

KD-Validated Anti-RAB7 Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI1633**Specification****KD-Validated Anti-RAB7 Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC, ICC
Primary Accession	P51149
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 23 kDa , observed , 23 kDa KDa
Gene Name	RAB7A
Aliases	RAB7A, Member RAS Oncogene Family; RAB7; RAB7, Member RAS Oncogene Family; Ras-Related Protein Rab-7a; CMT2B; Charcot-Marie-Tooth Neuropathy 2B; Ras-Associated Protein RAB7; EC 3.6.5.2; PRO2706
Immunogen	A synthesized peptide derived from human RAB7

KD-Validated Anti-RAB7 Rabbit Monoclonal Antibody - Additional Information

Gene ID	7879
Other Names	
Ras-related protein Rab-7a, 3.6.5.2, RAB7A (HGNC:9788), RAB7	

KD-Validated Anti-RAB7 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 (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-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. 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

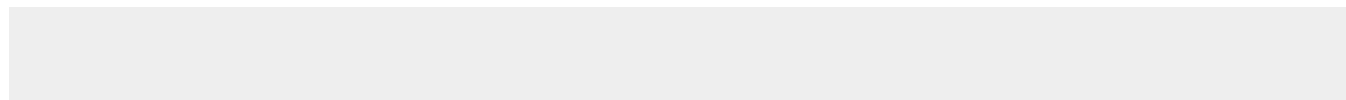
Widely expressed; high expression found in skeletal muscle.

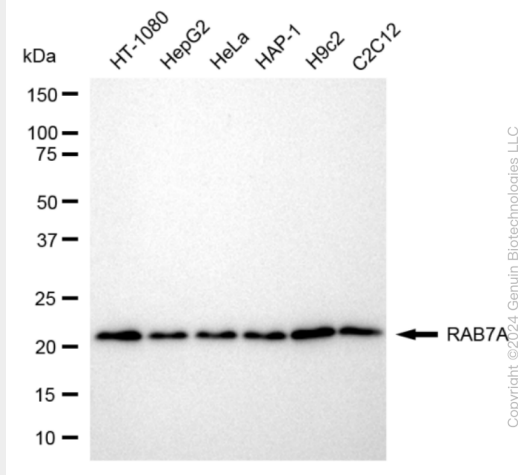
KD-Validated Anti-RAB7 Rabbit Monoclonal Antibody - Protocols

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

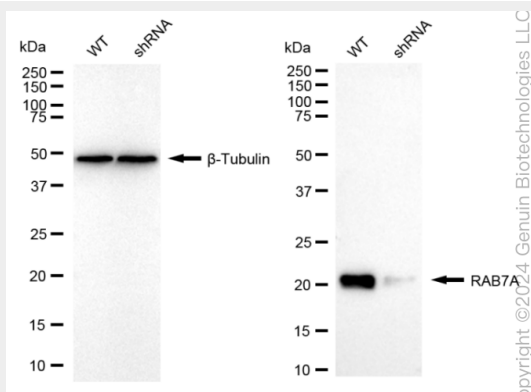
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

KD-Validated Anti-RAB7 Rabbit Monoclonal Antibody - Images

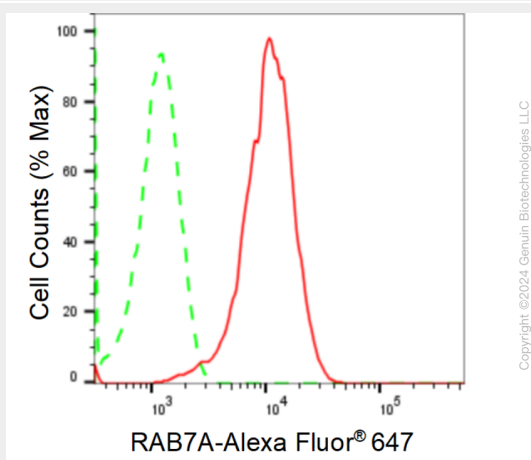




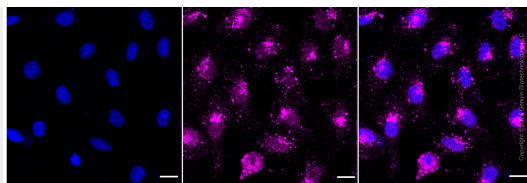
Western blotting analysis using anti-RAB7A antibody (Cat#AGI1633). Total cell lysates (30 μ g) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-RAB7A antibody (Cat#AGI1633, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-RAB7A antibody (Cat#AGI1633). RAB7A expression in wild type (WT) and RAB7A shRNA knockdown (KD) HeLa cells with 20 μ g of total cell lysates. β -Tubulin serves as a loading control. The blot was incubated with anti-RAB7A antibody (Cat#AGI1633, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of RAB7A expression in H9c2 cells using anti-RAB7A antibody (Cat#AGI1633, 1:2,000). Green, isotype control; red, RAB7A.



Immunocytochemical staining of H9c2 cells with anti-RAB7A antibody (Cat#AGI1633, 1:1,000). Nuclei were stained blue with DAPI; RAB7A was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Low. Scale bar: 20 μ m.