensin-converting enzyme inhibitors in an alpha-zein hydrolysate. Agric Biol Chem. 1991 May;55(5):1313-8. [2]. Chen TL, et al. Microencapsulation and modification of synthetic peptides of food proteins reduces the blood pressure of spontaneously hypertensive rats. J Agric Food Chem. 2003 Mar 12;51(6):1671-5.

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