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Product Information

Anti-Rab13 (C-terminal)
produced in rabbit, affinity isolated antibody

Product Number **SAB4200058**

Product Description

Anti-Rab13 (C-terminal) is produced in rabbit using as the immunogen a synthetic peptide corresponding to a sequence at the C-terminal of human Rab13 (GeneID: 5872), conjugated to KLH. The corresponding sequence differs by 4 amino acids in rat and 6 amino acids in mouse Rab13. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Rab13 (C-terminal) recognizes human Rab13. The antibody may be used in several immunochemical techniques including immunoblotting (~23 kDa), immunoprecipitation, and immunofluorescence. Detection of the Rab13 band by immunoblotting is specifically inhibited by the immunizing peptide.

Rab13 is a member of the Rab family of small guanosine triphosphatases (GTPases). The Rab family belongs to the Ras superfamily of small GTPases. Rab GTPases are central regulators of membrane trafficking between the different subcellular compartments of the eukaryotic cell. Their regulatory capacity depends on their ability to cycle between the GDP-bound inactive and GTP-bound active states. Conversion from one state to the other is regulated by GDP/GTP exchange factors (GEFs), GDP dissociation inhibitors (GDIs) and GTPase-activating proteins (GAPs).[1-2]

Activation of a Rab protein is coupled to its association with intracellular membranes, allowing it to recruit downstream effector proteins to the cytoplasmic surface of a subcellular compartment. Through their effector proteins, Rab GTPases regulate vesicle formation, actin- and tubulin-dependent vesicle movement, and membrane fusion.[1] Rab proteins contain conserved regions involved in guanine-nucleotide binding, and hypervariable C-terminal domains with a cysteine motif, implicated in subcellular targeting. Post-translational modification of the cysteine motif with one or two geranylgeranyl groups is essential for the membrane association and correct intracellular localization of Rab proteins. Each Rab protein shows a characteristic subcellular distribution. Therefore, antibodies to Rab proteins may serve as useful tools for studying subcellular localization and membrane organization.[3-4]

Rab13 is localized at cytoplasmic vesicles of non-polarized cells and at tight junctions (Tjs) in polarized epithelial cells.[5] Rab13 and its effector protein, JRAB/MICAL-L2, regulate the endocytic recycling of the integral Tj proteins claudin-1 and occludin, and the formation of functional Tjs.[6] Rab13 mediates tight junctions assembly in epithelial cells by regulating PKA-mediated phosphorylation of VASP and its recruitment to cell-cell junctions.[7] Rab13 also regulates membrane trafficking between the TGN and recycling endosomes in polarized epithelial cells during biosynthetic delivery.[8]

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: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the 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 5-10 μg/mL is recommended using whole extracts of human NT2 cells.

Immunoprecipitation: a working amount of 5-10 μg is recommended using lysates of human NT2 cells.

Immunofluorescence: a working concentration of 2-5 μg/mL is recommended using human A431 cells.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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VS,ST,TD,KAA,PHC,MAM 05/19-1