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Functional Rab1-GTP Antibody, mAb (recombinant)

Catalog # ADP0033

Specification

Functional Rab1-GTP Antibody, mAb (recombinant) - Product Information

Application	**ICC**
Primary Accession	P62820
Reactivity	**Human, Mouse, Rat, Dog**
Host	**Purified From HEK 293 Cell culture Supernatant.**
Clonality	**Monoclonal**
Isotype	**Human IgG2λ**
Gene Source	**Human**
Application Note	**,ICC(1:1000),IP(1:200)**
Calculated MW	**22678**
Description	**anti-Rab1-GTP, monoclonal antibody (recombinant) (ROF7) is composed of human variable regions (VH and VL) (λ-chain) of immunoglobulin fused to the human IgG2 Fc domain.**

Functional Rab1-GTP Antibody, mAb (recombinant) - Additional Information

Gene ID 5861

Other Names
Ras-related Protein Rab-1

Target/Specificity
Recognizes human, mouse, rat and dog Rab1a-GTP and Rab1b-GTP.

Format
Liquid. In PBS containing 10% glycerol and 0.02% sodium azide.

Reconstitution & Storage
Stable for at least 1 month after receipt when stored at +4°C. Stable for at least 1 year after receipt when stored at -20°C.

Precautions
Functional Rab1-GTP Antibody, mAb (recombinant) is for research use only and not for use in diagnostic or therapeutic procedures.

Functional Rab1-GTP Antibody, mAb (recombinant) - Protein Information

Name RAB1A

Synonyms RAB1

Function
The small GTPases Rab are key regulators of intracellular membrane trafficking, from the formation of transport vesicles to their fusion with membranes (PubMed:20639577, PubMed:20861236, PubMed:21303926, PubMed:22939626). 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:20639577, PubMed:20861236, PubMed:21303926, PubMed:22939626). RAB1A regulates vesicular protein transport from the endoplasmic reticulum (ER) to the Golgi compartment and on to the cell surface, and plays a role in IL-8 and growth hormone secretion (PubMed:21303926). Required to modulate the compacted morphology of the Golgi (PubMed:26209634). Regulates the level of CASR present at the cell membrane (PubMed:20861236). Plays a role in cell adhesion and cell migration, via its role in protein trafficking (PubMed:20639577). Plays a role in autophagosome assembly and cellular defense reactions against pathogenic bacteria (PubMed:22939626). Plays a role in microtubule-dependent protein transport by early endosomes and in anterograde melanosome transport (By similarity).

Cellular Location
Golgi apparatus. Endoplasmic reticulum. Early endosome. Cytoplasm, cytosol. Membrane. Melanosome {ECO:0000250|UniProtKB:P62821}. Note=Alternates between membrane- associated and cytosolic forms.

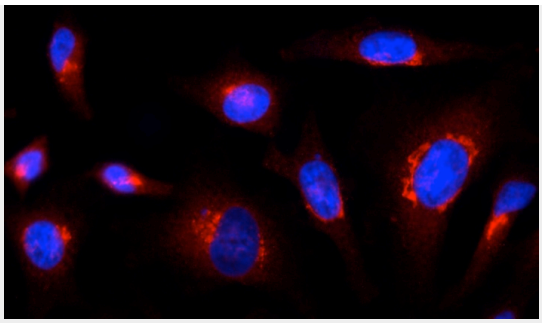
Functional Rab1-GTP Antibody, mAb (recombinant) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Functional Rab1-GTP Antibody, mAb (recombinant) - Images

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Rab1-GTP is detected by immunocytochemistry using anti-Rab1-GTP, mAb (ROF7).
Method: HeLa cells are grown in standard culture conditions, fixed with paraformaldehyde (3%), permeablized in PBS+ BSA 0.2 % + Saponin 0.05 % and incubated with anti-Rab1-GTP, mAb (ROF7)(1mg /ml) in PBS-BSA-Saponin). After incubation for 30 min at RT and several washes in PBS, cells are treated with a goat anti-human (Cy3) antibody in PBS-BSA-Saponin for 30 min at RT, washed and mounted in Moewiol. Nuclei are stained with DAPI.
Picture courtesy of Dr. Moutel, Dr. Franck Perez lab, Curie Institute, Paris.

Functional Rab1-GTP Antibody, mAb (recombinant) - Background

Rab1 (Ypt1 in yeast) is a small GTPase that plays a well-established role in mediating ER-to-Golgi protein transport in both yeast and mammalian cells. Rab1 recruits effector proteins to budding COPII vesicles at the ER, forming cis-SNARE complexes that promote targeting to and fusion of these vesicles with the cis-Golgi. Rab1 is also involved in COPI vesicle formation and other distinct transport pathways, including ER-to-Golgi intermediate compartment (ERGIC)-to-cell periphery trafficking. Recently Rab1 has been shown to function in antimicrobial autophagy (autophagosome formation), as well as other forms of autophagy in mammalian cells in a way independent of ER-to-Golgi trafficking.anti-Rab1-GTP, monoclonal antibody (recombinant) (ROF7) is an antibody developed by antibody phage display technology using a human naive antibody gene library. These libraries consist of scFv (single chain fragment variable) composed of VH (variable domain of the human immunoglobulin heavy chain) and VL (variable domain of the human immunoglobulin light chain) connected by a polypeptide linker. The antibody fragments are displayed on the surface of filamentous bacteriophage (M13). This scFv was selected by affinity selection on antigen in a process termed panning. Multiple rounds of panning are performed to enrich for antigen-specific scFv-phage. Monoclonal antibodies are subsequently identified by screening after each round of selection. The selected monoclonal scFv is cloned into an appropriate vector containing a Fc portion of interest and then produced in mammalian cells to generate an IgG like scFv-Fc fusion protein.