

# NPR-C (B-9): sc-515749

## 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, antimutagenesis 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 a therapeutic target in the treatment of these diseases.

## REFERENCES

1. Itoh, H., et al. 1993. Molecular biology and pharmacology of natriuretic peptide system. *Nihon Rinsho* 51: 1548-1556.
2. Itoh, H., et al. 1997. Natriuretic peptide system. *Nihon Rinsho* 55: 1923-1936.
3. Anand-Srivastava, M.B. 1997. Atrial natriuretic peptide-C receptor and membrane signalling in hypertension. *J. Hypertens.* 15: 815-826.
4. Chen, H.H., et al. 1999. The natriuretic peptides in heart failure: diagnostic and therapeutic potentials. *Proc. Assoc. Am. Physicians* 111: 406-416.
5. Coupal, M., et al. 1999. Development of p-benzoylbenzoylated [N,C,rANP(1-28)]pBNP32 (pBNP1) derivatives and affinity photolabeling of the bovine NPR-A receptor. *Biochem. Biophys. Res. Commun.* 258: 81-86.
6. Chen, H.H., et al. 2000. Natriuretic peptides in the patho-physiology of congestive heart failure. *Curr. Cardiol. Rep.* 2: 198-205.
7. Muller, D., et al 2000. Guanylyl cyclase-B represents the predominant natriuretic peptide receptor expressed at exceptionally high levels in the pineal gland. *Brain Res. Mol. Brain Res.* 75: 321-339.

## CHROMOSOMAL LOCATION

Genetic locus: NPR3 (human) mapping to 5p13.3; Npr3 (mouse) mapping to 15 A1.

## SOURCE

NPR-C (B-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 516-540 at the C-terminus of atrial NPR-C of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

NPR-C (B-9) is recommended for detection of NPR-C of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NPR-C siRNA (h): sc-40129, NPR-C siRNA (m): sc-40130, NPR-C shRNA Plasmid (h): sc-40129-SH, NPR-C shRNA Plasmid (m): sc-40130-SH, NPR-C shRNA (h) Lentiviral Particles: sc-40129-V and NPR-C shRNA (m) Lentiviral Particles: sc-40130-V.

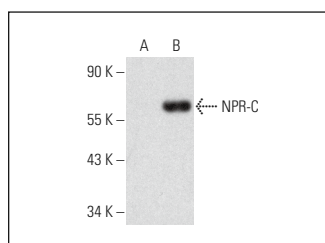
Molecular Weight of NPR-C: 64-66 kDa.

Positive Controls: NPR-C (m): 293T Lysate: sc-122112.

## 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.

## DATA



NPR-C (B-9): sc-515749. Western blot analysis of NPR-C expression in non-transfected (A) and mouse NPR-C transfected: sc-122112 (B) 293T whole cell lysates.

## 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](http://www.scbt.com) for detailed protocols and support products.