Brain Natriuretic Peptide (1-32), rat acetate

Cat. No.:	HY-P1519B
Molecular Formula:	$C_{148}H_{243}N_{47}O_{46}S_3$
Molecular Weight:	3512.99
Sequence:	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)
Sequence Shortening:	NSKMAHSSSCFGQKIDRIGAVSRLGCDGLRLF (Disulfide bridge: Cys10-Cys26)
Target:	Angiotensin Receptor
Pathway:	GPCR/G Protein
Storage:	Sealed storage, away from moisture Powder -80°C 2 years -20°C 1 year * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

BIOLOGICAL ACTIVITY

Description	Brain Natriuretic Peptide (1-32), rat acetate (BNP (1-32), rat acetate) is a 32 amino acid polypeptide secreted by the ventricles of the heart in response to excessive stretching of heart muscle cells (cardiomyocytes)[1].
In Vitro	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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	The depressor, natriuretic and cyclic GMP responses to several species of brain natriuretic peptide (BNP) are compared to atrial natriureticpeptide (ANP) 99-126 in 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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[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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