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Anti-RAB7 RAB7A Rabbit Monoclonal Antibody

Catalog # ABO13447

Product Information

Application	WB, IHC, IF, ICC, FC
Primary Accession	P51149
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-RAB7 RAB7A Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

Gene ID	7879
Other Names	Ras-related protein Rab-7a, 3.6.5.2, RAB7A (HGNC:9788), RAB7
Calculated MW	23490
Application Details	WB 1:1000-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200 FC 1:50
Subcellular Localization	Cytoplasmic vesicle, phagosome membrane ; Peripheral membrane protein ; Cytoplasmic side. Late endosome membrane ; Peripheral membrane protein ; Cytoplasmic side. Lysosome membrane ; Peripheral membrane protein ; Cytoplasmic side. Melanosome membrane ; Peripheral membrane protein ; Cytoplasmic side. Cytoplasmic vesicle, autophagosome membrane ; Peripheral membrane protein ; Cytoplasmic side. Lipid droplet. Colocalizes with OSBPL1A at the late endosome (PubMed:16176980). Found in the ruffled border (a late endosomal-like compartment in the plasma membrane) of bone-resorbing osteoclasts. Recruited to phagosomes containing S.aureus or Mycobacterium (PubMed:21255211). Lipid droplet localization is increased upon ADRB2 stimulation (By similarity)..
Tissue Specificity	Widely expressed; high expression found in skeletal muscle..
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: GHA-18
Immunogen	A synthesized peptide derived from human RAB7

Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name	RAB7A (HGNC:9788)
Synonyms	RAB7
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:38538795). In its active state, RAB7A binds to a variety of effector proteins playing a key role in the regulation of endo-lysosomal trafficking. Governs early-to-late endosomal maturation, microtubule minus-end as well as plus-end directed endosomal migration and positioning, and endosome- lysosome transport through different protein-protein interaction cascades. Also plays a central role in growth-factor-mediated cell signaling, nutrient-transportor mediated nutrient uptake, neurotrophin transport in the axons of neurons and lipid metabolism. Also involved in regulation of some specialized endosomal membrane trafficking, such as maturation of melanosomes, pathogen-induced phagosomes (or vacuoles) and autophagosomes. Plays a role in the maturation and acidification of phagosomes that engulf pathogens, such as S.aureus and M.tuberculosis. Plays a role in the fusion of phagosomes with lysosomes. In concert with RAC1, plays a role in regulating the formation of RBs (ruffled borders) in osteoclasts. Controls the endosomal trafficking and neurite outgrowth signaling of NTRK1/TRKA (PubMed:11179213, PubMed:12944476, PubMed:14617358, PubMed:20028791, PubMed:21255211). Regulates the endocytic trafficking of the EGF-EGFR complex by regulating its lysosomal degradation. Involved in the ADRB2-stimulated lipolysis through lipophagy, a cytosolic lipase-independent autophagic pathway (By similarity). Required for the exosomal release of SDCBP, CD63 and syndecan (PubMed:22660413). Required for vesicular trafficking and cell surface expression of ACE2 (PubMed:33147445). May play a role in PRPH neuronal intermediate filament assembly (By similarity).
Cellular Location	Cytoplasmic vesicle, phagosome membrane; Peripheral membrane protein; Cytoplasmic side. Late endosome membrane; Peripheral membrane protein; Cytoplasmic side. Lysosome membrane; Peripheral membrane protein; Cytoplasmic side Melanosome membrane; Peripheral membrane protein; Cytoplasmic side. Cytoplasmic vesicle, autophagosome membrane; Peripheral membrane protein; Cytoplasmic side. Lipid droplet {ECO:0000250|UniProtKB:P51150}. Endosome membrane; Peripheral membrane protein. Cytoplasmic vesicle {ECO:0000250|UniProtKB:P51150} Mitochondrion membrane; Peripheral membrane protein. Note=Colocalizes with OSBPL1A at the late endosome (PubMed:16176980). Found in the ruffled border (a late endosomal-like compartment in the plasma membrane) of bone-resorbing osteoclasts. Recruited to phagosomes containing S.aureus or Mycobacterium (PubMed:21255211). Lipid droplet localization is increased upon ADRB2 stimulation (By similarity). Recruited to damaged mitochondria during mitophagy in a RIMOC1-dependent manner (PubMed:34432599). {ECO:0000250|UniProtKB:P51150, ECO:0000269|PubMed:16176980, ECO:0000269|PubMed:21255211, ECO:0000269|PubMed:34432599}

Tissue Location	Widely expressed; high expression found in skeletal muscle.

Images

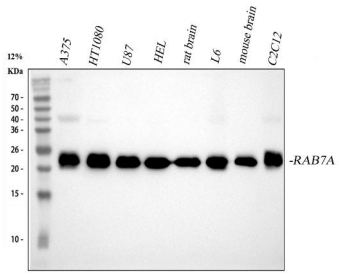
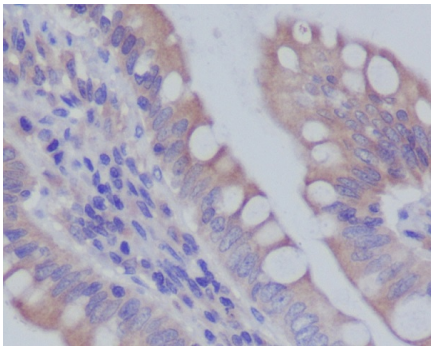
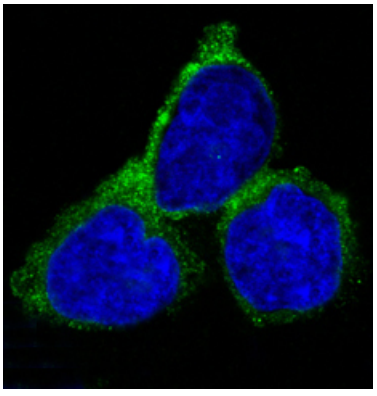


Figure 1. Western blot analysis of RAB7 using anti-RAB7 antibody (M02409).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human A375 whole cell lysates,
Lane 2: human HT1080 whole cell lysates,
Lane 3: human U87 whole cell lysates,
Lane 4: human HEL whole cell lysates,
Lane 5: rat brain tissue lysates,
Lane 6: rat L6 whole cell lysates,
Lane 7: mouse brain tissue lysates,
Lane 8: mouse C2C12 whole cell lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-RAB7 antigen affinity purified monoclonal antibody (Catalog # M02409) at 1:1000 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for RAB7 at approximately 23 kDa. The expected band size for RAB7 is at 23 kDa.



mmunohistochemical analysis of paraffin-embedded human colon, using RAB7 Antibody.



Immunofluorescent analysis of Hela cells, using RAB7 Antibody.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.