

Product Data Sheet

Product Name: Big Endothelin-3 (1-41) amide (human)

Cat. No.: GA20810

Chemical Properties

Cas. No. 133551-97-0

Formula $C_{223}H_{322}N_{56}O_{63}S_4$ M.Wt 4923.61

Solubility 0.2-0.5mg/ml in 0.1% Acetic acid Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Caution: Product has not been fully validated for medical applications. For research use only.

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Structure



Protocol

Animal experiment [1]:

Animal models Male Sprague-Dawley rats

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Preparation Method	Male Sprague-Dawley rats weighing 280-330g were anaesthetized with sodium thiobutabarbital (100mg/kg; i.p.) and placed on a heated surgical tray that maintained the rectal temperature between 37-38°C. After tracheotomy, the right femoral vein was cannulated for bolus injection of drugs. The right femoral artery was cannulated for blood pressure (BP) measurement with a pressure transducer. Rats were ganglion-blocked with pentolinium (5mg/kg; i.v.). After a 30-min equilibration period, ET-3 or Big Endothelin-3 (1-41) amide, dissolved in 0.9% saline containing 0.1% heat-inactivated bovine serum albumin, was injected i.v. (3nmol/kg; 0.3ml). Record the blood pressure changes in rats within 60 minutes.
Dosage form	3nmol/kg for once; i.v.
Applications	Big Endothelin-3 (1-41) amide treatment produced a long-lasting hypertensive action in rats.

References:

[1] Matsumura Y, Fujita K, Takaoka M, et al. Big endothelin-3-induced hypertension and its inhibition by phosphoramidon in anaesthetized rats[J]. European journal of pharmacology, 1993, 230(1): 89-93.

Background

Big Endothelin-3 (1-41) amide (human) is a precursor molecule of the Endothelin (ET)-3 peptide composing of 41 amino acids [1]. Big Endothelin-3 (1-41) amide can be converted into the mature form by ET converting enzyme, increasing the level of immunoreactive endothelin (IR-ET) in vascular smooth muscle cells (VSMC) [2]. Big Endothelin-3 (1-41) amide has been widely used to regulate the nociceptive behavioral responses of mice [3].

In vitro, Big Endothelin-3 (1-41) amide treatment via intravenous injection at 3nmol/kg within 60min produced a long-lasting hypertensive action in ganglion-blocked anaesthetized rats [4].

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- [1] Davenport A P, Hyndman K A, Dhaun N, et al. Endothelin[J]. Pharmacological reviews, 2016, 68(2): 357-418.
- [2] Tsukahara Y, Matsumura Y, Kuninobu K, et al. Phosphoramidon-sensitive endothelin converting enzyme in cultured vascular smooth muscle cells converts big endothelin-3 to endothelin-3[J]. Life sciences, 1993, 53(6): 465-471.
- [3] Raffa R B, Schupsky J J, Jacoby H I. Endothelin-induced nociception in mice: mediation by ETA and ETB receptors[J]. The journal of pharmacology and experimental therapeutics, 1996, 276(2): 647-651.
- [4] Matsumura Y, Fujita K, Takaoka M, et al. Big endothelin-3-induced hypertension and its inhibition by phosphoramidon in anaesthetized rats[J]. European journal of pharmacology, 1993, 230(1): 89-93.

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