

rabphilin-3AL (A-13): sc-165332

BACKGROUND

Rabphilin-3AL (rabphilin-3A-like), also known as RPH3AL or NOC2, is a cytoplasmic Rab GTPase effector. It contains one FYVE-type zinc finger and one Rab-binding (RBD) domain, but unlike its related protein, rabphilin-3A, rabphilin-3AL does not contain any C2 domains. Rabphilin-3AL is expressed in a variety of tissues, with highest levels found in kidney, skeletal muscle, pancreas, liver, ovary, stomach, heart and thyroid. It is believed to play a role regulating calcium-dependent secretory vesicle exocytosis in endocrine and exocrine cells. Via its RBD domain, rabphilin-3AL is capable of binding Rab 27a and, through this interaction, rabphilin-3AL is recruited to dense-core vesicles. With lower affinity, rabphilin-3AL can also bind Rab 3 and Rab 8 with its RBD domain. Through an interaction with Rab 3, rabphilin-3AL can inhibit G-protein signaling in endocrine pancreas and positively regulate Insulin secretion. Rabphilin-3AL knockout mice display accumulation of secretory granules and irregular shape in exocrine cells.

REFERENCES

- Cheviet, S., et al. 2004. Noc-king out exocrine and endocrine secretion. *Trends Cell Biol.* 14: 525-528.
- Matsumoto, M., et al. 2004. Noc2 is essential in normal regulation of exocytosis in endocrine and exocrine cells. *Proc. Natl. Acad. Sci. USA* 101: 8313-8318.
- Fukuda, M., et al. 2004. Rabphilin and Noc2 are recruited to dense-core vesicles through specific interaction with Rab27A in PC12 cells. *J. Biol. Chem.* 279: 13065-13075.
- Shibasaki, T., et al. 2005. Physical and functional interaction of noc2/rab3 in exocytosis. *Meth. Enzymol.* 403: 408-419.
- Fukuda, M., et al. 2005. Assay of the Rab-binding specificity of rabphilin and Noc2: target molecules for Rab27. *Meth. Enzymol.* 403: 469-481.
- Imai, A., et al. 2006. Functional involvement of Noc2, a Rab27 effector, in rat parotid acinar cells. *Arch. Biochem. Biophys.* 455: 127-135.
- Abderrahmani, A., et al. 2006. ICER induced by hyperglycemia represses the expression of genes essential for Insulin exocytosis. *EMBO J.* 25: 977-986.
- Teramae, H., et al. 2007. Cellular expression of Noc2, a Rab effector protein, in endocrine and exocrine tissues in the mouse. *Histochem. Cell Biol.* 127: 1-11.
- Katkoori, V.R., et al. 2008. Clinical significance of a novel single nucleotide polymorphism in the 5' untranslated region of the Rabphilin-3A-Like gene in colorectal adenocarcinoma. *Front. Biosci.* 13: 1050-1061.

CHROMOSOMAL LOCATION

Genetic locus: RPH3AL (human) mapping to 17p13.3; Rph3al (mouse) mapping to 11 B5.

SOURCE

rabphilin-3AL (A-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of rabphilin-3AL of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-165332 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

rabphilin-3AL (A-13) is recommended for detection of rabphilin-3AL of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with rabphilin-3A.

rabphilin-3AL (A-13) is also recommended for detection of rabphilin-3AL in additional species, including canine.

Suitable for use as control antibody for rabphilin-3AL siRNA (h): sc-94036, rabphilin-3AL siRNA (m): sc-152672, rabphilin-3AL shRNA Plasmid (h): sc-94036-SH, rabphilin-3AL shRNA Plasmid (m): sc-152672-SH, rabphilin-3AL shRNA (h) Lentiviral Particles: sc-94036-V and rabphilin-3AL shRNA (m) Lentiviral Particles: sc-152672-V.

Molecular Weight of rabphilin-3AL: 37 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.