

Anti-RAB7 RAB7A Rabbit Monoclonal Antibody
Catalog # ABO13447**Specification****Anti-RAB7 RAB7A Rabbit Monoclonal Antibody - 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.

Anti-RAB7 RAB7A Rabbit Monoclonal Antibody - Additional Information

Gene ID 7879

Other Names

Ras-related protein Rab-7a, 3.6.5.2, RAB7A (http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=9788), RAB7

Calculated MW

23490 MW KDa

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..

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.

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.

Anti-RAB7 RAB7A Rabbit Monoclonal Antibody - 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. 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. Plays a central role, not only in endosomal traffic, but also in many other cellular and physiological events, such as growth-factor-mediated cell signaling, nutrient-transporter 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. Plays important roles in microbial pathogen infection and survival, as well as in participating in the life cycle of viruses. Microbial pathogens possess survival strategies governed by RAB7A, sometimes by employing RAB7A function (e.g. *Salmonella*) and sometimes by excluding RAB7A function (e.g. *Mycobacterium*). 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.

Anti-RAB7 RAB7A Rabbit Monoclonal Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-RAB7 RAB7A Rabbit Monoclonal Antibody - Images

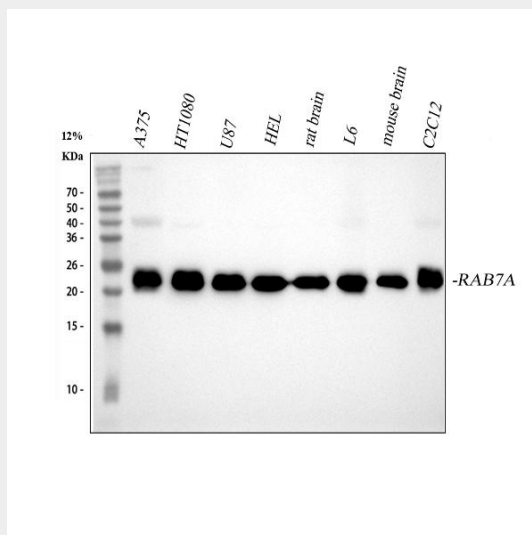


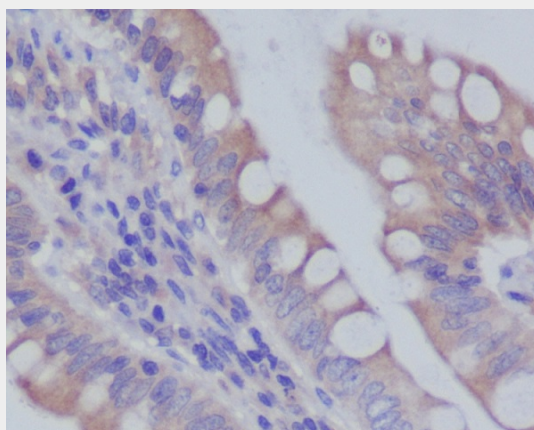
Figure 1. Western blot analysis of RAB7 using anti-RAB7 antibody (M02409).

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.

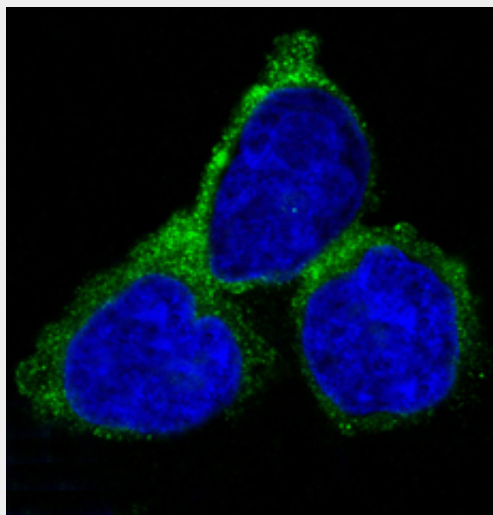
Lane 1: human A375 whole cell lysates,
Lane 2: human HT1080 whole cell lysates,
Lane 3: human U87 whole cell lysates,

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.



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



Immunofluorescent analysis of Hela cells, using RAB7 Antibody.