

Anti-Rab5 Antibody
Catalog # ABO11080**Specification**

Anti-Rab5 Antibody - Product Information

Application	WB, IHC-P
Primary Accession	P20339
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Ras-related protein Rab-5A(RAB5A) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Rab5 Antibody - Additional Information

Gene ID 5868

Other Names

Ras-related protein Rab-5A, RAB5A, RAB5

Calculated MW

23659 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

Subcellular Localization

Cell membrane ; Lipid-anchor ; Cytoplasmic side . Early endosome membrane ; Lipid-anchor . Melanosome. Cytoplasmic vesicle . Cell projection, ruffle . Membrane. Cytoplasm, cytosol. Enriched in stage I melanosomes. Alternates between membrane-bound and cytosolic forms.

Protein Name

Ras-related protein Rab-5A

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human Rab5(138-155aa ANKRAVDFQEAQSYADDN), identical to the related rat and mouse sequences.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, 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.

Anti-Rab5 Antibody - Protein Information

Name RAB5A ([HGNC:9783](#))

Synonyms RAB5

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. RAB5A is required for the fusion of plasma membranes and early endosomes and involved in early endocytic trafficking (PubMed: [10818110](http://www.uniprot.org/citations/10818110), PubMed: [14617813](http://www.uniprot.org/citations/14617813), PubMed: [15378032](http://www.uniprot.org/citations/15378032), PubMed: [16086013](http://www.uniprot.org/citations/16086013), PubMed: [16410077](http://www.uniprot.org/citations/16410077), PubMed: [17562788](http://www.uniprot.org/citations/17562788)). Required for EEA1 recruitment to early endosomes (PubMed: [16086013](http://www.uniprot.org/citations/16086013), PubMed: [17562788](http://www.uniprot.org/citations/17562788)). Recruits FERRY complex to early endosomes, where FERRY links early endosomes with a subgroup of mRNAs to enable mRNA intracellular distribution (PubMed: [37267906](http://www.uniprot.org/citations/37267906)). Recruits RABEP1/Rabaptin-5 effector to early endosomes, thereby promoting endocytic membrane fusion (By similarity). Required for EGF and transferrin endocytosis and trafficking through early endosomes (PubMed: [16086013](http://www.uniprot.org/citations/16086013), PubMed: [17562788](http://www.uniprot.org/citations/17562788)). Contributes to the regulation of filopodia extension (PubMed: [14978216](http://www.uniprot.org/citations/14978216)). Required for the exosomal release of SDCBP, CD63, PDZD6IP and syndecan (PubMed: [22660413](http://www.uniprot.org/citations/22660413)). Regulates maturation of apoptotic cell-containing phagosomes, probably downstream of DYN2 and PIK3C3 (By similarity).

Cellular Location

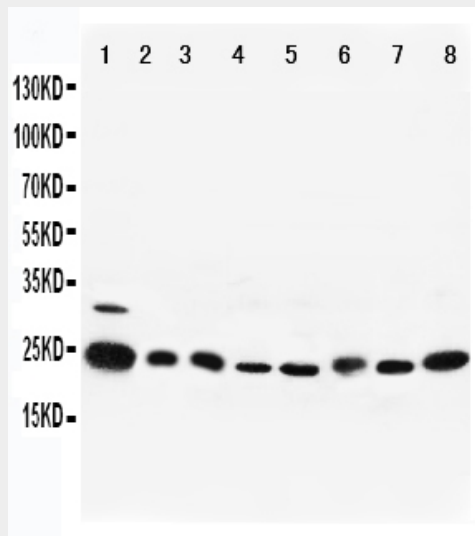
Cell membrane; Lipid-anchor; Cytoplasmic side. Early endosome membrane; Lipid-anchor. Melanosome Cytoplasmic vesicle. Cell projection, ruffle {ECO:0000250|UniProtKB:P18066}. Membrane. Cytoplasm, cytosol. Cytoplasmic vesicle, phagosome membrane {ECO:0000250|UniProtKB:Q9CQD1}. Endosome membrane Note=Enriched in stage I melanosomes (PubMed:17081065). Alternates between membrane-bound and cytosolic forms (Probable) {ECO:0000269|PubMed:17081065, ECO:0000305}

Anti-Rab5 Antibody - Protocols

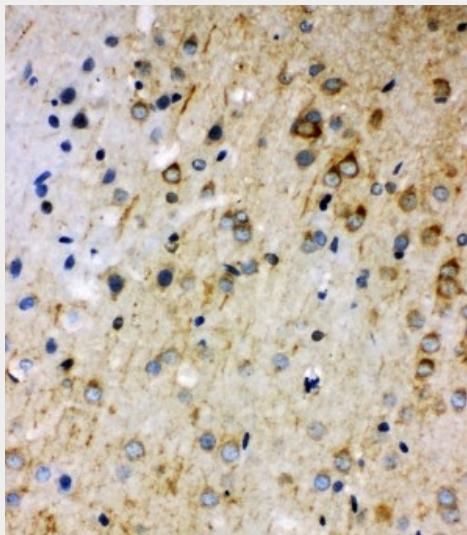
Provided below are standard protocols that you may find useful for product applications.

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

Anti-Rab5 Antibody - Images



Anti-Rab5 antibody, ABO11080, Western blotting Lane 1: Rat Brain Tissue Lysate Lane 2: Rat Ovary Tissue Lysate Lane 3: Human Placenta Tissue Lysate Lane 4: HELA Cell Lysate Lane 5: 293T Cell Lysate Lane 6: A375 Cell Lysate Lane 7: COLO320 Cell Lysate Lane 8: MM453 Cell Lysate



Anti-Rab5 antibody, ABO11080, IHC(P)IHC(P):Rat Brain Tissue

Anti-Rab5 Antibody - Background

RAB5A (Ras-associated protein RAB5A), also called RAB5, is a protein that in humans is encoded by

the RAB5A gene. RAB5 is a rate-limiting component of the machinery regulating the kinetics of membrane traffic in the early endocytic pathway. The RAB5A gene is mapped on 3p24.3. RAB5 is indispensable for a form of receptor tyrosine kinase-induced actin remodeling called circular ruffling. It signals to the actin cytoskeleton through RNTRE, a RAB5-specific GTPase-activating protein (GAP). RAB5 activity on phagosome membranes began to increase on disassembly of the actin coat encapsulating phagosomes. In addition, RAB5 activation is either continuous or repetitive for up to 10 minutes, but it ends before the collapse of engulfed apoptotic cells. Expression of a dominant-negative mutant of RAB5 delayed this collapse of apoptotic thymocytes, showing a role for RAB5 in phagosome maturation.