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Product Information

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

Catalog Number **SAB4200410**

Product Description

Anti-Rheb (C-terminal region) is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence at the C-terminal region of human Rheb (GeneID: 6009), conjugated to KLH. The corresponding sequence is identical in rat Rheb and highly conserved (94% sequence identity) in mouse Rheb. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

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

Rheb (Ras homolog enriched in brain), a member of the family of Ras small G-proteins, was identified as a cellular immediate early gene in the brain.[1] Rheb plays an important role in many cellular processes including cell growth, proliferation, apoptosis, autophagy and neuronal axonal regeneration. The effects of Rheb are mediated via the mammalian target of rapamycin (mTOR) protein kinase that is regulated by multiple growth factors including insulin and IGF1.[2] mTOR is part of two different multiprotein complexes, mTORC1, which modulates protein translation, and TORC2, which mediates the spatial control of cell growth by regulating the actin cytoskeleton. Rheb activity in mTor signaling is regulated by a dual mechanism. Insulin has been shown to stimulate the GTP loading of Rheb via inhibition of the tumor suppressor complex TSC1/2. TSC1/2 exhibits Rheb GTPase-activating protein (GAP), thus inhibiting Rheb activity.[3-5] Rheb appears to activate mTORC1 via direct binding to mTOR.[6] In contrast to Ras, Rheb synthesis is up-regulated similar to immediate early genes after toxic insults or by growth factors, such as EGF or bFGF. Rheb is frequently over-expressed in human carcinomas.[7] Rheb has been recently shown to be required for mTORC1 signaling and myelination during brain development.[8]

Reagent

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

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 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 0.5-1 µg/mL is recommended using cell lysates of HEK-293T over-expressing human Rheb.

Immunofluorescence: a working concentration of 5-10 µg/mL is recommended using HEK-293T cells over-expressing human Rheb.

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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