

Rab 2 (A-8): sc-133081

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies all of which are thought to play an important role in either endocytosis or in biosynthetic protein transport. The process of transporting newly synthesized proteins from the Endoplasmic reticulum (ER) 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. A member of the small Rab family and GTPase superfamily, Rab 2, which is also known as Ras-related protein Rab-2A, RAB2A, Ras-related protein Rab-2B or RAB2B, plays an essential in protein transport from the endoplasmic reticulum to the Golgi complex.

REFERENCES

1. Zahraoui, A., et al. 1989. The human Rab genes encode a family of GTP-binding proteins related to yeast YPT1 and SEC4 products involved in secretion. *J. Biol. Chem.* 264: 12394-12401.
2. Chavrier, P., et al. 1992. The complexity of the Rab and Rho GTP-binding protein subfamilies revealed by a PCR cloning approach. *Gene* 112: 261-264.
3. Pfeffer, S.R. 1992. GTP-binding proteins in intracellular transport. *Trends Cell Biol.* 2: 41-46.
4. Baldini, G., et al. 1992. Cloning of a Rab 3 isotype predominately expressed in adipocytes. *Proc. Natl. Acad. Sci. USA* 89: 5049-5052.
5. Takizawa, P. and Malhotra, V. 1993. Coatomers and SNAREs in promoting membrane traffic. *Cell* 75: 593-596.

CHROMOSOMAL LOCATION

Genetic locus: RAB2A (human) mapping to 8q12.1, RAB2B (human) mapping to 14q11.2; Rab2a (mouse) mapping to 4 A1, Rab2b (mouse) mapping to 14 C2.

SOURCE

Rab 2 (A-8) is a mouse monoclonal antibody raised against amino acids 1-212 representing full length Rab 2A of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rab 2 (A-8) is available conjugated to agarose (sc-133081 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133081 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133081 PE), fluorescein (sc-133081 FITC), Alexa Fluor® 488 (sc-133081 AF488), Alexa Fluor® 546 (sc-133081 AF546), Alexa Fluor® 594 (sc-133081 AF594) or Alexa Fluor® 647 (sc-133081 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133081 AF680) or Alexa Fluor® 790 (sc-133081 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

Rab 2 (A-8) is recommended for detection of Rab 2A and Rab 2B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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); partially cross reactive with other Rab family members.

Rab 2 (A-8) is also recommended for detection of Rab 2A and Rab 2B in additional species, including canine.

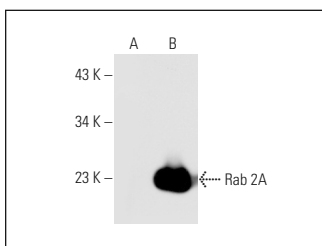
Molecular Weight of Rab 2: 24 kDa.

Positive Controls: Rab 2A (h): 293T Lysate: sc-117751.

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 2 (A-8): sc-133081. Western blot analysis of Rab 2A expression in non-transfected: sc-117752 (A) and human Rab 2A transfected: sc-117751 (B) 293T whole cell lysates.



Rab 2 (A-8): sc-133081. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and membrane staining of urothelial cells.

SELECT PRODUCT CITATIONS

1. Portilla, Y., et al. 2022. The surface coating of iron oxide nanoparticles drives their intracellular trafficking and degradation in endolysosomes differently depending on the cell type. *Biomaterials* 281: 121365.

STORAGE

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