

Recombinant Human Brain Natriuretic Peptide

Information

Gene ID	4879
Accession #	P16860
Alternate Names	Brain natriuretic peptide 32, Gamma-brain natriuretic peptide, B-type Natriuretic Peptide, GC-B, BNP-32
Source	Escherichia coli.
M.Wt	Approximately 3.5 kDa, a single non-glycosylated polypeptide chain containing 32 amino acids.
AA Sequence	SPKMVQGSGC FGRKMDRISS SSGLGCKVLR RH
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles - 12 months from date of receipt, -20 to -70 °C as supplied - 1 month, 2 to 8 °C under sterile conditions after reconstitution - 3 months, -20 to -70 °C under sterile conditions after reconstitution
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Data Not Available.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	100µg	500µg	
Recombinant Human Brain Natriuretic Peptide	100µg	500µg	

Use a manual defrost freezer and avoid repeated freeze-thaw cycles

- 12 months from date of receipt, -20 to -70 °C as supplied
- 1 month, 2 to 8 °C under sterile conditions after reconstitution
- 3 months, -20 to -70 °C under sterile conditions after reconstitution

Quality Control

Purity	> 97 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rHuBNP as determined by LAL method.

Description

Brain Natriuretic Peptide is encoded by the BNP gene located on the Chr.1 in humans. It is firstly discovered in the porcine brain and given this name, but the protein is mainly expressed in the cardiac ventricles in human body after the excessive stretching of cardiomyocytes. The gene expresses a 134 a.a. sequence which contains a 1-26 a.a. signal peptide and 27-134 a.a. Natriuretic peptides B, and the BNP is the 32 a.a. C-terminus of natriuretic peptides B. The BNP can be cleaved in 16 chains and the rHuBNP is 1-32. BNP acts as a cardiac hormone with a variety of functions including natriuresis, diuresis, vasorelaxation, and inhibition of renin and aldosterone secretion. Additionally, it plays a key role in cardiovascular homeostasis, helps restore the body's salt and water balance and improves heart function.

Reference

1. Matsuo H, Kangawa K, Minamino N. 1988. Tanpakushitsu Kakusan Koso, 33: 2438-50
2. Uehara Y, Shimizu H, Shimomura Y, et al. 1990. Neuropeptides, 17: 107-10
3. Hunt PJ, Espiner EA, Nicholls MG, et al. 1997. Peptides, 18: 1475-81
4. Richards AM, Lainchbury JG, Nicholls MG, et al. 2002. Trends Endocrinol Metab, 13: 151-5
5. Trojnariska O, Gwizdala A, Katarzynski S, et al. 2010. Int J Cardiol, 139: 241-7.

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