


# Anti-RAB7 antibody ab229647

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### Overview

<b>Product name</b>	Anti-RAB7 antibody
<b>Description</b>	Rabbit polyclonal to RAB7
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> ICC/IF, IHC-P, WB
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human <b>Predicted to work with:</b> Sheep, Cow, Dog, Xenopus laevis 
<b>Immunogen</b>	Synthetic peptide within Human RAB7 (internal sequence). The exact sequence is proprietary. (Carrier-protein conjugated). Database link: <a href="#">P51149</a>
<b>Positive control</b>	WB: HEK-293T, A431, HeLa and HepG2 whole cell extracts. IHC-P: Mouse liver and rat intestine tissues. ICC/IF: A431 cells and DIV9 rat E18 primary cortical neurons.
<b>General notes</b>	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&amp;As</p>

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.00 Preservative: 0.025% Proclin 300 Constituents: 78% PBS, 1% BSA, 20% Glycerol (glycerin, glycerine)
<b>Purity</b>	Immunogen affinity purified
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

## Applications

### The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab229647 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
ICC/IF		1/100 - 1/1000.
IHC-P		1/100 - 1/1000.
WB		1/500 - 1/3000. Predicted molecular weight: 23 kDa.

## 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.

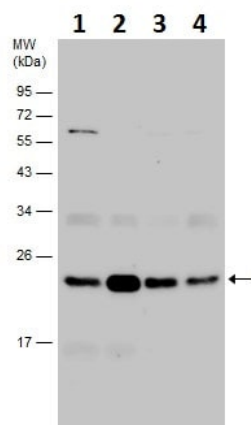
### Sequence similarities

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



Western blot - Anti-RAB7 antibody (ab229647)

**All lanes :** Anti-RAB7 antibody (ab229647) at 1/1000 dilution

**Lane 1 :** HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell extract

**Lane 2 :** A431 (human epidermoid carcinoma cell line) whole cell extract

**Lane 3 :** HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell extract

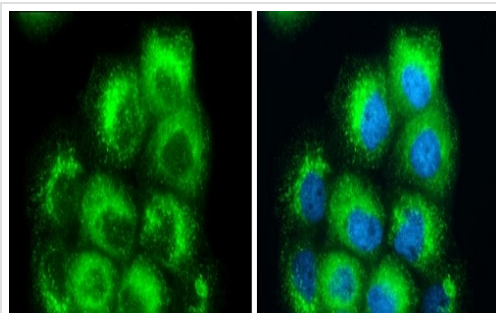
**Lane 4 :** HepG2 (human liver hepatocellular carcinoma cell line) whole cell extract

Lysates/proteins at 30 µg per lane.

Developed using the ECL technique.

**Predicted band size:** 23 kDa

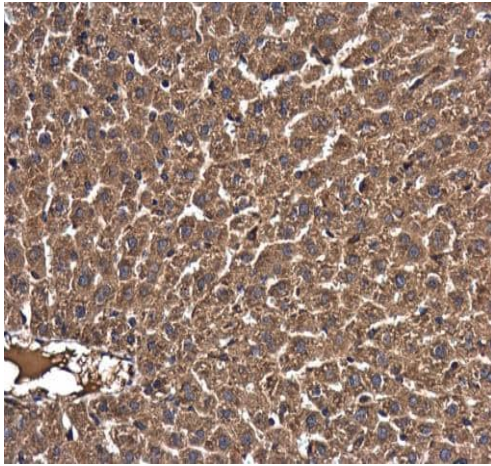
12% SDS-PAGE gel.



Immunocytochemistry/ Immunofluorescence - Anti-RAB7 antibody (ab229647)

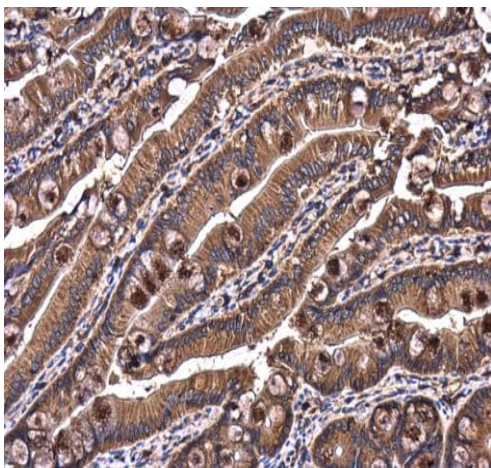
4% paraformaldehyde-fixed A431 (human epidermoid carcinoma cell line) cells stained for Rab7 (green) using ab229647 at 1/500 dilution in ICC/IF.

Blue: Hoechst 33342 staining.



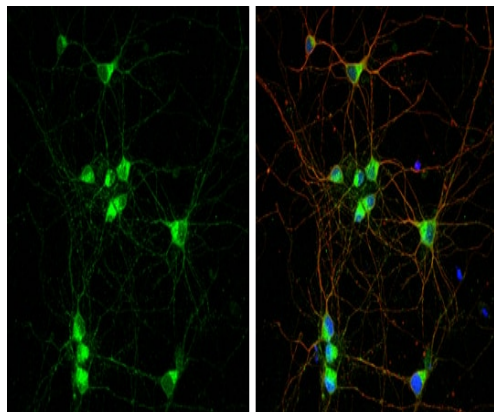
Paraffin-embedded mouse liver tissue stained for Rab7 using ab229647 at 1/500 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RAB7 antibody (ab229647)



Paraffin-embedded rat intestine tissue stained for Rab7 using ab229647 at 1/500 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RAB7 antibody (ab229647)



Immunocytochemistry/ Immunofluorescence - Anti-RAB7 antibody (ab229647)

4% paraformaldehyde-fixed DIV9 rat E18 primary cortical neurons stained for Rab7 (green) using ab229647 at 1/500 dilution in ICC/IF.

Red: beta Tubulin 3 stained by beta Tubulin 3 antibody at 1/500 dilution.

Blue: DAPI.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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