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

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, antimitogenesis 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., Suga, S., Ogawa, Y., Tanaka, I. and Nakao, K. 1993. Molecular biology and pharmacology of natriuretic peptide system. *Nippon Rinsho* 51: 1548-1556.
2. Itoh, H. and Nakao, K. 1997. Natriuretic peptide system. *Nippon 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. and Burnett, J.C. 1999. The natriuretic peptides in heart failure: diagnostic and therapeutic potentials. *Proc. Assoc. Am. Physicians* 111: 406-416.
5. Coupal, M., De Lean, A., McNicoll, N. and Fournier, A. 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. and Burnett, J.C. 2000. Natriuretic peptides in the pathophysiology of congestive heart failure. *Curr. Cardiol. Rep.* 2: 198-205.
7. Muller, D., Olcese, J., Mukhopadhyay, A.K. and Middendorff, R. 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* (mouse) mapping to 15 A1.

PRODUCT

NPR-C (m): 293T Lysate represents a lysate of mouse NPR-C transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

NPR-C (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive NPR-C antibodies. Recommended use: 10-20 µl per lane.

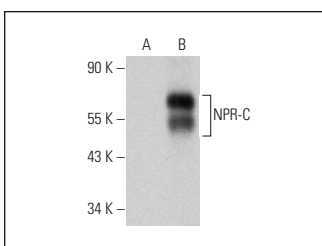
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

NPR-C (E-5): sc-515449 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse NPR-C expression in NPR-C transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

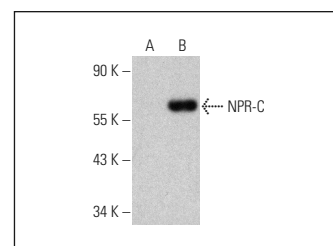
RECOMMENDED SUPPORT REAGENTS

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.

DATA



NPR-C (E-5): sc-515449. Western blot analysis of NPR-C expression in non-transfected: sc-117752 (A) and mouse NPR-C transfected: sc-122112 (B) 293T whole cell lysates.



NPR-C (B-9): sc-515749. Western blot analysis of NPR-C expression in non-transfected: sc-117752 (A) and mouse NPR-C transfected: sc-122112 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.