

RAMP1 (N-20): sc-8850

BACKGROUND

Receptor activity-modifying proteins (RAMPs) are transmembrane accessory proteins that influence the pharmacological profiles of the calcitonin receptor-like receptors (CRLR). RAMPs associate with CRLR in the endoplasmic reticulum and facilitate the glycosylation and transport of CRLR to the cell surface, where the mature protein then operates as a receptor for two structurally related vasodilatory peptides, calcitonin-gene-related peptide (CGRP) or adrenomedullin (ADM). RAMP1 associating with CRLR confers a CGRP receptor, while RAMP2 and RAMP3 preferentially induce a responsiveness to ADM. RAMP proteins, including RAMP1, RAMP2 and RAMP3, are structurally similar as they are type I receptors, which have a single extracellular N-terminus and a cytoplasmic C-terminus, and they share approximately 55% sequence similarity. RAMP1 expression is highest in the uterus, brain and gastrointestinal tract, whereas RAMP2 and RAMP3 are highest in lung, breast and fetal tissues.

REFERENCES

1. McLatchie, L.M., et al. 1998. RAMPs regulate the transport and ligand specificity of the calcitonin-receptor-like receptor. *Nature* 393: 333-339.
2. Sams, A., et al. 1998. Expression of calcitonin receptor-like receptor and receptor-activity-modifying proteins in human cranial arteries. *Neurosci. Lett.* 258: 41-44.
3. Fraser, N.J., et al. 1999. The amino terminus of receptor activity modifying proteins is a critical determinant of glycosylation state and ligand binding of calcitonin receptor-like receptor. *Mol. Pharmacol.* 55: 1054-1059.
4. Foord, S.M., et al. 1999. RAMPs: accessory proteins for seven transmembrane domain receptors. *Trends Pharmacol. Sci.* 20: 184-187.
5. Kamitani, S., et al. 1999. The RAMP2/CRLR complex is a functional adrenomedullin receptor in human endothelial and vascular smooth muscle cells. *FEBS Lett.* 448: 111-114.
6. Drake, W.M., et al. 1999. Desensitization of CGRP and adrenomedullin receptors in SK-N-MC cells: implications for the RAMP hypothesis. *Endocrinology* 140: 533-537.
7. Buhlmann, N., et al. 1999. A receptor activity modifying protein (RAMP)2-dependent adrenomedullin receptor is a calcitonin gene-related peptide receptor when coexpressed with human RAMP1. *Endocrinology* 140: 2883-2890.

CHROMOSOMAL LOCATION

Genetic locus: RAMP1 (human) mapping to 2q37.3.

SOURCE

RAMP1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of RAMP1 of human origin.

STORAGE

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

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-8850 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RAMP1 (N-20) is recommended for detection of RAMP1 of 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).

Suitable for use as control antibody for RAMP1 siRNA (h): sc-40894, RAMP1 shRNA Plasmid (h): sc-40894-SH and RAMP1 shRNA (h) Lentiviral Particles: sc-40894-V.

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. Bonner, K., et al. 2010. Expression of functional receptor activity modifying protein 1 by airway epithelial cells with dysregulation in asthma. *J. Allergy Clin. Immunol.* 126: 1277-1283.e3.

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.


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Try **RAMP1 (3B9): sc-293438**, our highly recommended monoclonal alternative to RAMP1 (N-20).