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# Anti-RAB7 Picoband Antibody

Catalog # ABO12569

## Product Information

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| **Application** | WB |
| **Primary Accession** | P51149 |
| **Host** | Rabbit |
| **Reactivity** | Human, Mouse, Rat |
| **Clonality** | Polyclonal |
| **Format** | Lyophilized |
| **Description** | Rabbit IgG polyclonal antibody for Ras-related protein Rab-7a(RAB7A) detection. Tested with WB in Human;Mouse;Rat. |
| **Reconstitution** | Add 0.2ml of distilled water will yield a concentration of 500ug/ml. |

## Additional Information

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| **Gene ID** | 7879 |
| **Other Names** | Ras-related protein Rab-7a, RAB7A, RAB7 |
| **Calculated MW** | 23490 |
| **Application Details** | Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat |
| **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 |
| **Protein Name** | Ras-related protein Rab-7a |
| **Contents** | Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3. |
| **Immunogen** | A synthetic peptide corresponding to a sequence at the C-terminus of human RAB7 (157-196aa KEAINVEQAFQTIARNALKQETEVELYNEFPEPIKLDKND), |

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| | identical to the related mouse sequence, and different from the related rat sequence by one amino acid. |
| **Purification** | Immunogen affinity purified. |
| **Cross Reactivity** | No cross reactivity with other proteins. |
| **Storage** | At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing. |

## Protein Information

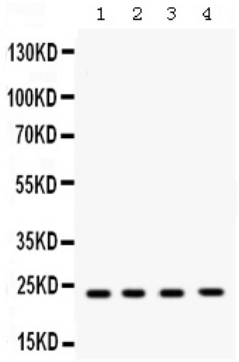
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| **Name** | RAB7A ( HGNC:9788) |
| **Synonyms** | RAB7 |
| **Function** | The small GTPases Rab are key regulators of intracellular membrane trafficking, from the formation of transport vesicles to their fusion with membranes. Rabs cycle between an 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 |

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| | 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. |

## Background

Ras-related protein Rab-7a is a protein that in humans is encoded by the RAB7A gene. RAB7A functions as a key regulator in endo-lysosomal trafficking, governs early-to-late endosomal maturation, microtubule minus-end as well as plus-end directed endosomal migration and positions, and endosome-lysosome transport through different protein-protein interaction cascades. Furthermore, RAB7A is involved in regulation of some specialized endosomal membrane trafficking, such as maturation of melanosomes through modulation of SOX10 and the oncogene MYC. Mutations in the lysosomal pathway result in tumor progression in melanoma cells.

## Images




Western blot analysis of RAB7 expression in rat brain extract (lane 1), mouse spleen extract (lane 2), HELA whole cell lysates (lane 3) and MCF-7 whole cell lysates (lane 4). RAB7 at 23KD was detected using rabbit anti-RAB7 Antigen Affinity purified polyclonal antibody (Catalog # ABO12569) at0.5 ??g/mL. The blot was developed using chemiluminescence (ECL) method .

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