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RAB21 Antibody

Catalog # ASC11507

Product Information

Application	WB, IF, E
Primary Accession	Q9UL25
Other Accession	NP_055814, 7661922
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	24348
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	RAB21 antibody can be used for detection of RAB21 by Western blot at 1 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	23011
Other Names	Ras-related protein Rab-21, RAB21, KIAA0118
Target/Specificity	RAB21; This antibody is predicted to not cross-react with other Ras-related proteins
Reconstitution & Storage	RAB21 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	RAB21 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RAB21 (HGNC:18263)
Synonyms	KIAA0118
Function	The small GTPases Rab are key regulators of intracellular membrane trafficking, from the formation of transport vesicles to their fusion with membranes. Rabs cycle between an inactive GDP-bound form and an active GTP-bound form that is able to recruit to membranes different sets of downstream effectors directly responsible for vesicle formation, movement, tethering and fusion (PubMed:18804435, PubMed:25648148, PubMed:31455601). RAB21 is involved in membrane trafficking control (PubMed:18804435, PubMed:25648148). During the mitosis of adherent cells,

	controls the endosomal trafficking of integrins which is required for the successful completion of cytokinesis (PubMed:18804435). Regulates integrin internalization and recycling, but does not influence the traffic of endosomally translocated receptors in general (By similarity). As a result, may regulate cell adhesion and migration (By similarity). Involved in neurite growth (By similarity). Following SBF2/MTMT13-mediated activation in response to starvation-induced autophagy, binds to and regulates SNARE protein VAMP8 endolysosomal transport required for SNARE-mediated autophagosome-lysosome fusion (PubMed:25648148). Modulates protein levels of the cargo receptors TMED2 and TMED10, and required for appropriate Golgi localization of TMED10 (PubMed:31455601).
Cellular Location	Endoplasmic reticulum membrane; Lipid-anchor. Golgi apparatus, trans-Golgi network. Golgi apparatus membrane. Early endosome membrane. Cytoplasmic vesicle membrane. Cleavage furrow. Cell projection, neuron projection {ECO:0000250|UniProtKB:P35282}. Note=Colocalizes with ANKRD27 and VAMP7 in neurites (By similarity). In nonpolarized epithelial Caco-2 cells, found in the endoplasmic reticulum; in polarized cells, observed in vesicles in the apical cytoplasm (PubMed:10887961). During mitosis, in mid-telophase, localized in the ingressing cleavage furrow (PubMed:18804435). In late telophase, detected at the opposite poles of the daughter cells, in vesicles at the base of lamellipodia formed by the separating daughter cells (PubMed:18804435) {ECO:0000250|UniProtKB:P35282, ECO:0000269|PubMed:10887961, ECO:0000269|PubMed:18804435}
Tissue Location	Widely expressed. In jejunal tissue, predominantly expressed in the apical region of the epithelial cell layer of the villi, weak expression, if any, in the crypt epithelium. Capillary endothelium and some cell types in the lamina propria also show expression.

Background

RAB21 Antibody: RAB21 is a member of a subfamily of small GTP-binding protein genes of the Ras superfamily that plays an important role in intracellular vesicular targeting. In non-polarized Caco-2 cells, RAB21 showed a general endoplasmic reticulum (ER)-like localization, while in polarized cells, RAB21 localized to apical vesicles. RAB21 has been shown to associate with integrin subunits and to be important for receptor entry into cells via RAB5/RAB21 endosomes. The GTPase-activating protein p120RasGAP regulates cell motility by controlling the return of the endocytosed integrins to the plasma membrane by competing with RAB21 for binding to overlapping sites on the α-tail of endocytosed integrin.

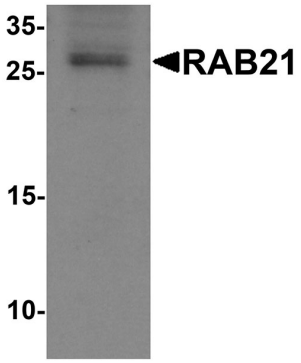
References

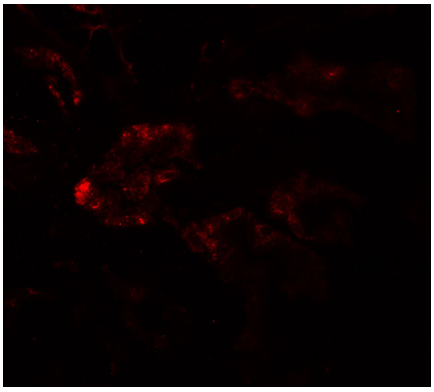
Opdam FJ, Kamps G, Croes H, et al. Expression of Rab small GTPases in epithelial Caco-2 cells: Rab21 is an apically located GTP-binding protein in polarised intestinal epithelial cells. Eur. J. Cell Biol. 2000; 79:308-16.
Pellinen T and Ivaska J. Integrin traffic. J. Cell Sci. 2006; 119:3723-31.

Mai A, Veltel S, Pellinen T, et al. Competitive binding of Rab21 and p120RasGAP to integrins regulates receptor traffic and migration. J. Cell Biol. 2011; 194:291-306.

Images

Western blot analysis of RAB21 in mouse kidney tissue lysate with RAB21 antibody at 1 µg/mL.





Immunofluorescence of RAB21 in human kidney tissue with RAB21 antibody at 20 µg/mL.