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Product Information

Monoclonal Anti-Rab25, clone RAB25-20
produced in mouse, purified immunoglobulin

Catalog Number **SAB4200325**

Product Description

Monoclonal Anti-Rab25 (mouse IgG2a isotype) is derived from the hybridoma RAB25-20 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to an internal region of human Rab25 (GeneID: 57111), conjugated to KLH. The corresponding sequence is identical in dog and monkey, and differs by a single amino acid in mouse, rat, pig and bovine Rab25. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-Rab25 recognizes human Rab25. The antibody may be used in various immunochemical techniques including immunoblotting (~25 kDa) and immunoprecipitation. Detection of the Rab25 band by immunoblotting is specifically inhibited by the immunizing peptide.

Rab25 is a member of the Rab family of small guanosine triphosphatases (GTPases) restricted to an epithelial distribution.[1] 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).[2,3] 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.[5] Through their effector proteins, Rab GTPases regulate vesicle formation, actin- and tubulin-dependent vesicle movement, and membrane fusion.[2] 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.[4] Rab25 is associated with the apical recycling system of epithelial cells.[6] Rab25 has been implicated in the progression and aggressiveness of ovarian and breast cancers.[7] Each Rab protein shows a characteristic subcellular distribution.[5] Therefore, antibodies to Rab proteins may serve as useful tools for studying subcellular localization and membrane organization.

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

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 at –20°C 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 dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 2.5-5.0 µg/mL is recommended using whole extracts of human A431.

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

References

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3. Takai, Y., et al., *Physiol. Rev*., **81**, 153-208 (2001).
4. Ali, B.R., et al., *J. Cell Sci*., **117**, 6401-6412 (2004).
5. Zerial, M., and McBride, H., *Nature Rev. Mol. Cell Biol.*, **2**, 107-117 (2001).
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