N-terminal fragment Pro-Brain Natriuretic peptide (NT-proBNP),

Cat# SP-72959-1 NTproBNP (1-76) **Size**: 1 mg

Names	NTproBNP (1-76)
Sequence	(AA: His-Pro-Leu-Gly-Ser-Pro-Gly-Ser-Ala-Ser-Asp-Leu-Glu-Thr-Ser-Gly-Leu-Gln-Glu-Gln-Arg-Asn-His-Leu-Gln-Gly-Lys-Leu-Ser-Glu-Leu-Gln-Val-Glu-Gln-Thr-Ser-Leu-Glu-Pro-Leu-Gln-Glu-Ser-Pro-Arg-Pro-Thr-Gly-Val-Trp-Lys-Ser-Arg-Glu-Val-Ala-Thr-Glu-Gly-Ile-Arg-Gly-His-Arg-Lys-Met-Val-Leu-Tyr-Thr-Leu-Arg-Ala-Pro-Arg)
M.W	8457.57
Purity	>95%
Store	Desiccated at -20oC.

Brain natriuretic peptide (BNP), now known as B-type natriuretic peptide (also BNP) or GC-B, is a 32 amino acid polypeptide secreted by the ventricles of the heart in response to excessive stretching of heart muscle cells (cardiomyocytes). BNP is named as such because it was originally identified in extracts of porcine brain, although in humans it is produced mainly in the cardiac ventricles.

BNP is synthesized as a 134-amino acid preprohormone (preproBNP), encoded by the human gene NPPB. Removal of the 25-residue N-terminal signal peptide generates the prohormone, proBNP, which is stored intracellularly as an O-linked glycoprotein; proBNP is subsequently cleaved between arginine-102 and serine-103 by a specific convertase (probably furin or corin) into NT-proBNP and the biologically active 32-amino acid polypeptide BNP-32, which are secreted into the blood in equimolar amounts. Cleavage at other sites produces shorter BNP peptides with unknown biological activity. BNP is co-secreted along with a 76 amino acid N-terminal fragment (NT-proBNP) which is biologically inactive. BNP binds to and activates the atrial natriuretic factor receptors NPRA, and to a lesser extent NPRB, in a fashion similar to atrial natriuretic peptide (ANP) but with 10-fold lower affinity. The biological half-life of BNP, however, is twice as long as that of ANP, and that of NT-proBNP is even longer, making these peptides better targets than ANP for diagnostic blood testing.

The physiologic actions of BNP are similar to ANP and include decrease in systemic vascular resistance and central venous pressure as well as an increase in natriuresis. Thus, the net effect of BNP and ANP is a decrease in blood volume and a decrease in cardiac output.

Both BNP and NT-proBNP levels in the blood are used for screening, diagnosis of acute congestive heart failure (CHF) and may be useful to establish prognosis in heart failure, as both markers are typically higher in patients with worse outcome The plasma concentrations of both BNP and NT-proBNP are also typically increased in patients with asymptomatic or symptomatic left ventricular dysfunction. There is no level of BNP that perfectly separates patients with and without heart failure. BNP accurately reflects current ventricular status. The half-life of NT-ProBNP is 1 to 2 hours vs. 20 minutes for BNP.

References: LaPointe MC (2005) Peptides 26 26, 644-956; Bhalla V (2004) Cong. heart. Fail. 10, 3-27; Maisel A (2002) N. Eng. J. Med. 347, 161-167.

Related items:

SP-55422-1 BNP (1-32), Rat peptide [H-Asn-Ser-Lys-Met-Ala-His-Ser-Ser-Ser-Cys-Phe-Gly-Gln-Lys-Ile-Asp-Arg-Ile-Gly-Ala-Val-Ser-Arg-Ley-Gly-Cys-Asp-Gly-Leu-Arg-Leu-Phe-OH(Cys10-Cys26); MW: 3453.01]
SP-56586-1 BNP (1-32), Human [H-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-OH(Cys10-Cys26); MW: 3464.1]
SP-72959-1 NTproBNP (1-76)
SP-87476-1 BNP (1-21), Pro (Human) (AA: His-Pro-Leu-Gly-Ser-Pro-Gly-Ser-Ala-Ser-Asp-Leu-Glu-Thr-Ser-Gly-Leu-Gln-Glu-Gln-Arg) (MW: 2166.31)
SP-89383-1 "BNP-26 (porcine) (AA: Asp-Ser-Gly-Cys-Phe-Gly-Arg-Arg-Leu-Asp-Arg-Ile-Gly-Ser-Leu-Ser-Gly-Leu-Gly-Cys-Asn-Val-Leu-Arg-Arg-Tyr (Disulfide bridge:Cys4-Cys5)) (MW: 2869.30)"
SP-89384-1 "[Tyr0]-BNP-32 (human) [Tyr-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: Cys11-Cys27); MW 3627.28]"
SP-89385-05 "BNP-32 ,porcine (AA: Ser-Pro-Lys-Thr-Met-Arg-Asp-Ser-Gly-Cys-Phe-Gly-Arg-Arg-Leu-Asp-Arg-Ile-Gly-Ser-Leu-Ser-Gly-Leu-Gly-Cys-Asn-Val-Leu-Arg-Arg-Tyr (Disulfide bridge:Cys10-Cys26)) (MW: 3570.17)"

SP-72959-1 150325P

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