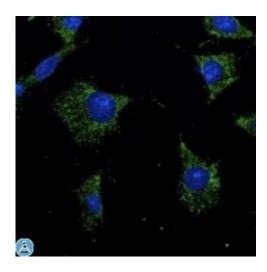


Anti-Rab7a antibody



Description Goat polyclonal antibody to mouse Rab7. Rab7 belongs to the small

GTPase superfamily, Rab family. It has been localized to late endosomes, regulates vesicle traffic in the late endosomes and also from late endosomes to lysosomes. Rab7 also contributes to the maturation of

phagosomes (acidification).

Model STJ140063

Host Goat

Reactivity Avian, Bovine, Canine, Donkey, Feline, Goat, Guinea Pig, Hamster, Horse,

Human, Mouse, Other, Porcine, Rabbit, Rat, Sheep, Simian

Applications IF, WB

Immunogen Purified recombinant peptide derived from within residues 110 aa to the C-

terminus of mouse Rab7a produced in E. coli.

Immunogen Region C-Term

Gene ID <u>7879</u>

Gene Symbol RAB7A

Dilution range Western blot 1:250-1:2,000 Immunofluorescence 1:50-1:250

Immunohistochemistry (paraffin) ND Immunohistochemistry (frozen) ND

Specificity Detects Rab7a protein in the human, rat and mouse whole cell lysates and

transfected cells with GFP-Rab7a by Western blot. This Ab is specific for

Rab7a.

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

Purification This antibody is epitope-affinity purified from goat antiserum.

Note For research use only (RUO).

Protein Name Ras-related protein Rab-7a

Molecular Weight 24 kDa

Clonality Polyclonal

Conjugation Unconjugated

Isotype IgG

Formulation PBS, 20% glycerol and 0.05% sodium azide.

Concentration 3 mg/mL

Storage Instruction Store at -20°, and avoid repeated freeze-thaw cycles.

Database Links <u>HGNC:9788OMIM:600882</u>

Alternative Names Ras-related protein Rab-7a

Function Ke

Key regulator in 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-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. 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. 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. Required for the exosomal release of SDCBP, CD63 and syndecan.

Cellular Localization

Cytoplasmic vesicle, phagosome membrane Late endosome membrane Lysosome membrane Melanosome membrane Cytoplasmic vesicle, autophagosome membrane Lipid droplet Endosome membrane. Colocalizes with OSBPL1A at the late endosome . 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 . Lipid droplet localization is increased upon ADRB2 stimulation .