

BNP (D-8): sc-271185

The Power to Question

BACKGROUND

Natriuretic peptides comprise a family of three structurally related molecules: atrial natriuretic peptide (ANP), brain natriuretic peptide (BNP) and C-type natriuretic peptide (CNP). ANP and BNP act mainly as cardiac hormones, produced primarily by the atrium and ventricle, respectively, while the gene encoding C-type natriuretic peptide is expressed mainly in the brain. These peptides possess potent natriuretic, diuretic and vasodilating activities and are implicated in body fluid homeostasis and blood pressure control. ANP, BNP and CNP are highly homologous within the 17-residue ring structure formed by an intramolecular disulfide linkage. The genes which encode for ANP and BNP map to human chromosome 1p36.22. The gene which encodes for CNP maps to human chromosome 2q37.1

REFERENCES

1. Saito, T. 1975. Proceedings: systemic-pulmonary arteriovenous fistula—a report of a case. *Jpn. Circ. J.* 39: 723.
2. Mair, J., et al. 2001. The impact of cardiac natriuretic peptide determination on the diagnosis and management of heart failure. *Clin. Chem. Lab. Med.* 39: 571-588.

CHROMOSOMAL LOCATION

Genetic locus: NPPB (human) mapping to 1p36.22.

SOURCE

BNP (D-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 94-115 near the C-terminus of BNP of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271185 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

BNP (D-8) is recommended for detection of precursor and mature γ -BNP, BNP 32 and natriuretic peptide of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BNP siRNA (h): sc-43636, BNP shRNA Plasmid (h): sc-43636-SH and BNP shRNA (h) Lentiviral Particles: sc-43636-V.

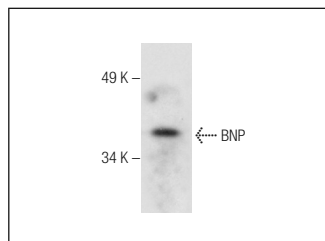
Molecular Weight of glycosylated BNP precursor: 25-36 kDa.

Molecular Weight of deglycosylated mature BNP: 12 kDa.

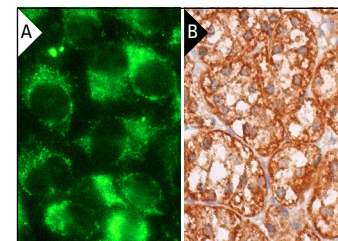
Positive Controls: H4 cell lysate: sc-2408, U-87 MG cell lysate: sc-2411 or IMR-32 cell lysate: sc-2409.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA

BNP (D-8): sc-271185. Western blot analysis of BNP expression in U-87 MG whole cell lysate.



BNP (D-8): sc-271185. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Kee, H.J., et al. 2015. Sulforaphane suppresses cardiac hypertrophy by inhibiting GATA4/GATA6 expression and MAPK signaling pathways. *Mol. Nutr. Food Res.* 59: 221-230.
2. Suliman, H.B., et al. 2016. Heme oxygenase-1/carbon monoxide system and embryonic stem cell differentiation and maturation into cardiomyocytes. *Antioxid. Redox Signal.* 24: 345-360.
3. Cui, S., et al. 2018. Inhibition of cardiac hypertrophy by aromadendrin through down-regulating NFAT and MAPKs pathways. *Biochem. Biophys. Res. Commun.* 506: 805-811.
4. Di Mattia, R.A., et al. 2020. The activation of the G protein-coupled estrogen receptor (GPER) prevents and regresses cardiac hypertrophy. *Life Sci.* 242: 117211.
5. Qi, H., et al. 2020. MSTN attenuates cardiac hypertrophy through inhibition of excessive cardiac autophagy by blocking AMPK/mTOR and miR-128/PPAR γ /NF κ B. *Mol. Ther. Nucleic Acids* 19: 507-522.
6. Wei, Y.J., et al. 2020. Carnosic acid protects against pressure overload-induced cardiac remodelling by inhibiting the Akt/GSK3 β /NOX4 signalling pathway. *Exp. Ther. Med.* 20: 3709-3719.
7. Song, C., et al. 2021. Inhibition of lncRNA Gm15834 attenuates autophagy-mediated myocardial hypertrophy via miR-30b-3p/ULK1 axis in mice. *Mol. Ther.* 29: 1120-1137.
8. Cluntun, A.A., et al. 2021. The pyruvate-lactate axis modulates cardiac hypertrophy and heart failure. *Cell Metab.* 33: 629-648.e10.
9. Zhao, T., et al. 2021. Selective HDAC8 inhibition attenuates isoproterenol-induced cardiac hypertrophy and fibrosis via p38 MAPK pathway. *Front. Pharmacol.* 12: 677757.

RESEARCH USE

For research use only, not for use in diagnostic procedures.