Data Sheet (Cat.No.T35832)

TargetMol

Brain Natriuretic Peptide (1-32), rat acetate

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Brain Natriuretic Peptide (1-32), rat acetate (BNP (1-32), rat acetate) is a 32-amino acid polypeptide hormone synthesized by ventricular cardiomyocytes in response to myocardial cell stretching (cardiomyocyte distension)[1].
Targets(IC50)	RAAS
In vitro	B-type natriuretic peptide (BNP) mitigates cardiac stress by lowering blood pressure and decreasing ventricular fibrosis. Its variant, rat BNP BNP (1-32) (rBNP (1-32)), is a shorter version of the 45-residue natural rat BNP. Similarly, atrial natriuretic peptide-(1-28) (ANP), brain natriuretic peptide-(1-32) (BNP), and C-Type natriuretic polypeptide (CNP) are found in the brain, particularly concentrated in the anteroventral area of the third cerebral ventricle, and play a crucial role in regulating body fluid balance. These peptides, ANP(1-28), BNP (1-32), and CNP(1-32), operate in the mammalian brain to maintain salt and water balance through their engagement with receptors NPR-A and NPR-B.
In vivo	Comparative analysis of the effects of various brain natriuretic peptide (BNP) species versus atrial natriuretic peptide (ANP) 99-126 on depressor, natriuretic, and cyclic GMP responses has been conducted in conscious spontaneously hypertensive rats (SHR) and vehicle-treated or SQ 28603-treated conscious cynomolgus monkeys. In SHRs, the responses to 3 nmol/kg intravenous rat BNP (1-32) were found to be greater than those to rat ANP 99-126 and pig BNP-26, and were significantly enhanced by 100 mumol/kg intravenous SQ 28,603. Human BNP-32 showed no activity in SHRs treated with either vehicle or SQ 28,603. Conversely, in monkeys, 1 nmol/kg intravenous human BNP (1-32) induced renal and depressor responses that matched or surpassed those triggered by human ANP 99-126. Additionally, 3 nmol/kg intravenous rat BNP (1-32) reduced mean arterial pressure without impacting renal function.

Reference

Dickey DM, et al. Human B-type natriuretic peptide is not degraded by meprin A. Biochem Pharmacol. 2010 Oct 1; 80(7):1007-11.

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.

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.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481