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Product datasheet

Recombinant Human RAB7 protein ab103507

3 References 1 Image

Description

Product name	Recombinant Human RAB7 protein
Purity	> 90 % SDS-PAGE. purified by using anion-exchange chromatography (DEAE sepharose resin) and gel-filtration chromatography (Sephacryl S-200) with 20mM Tris pH 7.5, 2mM EDTA.
Expression system	Escherichia coli
Accession	P51149
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	**MGSSHHHHHH SSGLVPRGSH** MTSRKKVLLK VIILGDSGVG KTSLMNQYVN KKFSNQYKAT IGADFLTKEV MVDDRLVTMQ IWDTAGQERF QSLGVAFYRG ADCCVLVFDV TAPNTFKTLD SWRDEFLIQA SPRDPENFPF VVLGNKIDLE NRQVATKRAQ AWCYSKNNIP YFETSAKEAI NVEQAFQTIA RNALKQETEV ELYNEFPEPI KLDKNDRAKA SAESCSC
Predicted molecular weight	26 kDa including tags
Amino acids	1 to 207
Tags	His tag N-Terminus

Specifications

Our **Abpromise guarantee** covers the use of **ab103507** in the following tested applications.

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

Applications	SDS-PAGE Mass Spectrometry
Mass spectrometry	MALDI-TOF
Form	Liquid

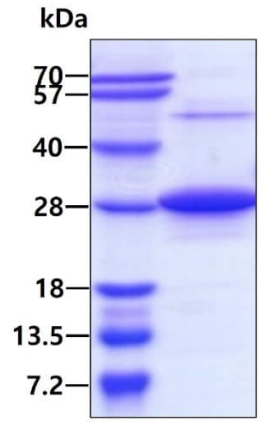
Preparation and Storage

Stability and Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles. pH: 8.00 Constituents: 0.0154% DTT, 0.316% Tris HCl, 30% Glycerol (glycerin, glycerine), 0.58% Sodium chloride

General Info

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-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.
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



SDS-PAGE - Recombinant Human RAB7 protein (ab103507)

3ug by SDS-PAGE under reducing conditions and visualized by coomassie blue stain.

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