SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 7b (JK-17): sc-81922

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies. Increasing data suggests an important role for Rab proteins in either endocytosis or in biosynthetic protein transport. The process of transporting newly synthesized proteins from the endoplasmic reticulum to various stacks of the Golgi complex and to secretory vesicles involves the movement of carrier vesicles and requires Rab protein function. Rab proteins are also an integral part of endocytic pathways. Rab 7b is a member of the Rab family of proteins and shares high homology (65% similarity) with Rab 7, a Rab GTPase that regulates vesicular traffic in the endocytic pathway. Expressed in lung, placenta, skeletal muscle, heart and peripheral blood leukocytes, Rab 7b is believed to play a role in the regulation of monocyte functions, including endocytosis and presentation of protein antigens. In addition, Rab 7b is phosphorylated by PKC and casein kinase II and is presumed to function as a Rab GTPase.

REFERENCES

1. Ohsumi, K., et al. 2002. Cloning and characterization of a gene (avaA) from *Aspergillus nidulans* encoding a small GTPase involved in vacuolar biogenesis. Gene 291: 77-84.
2. Yang, M., et al. 2004. Rab7b, a novel lysosome-associated small GTPase, is involved in monocytic differentiation of human acute promyelocytic leukemia cells. Biochem. Biophys. Res. Commun. 318: 792-799.

CHROMOSOMAL LOCATION

Genetic locus: RAB7B (human) mapping to 1q32.1.

SOURCE

Rab 7b (JK-17) is a mouse monoclonal antibody raised against recombinant Rab 7b of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Rab 7b (JK-17) is recommended for detection of Rab 7b of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Rab 7b siRNA (h): sc-106472, Rab 7b shRNA Plasmid (h): sc-106472-SH and Rab 7b shRNA (h) Lentiviral Particles: sc-106472-V.

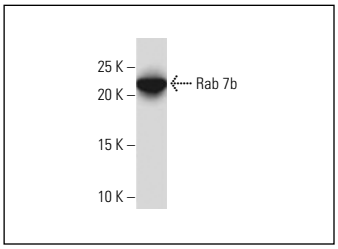
Molecular Weight of Rab 7b: 26 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

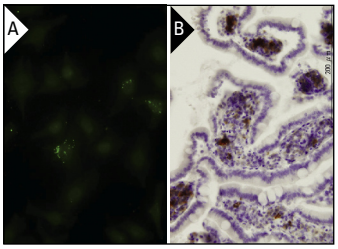
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Rab 7b (JK-17): sc-81922. Western blot analysis of Rab 7b expression in HeLa whole cell lysate.



Rab 7b (JK-17): sc-81922. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human small Intestine tissue showing cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Sender, V., et al. 2011. Pulmonary surfactant protein A enhances endolysosomal trafficking in alveolar macrophages through regulation of Rab7. J. Immunol. 186: 2397-2411.
2. Richter, K.N., et al. 2018. Comparative synaptosome imaging: a semi-quantitative method to obtain copy numbers for synaptic and neuronal proteins. Sci. Rep. 8: 14838.
3. Narayana, Y.V., et al. 2019. Clathrin-mediated endocytosis regulates a balance between opposing signals to maintain the pluripotent state of embryonic stem cells. Stem Cell Reports 12: 152-164.
4. de Matos, V.S., et al. 2020. Aliskiren reduces the adrenal zona glomerulosa apoptosis and autophagy in wistar rats with 2K1C hypertension. Int. J. Hypertens. 2020: 7684849.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.