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Product Information

Anti-Rab14 (C-terminal)
produced in rabbit, affinity isolated antibody

Product Number **R0656**

Product Description

Anti-Rab14 (C-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence at the C-terminal of human Rab14 (GeneID: 51552), conjugated to KLH. The corresponding sequence is identical in rat, mouse, bovine, pig, and dog Rab14. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Rab14 (C-terminal) recognizes human, rat, and mouse Rab14 (not tested in other species). The antibody can be used in several immunochemical techniques including immunoblotting (~24 kDa), immunoprecipitation, and immunofluorescence. Detection of the Rab14 band by immunoblotting is specifically inhibited by the immunizing peptide.

Rab14 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.[3] 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 COOH-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.[3] Each Rab shows a characteristic subcellular distribution.[4] Therefore, antibodies to Rab proteins may serve as useful tools for studying subcellular localization and membrane organization.

Rab14 is involved in membrane trafficking between the Golgi complex and endosomes.[5] It is part of the early endosomal clathrin-coated TGN microdomain.[6] In polarized epithelial cells, Rab 14 regulates delivery of cargo from the TGN to the apical membrane domain.[7] Rab14 has also been implicated in phagosomal biogenesis.[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 antibody concentration of 1–2 μg/mL is recommended using a whole extract of mouse brain.

Immunoprecipitation: A working antibody amount of 5–10 μg is recommended using a whole extract of human Raji cells.

Indirect immunofluorescence: a working antibody concentration of 2.5–5 μg/mL is recommended using rat NRK cells fixed and permeabilized with 4% paraformaldehyde followed by 0.4% saponin.

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 01/19-1