

Neprilysin-2 (I-14): sc-104450

BACKGROUND

Neprilysin-2, also known as NL1, NL2, SEP, NEP2, MMEL2, NEPII or MMEL1 (membrane metalloendopeptidase-like 1), is a 779 amino acid single-pass type II membrane protein that belongs to the peptidase M13 family of zinc-dependent metalloproteases. Neprilysin-2 is predominantly expressed in testis and weakly expressed in brain, kidney and heart. Members of the M13 family play critical roles in pain perception, arterial pressure regulation, phosphate metabolism and homeostasis. Neprilysin-2 may be involved in modulating the processes of fertilization, early embryonic development and in the inactivation of endogenous messenger peptides, such as enkephalins and tachykinins. Diseases such as motor sensory neuropathy 2A, Schwartz-Jampel-Aberfeld syndrome, or neuroblastoma, which map to the same locus, may be associated with defects in Neprilysin-2. Three isoforms exist due to alternative splicing events.

REFERENCES

1. Turner, A.J., et al. 2001. The neprilysin (NEP) family of zinc metalloendopeptidases: genomics and function. *Bioessays* 23: 261-269.
2. Bonvouloir, N., et al. 2001. Molecular cloning, tissue distribution, and chromosomal localization of MMEL2, a gene coding for a novel human member of the neutral endopeptidase-24.11 family. *DNA Cell Biol.* 20: 493-498.
3. Ouimet, T. 2004. Neprilysin-2: a novel messenger peptide-inactivating metalloprotease. *Protein Pept. Lett.* 11: 479-489.
4. Voisin, S. and Ouimet, T. 2005. The ultimate tryptophan residue of Neprilysin-2 is not involved in protein maturation and enzymatic activity. *Biochem. Biophys. Res. Commun.* 335: 356-360.
5. Ogawa, T., et al. 2005. Altered expression of neprilysin family members in the pituitary gland of sleep-disturbed rats, an animal model of severe fatigue. *J. Neurochem.* 95: 1156-1166.
6. Whyteside, A.R. and Turner, A.J. 2008. Human Neprilysin-2 (NEP2) and NEP display distinct subcellular localisations and substrate preferences. *FEBS Lett.* 582: 2382-2386.

CHROMOSOMAL LOCATION

Genetic locus: MMEL1 (human) mapping to 1p36.32; Mmel1 (mouse) mapping to 4 E2.

SOURCE

Neprilysin-2 (I-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Neprilysin-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-104450 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Neprilysin-2 (I-14) is recommended for detection of Neprilysin-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Neprilysin-2 (I-14) is also recommended for detection of Neprilysin-2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Neprilysin-2 siRNA (h): sc-88604, Neprilysin-2 siRNA (m): sc-106295, Neprilysin-2 shRNA Plasmid (h): sc-88604-SH, Neprilysin-2 shRNA Plasmid (m): sc-106295-SH, Neprilysin-2 shRNA (h) Lentiviral Particles: sc-88604-V and Neprilysin-2 shRNA (m) Lentiviral Particles: sc-106295-V.

Molecular Weight of Neprilysin-2: 110 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Pinto, F.M., et al. 2010. Autocrine regulation of human sperm motility by tachykinins. *Reprod. Biol. Endocrinol.* 8: 104.

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 or our catalog for detailed protocols and support products.



Try **Neprilysin-2 (2D2H5): sc-517235**, our highly recommended monoclonal alternative to Neprilysin-2 (I-14).