Nesiritide

Cat. No.: HY-P0003

CAS No.: 124584-08-3

Molecular Formula: $C_{143}H_{244}N_{50}O_{42}S_4$

Molecular Weight: 3464.04

SPKMVQGSGCFGRKMDRISSSSGLGCKVLRRH(Disulfide bridge: Cys10-Cys26)

Sequence: Ser-Pro-Lys-Met-Val-Gln-Gly-Ser-Gly-Cys-Phe-Gly-Arg-Lys-Met-Asp-Arg-Ile-Ser-Ser-Ser-Ser-Gly-Leu-Gly-Cys-Lys-Val-Leu-Arg-Arg-His (Disulfide bridge: Cys10-Cys26)

Sequence Shortening: SPKMVQGSGCFGRKMDRISSSSGLGCKVLRRH (Disulfide bridge: Cys10-Cys26)

Target: Others

Pathway: Others

Storage: Sealed storage, away from moisture and light

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)

SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 40 mg/mL (11.55 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	0.2887 mL	1.4434 mL	2.8868 mL
	5 mM	0.0577 mL	0.2887 mL	0.5774 mL
	10 mM	0.0289 mL	0.1443 mL	0.2887 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (28.87 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description Nesiritide (Brain Natriuretic Peptide-32 human) is an agonist of natriuretic peptide receptors (NPRs), with K_d values of 7.3 and 13 pM for NPR-A and NPR-C, respectively.

IC_{50} & Target Kd: 7.3 Pm (NPR-A), 13 pM (NPR-C)[1].

In Vitro Nesiritide (Brain Natriuretic Peptide-32 human) is an agonist of natriuretic peptide receptor (NPR), with K_d values of 7.3 and 13 pM for NPR-A and NPR-C, respectively[1]. ProBNP1-108 stimulates guanylyl cyclase-A (GC-A) to near-maximum activities

but is 13-fold less potent than Nesiritide (BNP1-32). ProBNP1-108 binds human GC-A 35-fold less tightly than Nesiritide. Neither proBNP1–108 nor Nesiritide activates GC-B. The natriuretic peptide clearance receptor binds proBNP1-108 3-fold less tightly than Nesiritide. The half time for degradation of proBNP1-108 by human kidney membranes is 2.7-fold longer than for Nesiritide, and the time required for complete degradation is 6-fold longer. Nesiritide and proBNP1-108 are best fitted by first- and second-order exponential decay models, respectively[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Koller KJ, et al. Molecular biology of the natriuretic peptides and their receptors. Circulation. 1992 Oct;86(4):1081-8.

[2]. Dickey DM, et al. ProBNP(1-108) is resistant to degradation and activates guanylyl cyclase-A with reduced potency. Clin Chem. 2011 Sep;57(9):1272-8.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA