SANTA CRUZ BIOTECHNOLOGY, INC.

RAMP2 (B-5): sc-365240

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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). RAMP-1 associating with CRLR confers a CGRP receptor, while RAMP-2 and RAMP-3 preferentially induce a responsiveness to ADM. RAMP proteins, including RAMP-1, RAMP-2 and RAMP-3, 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. RAMP-1 expression is highest in the uterus, brain and gastrointestinal tract, whereas RAMP-2 and RAMP-3 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.

CHROMOSOMAL LOCATION

Genetic locus: RAMP2 (human) mapping to 17q21.31; Ramp2 (mouse) mapping to 11 D.

SOURCE

RAMP2 (B-5) is a mouse monoclonal antibody raised against amino acids 28-166 of RAMP2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RAMP2 (B-5) is available conjugated to agarose (sc-365240 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365240 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365240 PE), fluorescein (sc-365240 FITC), Alexa Fluor® 488 (sc-365240 AF488), Alexa Fluor® 546 (sc-365240 AF546), Alexa Fluor® 594 (sc-365240 AF594) or Alexa Fluor® 647 (sc-365240 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365240 AF680) or Alexa Fluor® 790 (sc-365240 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

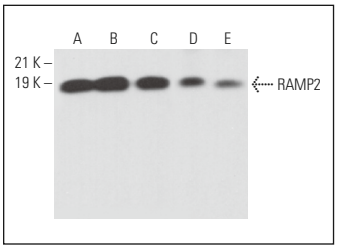
RAMP2 (B-5) is recommended for detection of RAMP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 RAMP2 siRNA (h): sc-36378, RAMP2 siRNA (m): sc-36379, RAMP2 shRNA Plasmid (h): sc-36378-SH, RAMP2 shRNA Plasmid (m): sc-36379-SH, RAMP2 shRNA (h) Lentiviral Particles: sc-36378-V and RAMP2 shRNA (m) Lentiviral Particles: sc-36379-V.

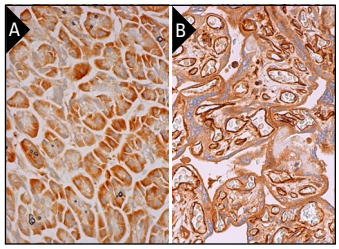
Molecular Weight of RAMP2: 20 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, F9 cell lysate: sc-2245 or A-10 cell lysate: sc-3806.

DATA



RAMP2 (B-5): sc-365240. Western blot analysis of RAMP2 expression in Neuro-2A (**A**), F9 (**B**) and A-10 (**C**) whole cell lysates and mouse lung (**D**) and rat lung (**E**) tissue extracts.



RAMP2 (B-5): sc365240. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells and membrane and cytoplasmic staining of endothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Chen, Y., et al. 2020. Intermedin1-53 attenuates aging-associated vascular calcification in rats by upregulating sirtuin 1. Aging 12: 5651-5674.
2. Velard, F., et al. 2020. Adrenomedullin and truncated peptide adrenomedullin(22-52) affect chondrocyte response to apoptotis *in vitro:* down-regulation of FAS protects chondrocyte from cell death. Sci. Rep. 10: 16740.
3. Larrue, C., et al. 2021. Adrenomedullin-CALCRL axis controls relapse-initiating drug tolerant acute myeloid leukemia cells. Nat. Commun. 12: 422.
4. McGlone, E.R., et al. 2021. Receptor activity-modifying protein 2 (RAMP2) alters glucagon receptor trafficking in hepatocytes with functional effects on receptor signalling. Mol. Metab. 53: 101296.

RESEARCH USE

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