

Product datasheet

Anti-RAB7 antibody ab77993

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Overview

Product name	Anti-RAB7 antibody
Description	Rabbit polyclonal to RAB7
Host species	Rabbit
Tested applications	Suitable for: IHC-Fr, WB, IHC-P
Species reactivity	Reacts with: Rat, Chicken, Cow, Dog, Human, Xenopus laevis, Chimpanzee, Monkey, Zebrafish
Immunogen	Synthetic peptide, corresponding to a portion of the amino acids 90-140 of Human RAB7A
Positive control	Skeletal muscle tissue.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 0.05% BSA
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab77993** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-Fr		Use at an assay dependent concentration. PubMed: 22781172
WB		Use a concentration of 0.5 - 1 µg/ml. Detects a band of approximately 23 kDa (predicted molecular weight: 23 kDa).
IHC-P		Use a concentration of 10 µg/ml.

Target

Function

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-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. 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.

Tissue specificity

Widely expressed; high expression found in skeletal muscle.

Involvement in disease

Defects in RAB7A are the cause of Charcot-Marie-Tooth disease type 2B (CMT2B) [MIM:600882]; also known as hereditary motor and sensory neuropathy II (HMSN2). CMT2B is a form of Charcot-Marie-Tooth disease, the most common inherited disorder of the peripheral nervous system. Charcot-Marie-Tooth disease is classified in two main groups on the basis of electrophysiologic properties and histopathology: primary peripheral demyelinating neuropathy or CMT1, and primary peripheral axonal neuropathy or CMT2. Neuropathies of the CMT2 group are characterized by signs of axonal regeneration in the absence of obvious myelin alterations, normal or slightly reduced nerve conduction velocities, and progressive distal muscle weakness and atrophy. CMT2B is clinically characterized by marked distal muscle weakness and a high frequency of foot ulcers, infections and amputations of the toes. CMT2B inheritance is autosomal dominant.

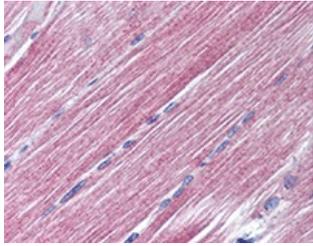
Sequence similarities

Belongs to the small GTPase superfamily. Rab family.

Cellular localization

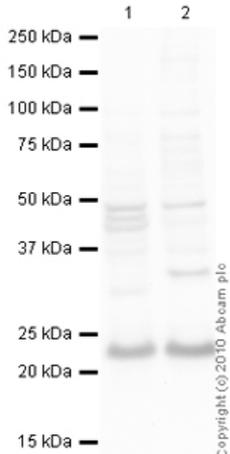
Late endosome. Lysosome. Cytoplasmic vesicle > phagosome. Melanosome. Cytoplasmic vesicle > phagosome membrane. Co-localizes with OSBPL1A at the late endosome. Found in the ruffled border (a late endosomal-like compartment in the plasma membrane) of bone-resorbing osteoclasts. Recruited to phagosomes containing *S.aureus* or *Mycobacterium*.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RAB7 antibody (ab77993)

ab77993 at 10µg/ml staining RAB7 in human skeletal muscle tissue by Immunohistochemistry using formalin-fixed, paraffin-embedded tissue.



Western blot - Anti-RAB7 antibody (ab77993)

All lanes : Anti-RAB7 antibody (ab77993) at 1 µg/ml

Lane 1 : Human brain tissue lysate - total protein (ab29466)

Lane 2 : A431 (Human epithelial carcinoma cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97080) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 23 kDa

Observed band size: 23 kDa

Additional bands at: 34 kDa, 49 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 1 minute

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