

granuphilin (C-3): sc-374544

BACKGROUND

Granuphilin, also designated synaptotagmin-like protein 4 or exophilin 2, is a member of the synaptotagmin-like protein family. In rodents, two isoforms have been characterized as granuphilin-a and granuphilin-b, and alternative splicing in human has also been described. Granuphilin-b is a shorter isoform which contains a different C-terminal sequence than the longer isoform. Granuphilin is part of a ternary complex consisting of Syntaxin 1A (STX1A) and Rab 27A. The interaction between granuphilin and Syntaxin 1A on the plasma membrane is regulated by Rab 27A. Granuphilin is a peripheral membrane protein mainly expressed in pancreatic β -cells and in the pituitary gland. It has been detected on secretory granules and close to the plasma membrane. In the pancreas, granuphilin interacts with Insulin-containing vesicles while in both the pancreas and pituitary, granuphilin modulates the secretion of hormones and the exocytosis of dense-core granules. Overexpression of granuphilin enhances basal Insulin secretion but also inhibits high K^+ -induced Insulin secretion. The effect of granuphilin on Insulin secretion may be impaired by a mutation that disrupts the binding to either Rab 27A or Syntaxin 1A, making granuphilin a possible regulator in the exocytotic pathway.

REFERENCES

1. Torii, S., et al. 2002. Granuphilin modulates the exocytosis of secretory granules through interaction with Syntaxin 1A. *Mol. Cell. Biol.* 22: 5518-5526.
2. Coppola, T., et al. 2002. Pancreatic β -cell protein granuphilin binds Rab 3 and Munc-18 and controls exocytosis. *Mol. Biol. Cell* 13: 1906-1915.

CHROMOSOMAL LOCATION

Genetic locus: SYTL4 (human) mapping to Xq22.1.

SOURCE

granuphilin (C-3) is a mouse monoclonal antibody raised against amino acids 44-298 mapping near the N-terminus of granuphilin of human origin.

PRODUCT

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

granuphilin (C-3) is available conjugated to agarose (sc-374544 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374544 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374544 PE), fluorescein (sc-374544 FITC), Alexa Fluor[®] 488 (sc-374544 AF488), Alexa Fluor[®] 546 (sc-374544 AF546), Alexa Fluor[®] 594 (sc-374544 AF594) or Alexa Fluor[®] 647 (sc-374544 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374544 AF680) or Alexa Fluor[®] 790 (sc-374544 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

granuphilin (C-3) is recommended for detection of granuphilin of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for granuphilin siRNA (h): sc-45507, granuphilin shRNA Plasmid (h): sc-45507-SH and granuphilin shRNA (h) Lentiviral Particles: sc-45507-V.

Molecular Weight of granuphilin-a: 79 kDa.

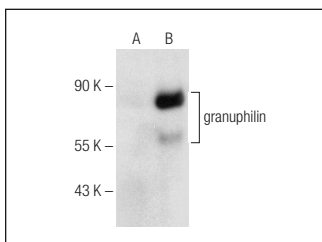
Molecular Weight of granuphilin-b: 59 kDa.

Positive Controls: granuphilin (h): 293 Lysate: sc-111865 or OVCAR-3 whole cell lysate.

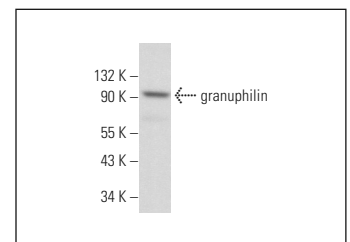
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



granuphilin (C-3): sc-374544. Western blot analysis of granuphilin expression in non-transfected: sc-110760 (A) and human granuphilin transfected: sc-111865 (B) 293 whole cell lysates.



granuphilin (C-3): sc-374544. Western blot analysis of granuphilin expression in OVCAR-3 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Schillemans, M., et al. 2018. Weibel-palade body localized syntaxin-3 modulates von willebrand factor secretion from endothelial cells. *Arterioscler. Thromb. Vasc. Biol.* 38: 1549-1561.

RESEARCH USE

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