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RAB10 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP54435

Product Information

Application	WB, IHC-P, IHC-F, IF, ICC, E
Primary Accession	P61026
Reactivity	Rat, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	22541
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human RAB10
Epitope Specificity	41-140/200
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasmic vesicle membrane; Lipid-anchor(Probable); Cytoplasmic side (Probable). Golgi apparatus,trans-Golgi network membrane (By similarity). Endosome membrane.Recycling endosome membrane. Cytoplasmic vesicle, phagosomemembrane (By similarity). Cell projection, cilium. Endoplasmicreticulum membrane. Note=Associates with SLC2A4/GLUT4 storagevesicles. Localizes to the base of the cilium. Transientlyassociates with phagosomes (By similarity). According toPubMed:23263280 localizes to the endoplasmic reticulum at domainsof new tubule growth.
SIMILARITY	Belongs to the small GTPase superfamily. Rab family.
SUBUNIT	Interacts with MYO5A; mediates the transport to theplasma membrane of SLC2A4/GLUT4 storage vesicles. Interacts withGDI1 and maybe with GDI2; negatively regulates RAB10 associationwith membranes and activation. Interacts (GDP-bound form) withLLGL1; the interaction is direct and promotes RAB10 associationwith membranes and activation through competition with the Rabinhibitor GDI1 (By similarity). Interacts with EXOC4; probablyassociates with the exocyst (By similarity).
DISEASE	Belongs to the small GTPase superfamily. Rab family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The Ras-related superfamily of guanine nucleotide binding proteins, which includes the Ral/Rec, Rap, R-Ras, and Rho/Rab subfamilies, exhibit 30-60% homology with Ras p21 (1). Accumulating data suggests an important role for Rab proteins, either in endocytosis or in biosynthetic protein transport (1,2). The transport of newly synthesized proteins from the endoplasmic reticulum to various stacks of the Golgi complex and to secretory vesicles involves at each stage the movement of carrier vesicles, a process that appears to involve Rab protein function (1-6). The possibility that Rab proteins might also direct the exocytosis from secretory vesicles to the plasma membrane is supported by the observation that in yeast, the SEC4 protein, which is 40% homologous to Rab proteins, is associated with secretory vesicles (9). Several members of the Rab subfamily have been identified, each of which is found at a particular

stage of a membrane transport pathway (3-8).

Additional Information

Gene ID	10890
Other Names	Ras-related protein Rab-10, 3.6.5.2, RAB10
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

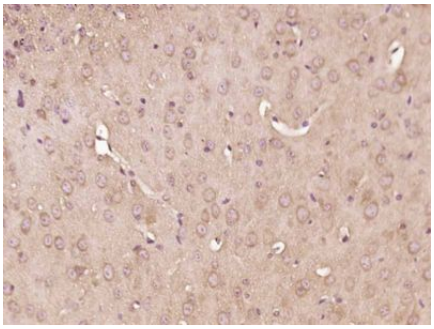
Name	RAB10 (HGNC:9759)
Function	The small GTPases Rab are key regulators of intracellular membrane trafficking, from the formation of transport vesicles to their fusion with membranes (PubMed:21248164). Rabs cycle between an inactive GDP-bound form and an active GTP-bound form that is able to recruit to membranes different set of downstream effectors directly responsible for vesicle formation, movement, tethering and fusion (PubMed:21248164). That Rab is mainly involved in the biosynthetic transport of proteins from the Golgi to the plasma membrane (PubMed:21248164). Regulates, for instance, SLC2A4/GLUT4 glucose transporter-enriched vesicles delivery to the plasma membrane (By similarity). In parallel, it regulates the transport of TLR4, a toll-like receptor to the plasma membrane and therefore may be important for innate immune response (By similarity). Also plays a specific role in asymmetric protein transport to the plasma membrane (PubMed:16641372). In neurons, it is involved in axonogenesis through regulation of vesicular membrane trafficking toward the axonal plasma membrane (By similarity). In epithelial cells, it regulates transport from the Golgi to the basolateral membrane (PubMed:16641372). May play a role in the basolateral recycling pathway and in phagosome maturation (By similarity). May play a role in endoplasmic reticulum dynamics and morphology controlling tubulation along microtubules and tubules fusion (PubMed:23263280). Together with LRRK2, RAB8A, and RILPL1, it regulates ciliogenesis (PubMed:30398148). When phosphorylated by LRRK2 on Thr-73, binds RILPL1 and inhibits ciliogenesis (PubMed:30398148). Participates in the export of a subset of neosynthesized proteins through a Rab8- Rab10-Rab11-dependent endososomal export route (PubMed:32344433). Targeted to and stabilized on stressed lysosomes through LRRK2 phosphorylation where it promotes the extracellular release of lysosomal content through EHBP1 and EHNP1L1 effector proteins (PubMed:30209220).
Cellular Location	Cytoplasmic vesicle membrane; Lipid-anchor; Cytoplasmic side. Golgi apparatus membrane. Golgi apparatus, trans-Golgi network membrane {ECO:0000250|UniProtKB:P24409}. Endosome membrane Recycling endosome membrane {ECO:0000250|UniProtKB:P24409}. Cytoplasmic vesicle, phagosome membrane {ECO:0000250|UniProtKB:P24409}. Cytoplasm, cytoskeleton, cilium basal body. Endoplasmic reticulum

membrane. Cytoplasm, perinuclear region. Lysosome. Note=Associates with SLC2A4/GLUT4 storage vesicles (PubMed:22908308). Localizes to the base of the cilium when phosphorylated by LRRK2 on Thr-73 (PubMed:20576682, PubMed:30398148). Transiently associates with phagosomes (By similarity). Localizes to the endoplasmic reticulum at domains of new tubule growth (PubMed:23263280). Colocalizes with MICAL1, GRAF1/ARHGAP26 and GRAF2/ARHGAP10 on endosomal tubules (PubMed:32344433). Localizes to enlarged lysosomes through LRRK2 phosphorylation (PubMed:30209220). {ECO:0000250|UniProtKB:P24409, ECO:0000269|PubMed:20576682, ECO:0000269|PubMed:22908308, ECO:0000269|PubMed:23263280, ECO:0000269|PubMed:30209220, ECO:0000269|PubMed:30398148, ECO:0000269|PubMed:32344433}

Tissue Location

Expressed in the hippocampus (PubMed:29562525). Expressed in neutrophils (at protein level) (PubMed:29127255) Expressed in the testis (at protein level) (PubMed:28067790)

Images



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (RAB10) Polyclonal Antibody, Unconjugated (AP54435) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.