Product Data Sheet

Product Name: Brain Natriuretic Peptide (BNP) (1-32), rat
Cat. No.: GC32589

Chemical Properties

Cas. No.	133448-20-1		
SMILES	Asn-Ser-Lys-Met-Ala-His-Ser-Ser-Ser-Cys-Phe-Gly-Gln-Lys-Ile-Asp-Arg-Ile-Gly-Ala-Val-Ser-Arg-Leu-Gly-Cys-Asp-Gly-Leu-Arg-Leu-Phe (Disulfide bridge: Cys10-Cys26)		
Formula	$C_{146}H_{239}N_{47}O_{44}S_3$	M.Wt	3452.94
Solubility	Soluble in Water	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			

Background

Brain Natriuretic Peptide (BNP) (1-32), rat is a 32 amino acid polypeptide secreted by the ventricles of the heart in response to excessive stretching of heart muscle cells (cardiomyocytes).

B-type natriuretic peptide (BNP) combats cardiac stress by reducing blood pressure and ventricular fibrosis. Rat BNP BNP (1-32) (rBNP (1-32)) is an amino-truncated form of the 45 residue natural rat form of BNP[1]. Atrial natriuretic peptide-(1-28) (ANP), brain natriuretic peptide-(1-32) (BNP) and C-Type natriuretic polypeptide (CNP) occur in the brain, are concentrated in the anteroventral area of the third cerebral ventricle and participate in the regulation of body fluid homeostasis. The ANP(1-28), BNP (1-32) and CNP(1-32) function in the mammalian brain to regulate salt and water homeostasis via their receptors NPR-A and NPR-B[2].

The depressor, natriuretic and cyclic GMP responses to several species of brain natriuretic peptide (BNP) are compared to atrial natriureticpeptide (ANP) 99-126 in

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conscious spontaneously hypertensive rats (SHR) and in conscious cynomolgus monkeys treated with vehicle or the selective neutral endopeptidase inhibitor SQ 28603. In the conscious SHR, the natriuretic and cyclic GMP responses to 3 nmol/kg i.v. rat BNP (1-32) greater than rat ANP 99-126 greater than pig BNP-26 and sre significantly potentiated by 100 mumol/kg i.v. SQ 28,603. Human BNP-32 is inactive in the SHR treated with either vehicle or SQ 28,603. In contrast, 1 nmol/kg i.v. of human BNP (1-32) stimulates renal and depressor responses in the conscious monkeys that are greater than or equal to those elicited by human ANP 99-126, whereas 3 nmol/kg i.v. rat BNP (1-32) reduces mean arterial pressure without affecting renal function[3]

[1]. Dickey DM, et al. Human B-type natriuretic peptide is not degraded by meprin A. Biochem Pharmacol. 2010 Oct 1;80(7):1007-11. [2]. Wellard J, et al. Natriuretic peptides, but not nitric oxide donors, elevate levels of cytosolic guanosine 3',5'-cyclic monophosphate in ependymal cells ex vivo. Neurosci Lett. 2006 Jan 16;392(3):187-92. [3]. Seymour AA, et al. Potentiation of brain natriuretic peptides by SQ 28,603, an inhibitor of neutral endopeptidase3.4.24.11, in monkeys and rats. J Pharmacol Exp Ther. 1992 Jul;262(1):60-70.

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