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RACGAP1 Antibody (N-term) Blocking peptide

Synthetic peptide
Catalog # BP11461a

Specification

RACGAP1 Antibody (N-term) Blocking peptide - Product Information

Primary Accession	Q9H0H5

RACGAP1 Antibody (N-term) Blocking peptide - Additional Information

Gene ID 29127

Other Names
Rac GTPase-activating protein 1, Male germ cell RacGap, MgcRacGAP, Protein CYK4 homolog, CYK4, HsCYK-4, RACGAP1 (HGNC:9804)

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

RACGAP1 Antibody (N-term) Blocking peptide - Protein Information

Name RACGAP1 (HGNC:9804)

Function
Component of the centralspindlin complex that serves as a microtubule-dependent and Rho-mediated signaling required for the myosin contractile ring formation during the cell cycle cytokinesis. Required for proper attachment of the midbody to the cell membrane during cytokinesis. Sequentially binds to ECT2 and RAB11FIP3 which regulates cleavage furrow ingression and abscission during cytokinesis (PubMed:18511905). Plays key roles in controlling cell growth and differentiation of hematopoietic cells through mechanisms other than regulating Rac GTPase activity (PubMed:10979956). Has a critical role in erythropoiesis (PubMed:34818416). Also involved in the regulation of growth-related processes in adipocytes and myoblasts. May be involved in regulating spermatogenesis and in the RACGAP1 pathway in neuronal proliferation. Shows strong GAP (GTPase activation) activity towards CDC42 and RAC1 and less towards RHOA. Essential for the early stages of embryogenesis. May play a role in regulating cortical activity through RHOA during cytokinesis. May participate in the regulation of sulfate transport in male germ cells.

Cellular Location
Nucleus. Cytoplasm. Cytoplasm, cytoskeleton, spindle Cytoplasmic vesicle, secretory vesicle, acrosome. Cleavage furrow Midbody, Midbody ring. Cell membrane; Peripheral membrane protein; Cytoplasmic side. Note=Colocalizes with RND2 in Golgi-derived proacrosomal vesicles and the acrosome (By similarity). During interphase, localized to the nucleus and cytoplasm along with microtubules, in anaphase, is redistributed to the central spindle and, in telophase and cytokinesis, to the midbody ring, also called Flemming body. Colocalizes with RHOA at the myosin contractile ring during cytokinesis. Colocalizes with ECT2 to the mitotic spindles during anaphase/metaphase, the cleavage furrow during telophase and at the midbody at the end of cytokinesis. Colocalizes with Cdc42 to spindle microtubules from prometaphase to telophase.

Tissue Location
Highly expressed in testis, thymus and placenta. Expressed at lower levels in spleen and peripheral blood lymphocytes In testis, expression is restricted to germ cells with the highest levels of expression found in spermatocytes. Expression is regulated in a cell cycle-dependent manner and peaks during G2/M phase

RACGAP1 Antibody (N-term) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

RACGAP1 Antibody (N-term) Blocking peptide - Images

RACGAP1 Antibody (N-term) Blocking peptide - Background

Rho GTPases control a variety of cellular processes. Thereare 3 subtypes of Rho GTPases in the Ras superfamily of small Gproteins: RHO (see MIM 165370), RAC (see RAC1; MIM 602048), andCDC42 (MIM 116952). GTPase-activating proteins (GAPs) bindactivated forms of Rho GTPases and stimulate GTP hydrolysis.Through this catalytic function, Rho GAPs negatively regulateRho-mediated signals. GAPs may also serve as effector molecules andplay a role in signaling downstream of Rho and other Ras-likeGTPases.

RACGAP1 Antibody (N-term) Blocking peptide - References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)Seguin, L., et al. Mol. Cell. Biol. 29(2):570-581(2009)Simon, G.C., et al. EMBO J. 27(13):1791-1803(2008)Toure, A., et al. FEBS Lett. 582(8):1182-1188(2008)