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Product Information

Anti-RAMP2 (N-terminal)
produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200307**

Product Description

Anti-RAMP2 (N-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence located near the N-terminal of human RAMP2 (GeneID: 10266), conjugated to KLH. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-RAMP2 (N-terminal) specifically recognizes human RAMP2. The antibody may be used in various immunochemical techniques including immunoblotting (~20 kDa). Detection of the RAMP2 band by immunoblotting is specifically inhibited by the RAMP2 immunizing peptide.

Receptor activity-modifying proteins (RAMPs 1-3) are a novel class of single transmembrane accessory proteins critical to the function of various G-protein coupled receptors (GPCRs).[1,2] RAMPs associate with the calcitonin receptor-like receptor (CLR) to confer its ligand binding specificity. Association of RAMP1 with CLR results in a receptor that binds preferentially to calcitonin gene-related peptide (CGRP) whereas association of CLR with RAMP2 or RAMP3 confers preferential adrenomedullin (AM) binding. Although mammalian RAMPs 1-3 vary greatly in sequence (homology <30%) and tissue distribution, they share a similar structure, which consists of a long extracellular N-terminus, a single transmembrane domain, and a short cytoplasmic C-terminus.[1] The RAMPs have a broader tissue distribution than AM and CLR, suggesting that RAMPs can interact with other class II and class III GPCRs. Large scale, tissue-specific analysis of the human and mouse transcriptomes reveals that most CLR is complexed with RAMP2 to form a functional AM receptor. RAMP2 is required for the transport of AM receptor and for presenting it at the cell surface as a mature glycoprotein.[3] RAMP2 has been shown to be essential for angiogenesis and vascular integrity, and for lymphatic vascular development during embryogenesis.[4,5] Vascular endothelial cells in RAMP2$^{-/-}$ embryos are severely deformed and detach from the basement membrane. RAMPs represent potential targets for the treatment of human diseases related to either AM or CGRP physiology.[5]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~1.5 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1.5-3.0 µg/mL is recommended using cell lysates of HEK-293T cells over expressing human RAMP2.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. McLatchie, L.M., et al., *Nature,* **393**, 333-339 (1998).
2. Gibbons, C., et al., *Mol. Endocrinol.,* **21**, 783-796 (2007).
3. Kuwasako, K., et al., *J. Biol. Chem.,* **281**, 7205-7213 (2006).
4. Ichikawa-Shindo, Y., et al., *J. Clin. Invest.*, **118**, 28-39 (2008).
5. Fritz-Six, K.L., et al., *J. Clin. Invest.*, **118**, 40-50 (2008).

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