

NPR-B (1E4): sc-293451

BACKGROUND

The natriuretic peptides are a group of structurally similar peptides that are genetically distinct and play a role in several processes, including cardiovascular, renal and endocrine homeostasis. The atrial natriuretic peptide (ANP) and brain natriuretic peptide (BNP) are derived from myocardial cell origin and are cardiac hormones secreted from the atrium and ventricle of the heart, respectively. The C-type natriuretic peptide (CNP) is derived from endothelial cell origin and acts as an endothelium-derived relaxing factor (EDRF). These peptides mediate their effects through three receptors. NPR-A (also designated GC-A) binds both ANP and BNP, which stimulates 3', 5'-cyclic guanosine monophosphate (cGMP) to mediate natriuresis, vasodilation, renin inhibition, antimetogenesis and lusitropic properties. NPR-B (also designated GC-B) binds CNP and also stimulates cGMP to facilitate vasodilation and growth inhibition. NPR-C, also designated the "clearance" receptor, clears all three peptides, which are subsequently degraded by the ectoenzyme neutral endopeptidase. The natriuretic peptide system plays an important role in hypertension, congestive heart failure, atherosclerosis and renal diseases, and may be therapeutic targets in the treatment of these diseases.

REFERENCES

1. Itoh, H., et al. 1993. Molecular biology and pharmacology of natriuretic peptide system. *Nippon Rinsho* 51: 1548-1556.
2. Itoh, H., et al. 1997. Natriuretic peptide system. *Nippon Rinsho* 55: 1923-1936.

CHROMOSOMAL LOCATION

Genetic locus: NPR2 (human) mapping to 9p13.3; Npr2 (mouse) mapping to 4 B1.

SOURCE

NPR-B (1E4) is a mouse monoclonal antibody raised against amino acids 131-230 representing partial length NPR-B of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

NPR-B (1E4) is recommended for detection of NPR-B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

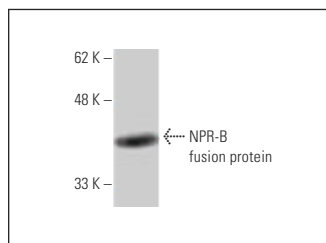
Suitable for use as control antibody for NPR-B siRNA (h): sc-40127, NPR-B siRNA (m): sc-40128, NPR-B shRNA Plasmid (h): sc-40127-SH, NPR-B shRNA Plasmid (m): sc-40128-SH, NPR-B shRNA (h) Lentiviral Particles: sc-40127-V and NPR-B shRNA (m) Lentiviral Particles: sc-40128-V.

Molecular Weight of NPR-B: 120 kDa.

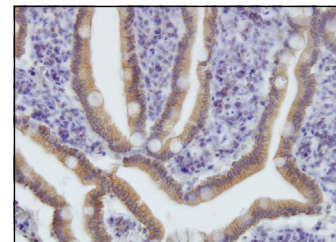
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



NPR-B (1E4): sc-293451. Western blot analysis of human recombinant NPR-B fusion protein.



NPR-B (1E4): sc-293451. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Gu, Y., et al. 2018. Aberrant pro-atrial natriuretic peptide/corin/natriuretic peptide receptor signaling is present in maternal vascular endothelium in preeclampsia. *Pregnancy Hypertens.* 11: 1-6.
2. Hirota, K., et al. 2022. C-type natriuretic peptide-induced PKA activation promotes endochondral bone formation in hypertrophic chondrocytes. *Endocrinology* 163: bqac005.
3. Li, X., et al. 2022. Natriuretic peptides-new targets for neurocontrol of blood pressure via baroreflex afferent pathway. *Int. J. Mol. Sci.* 23: 13619.
4. Liu, C., et al. 2024. Sacubitril/Valsartan inhibits M1 type macrophages polarization in acute myocarditis by targeting C-type natriuretic peptide. *Biomed. Pharmacother.* 174: 116535.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.