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Product Information

Anti-Rab27 (N-terminal)
produced in rabbit, affinity isolated antibody

Catalog Number **R4655**

Product Description

Anti-Rab27 (N-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 45-57 of human RAB27A (GeneID: 5873), with an added cysteine, conjugated to KLH. The corresponding sequence differs by one amino acid in rat and mouse Rab27A and by 2 amino acids in human RAB27B. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Rab27 (N-terminal) recognizes human and rat Rab27. The antibody can be used in several immunochemical techniques including immunoblotting (~25 kDa) and immunofluorescence. Detection of the Rab27 band by immunoblotting is specifically inhibited by the immunizing peptide.

Rab27 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.

Rab27 is widely expressed in non-neuronal regulated-secretory cells, including exocrine, endocrine, ovarian, and hematopoietic cells.[5] Rab27 regulates the exocytosis of these cell-specific store organelles, using multiple organelle-specific effector proteins, such as granuphilin and melanophilin.[6] Griscelli syndrome, a rare autosomal recessive disorder in humans, is caused by mutations of the RAB27A gene.[7]

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 2-5 µg/mL is recommended using a whole extract of human A431 cells.

Immunofluorescence: a working concentration of 5-10 µg/mL is recommended using rat NRK cells fixed and permeabilized with 4% paraformaldehyde followed by 0.4% saponin.

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

References

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