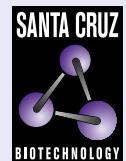


GGA2 (E-3): sc-133147



The Power to Question

BACKGROUND

A family of proteins, the GGAs (Golgi-localized, γ -adaptin ear-containing, ARF-binding proteins) sequences that showed significant homology to the carboxy-terminal "ear" domain of γ -adaptin. Members of the GGA family (GGA1, GGA2 (also known as VEAR or VHS domain and ear domain of γ -adaptin) and GGA3) are ubiquitous coat proteins that facilitate the trafficking of proteins between the *trans*-Golgi network and the lysosome. However, unlike γ -adaptin, the GGAs are not associated with clathrin-coated vesicles or with any of the components of the AP-1 complex. GGA1 and GGA2 are also not associated with each other, although they co-localize on perinuclear membranes. GGA2 shares 45% amino acid sequence identity with GGA1 and 35% with GGA3. In addition to being involved in heterotypic vesicle/suborganelle interactions associated with the Golgi complex, GGA2 may have a tissue-specific function and is highly expressed in kidney, muscle and heart. Furthermore, the VHS domain of GGA2 binds to the acidic cluster-di-leucine motif in the cytoplasmic tail of the cation-independent mannose 6-phosphate receptor (CI-MPR) and this is important for lysosomal enzyme targeting.

REFERENCES

- Hirst, J., et al. 2000. A family of proteins with γ -adaptin and VHS domains that facilitate trafficking between the *trans*-Golgi network and the vacuole/lysosome. *J. Cell Biol.* 149: 67-80.
- Poussu, A., et al. 2000. Vear, a novel Golgi-associated protein with VHS and γ -adaptin "ear" domains. *J. Biol. Chem.* 275: 7176-7183.

CHROMOSOMAL LOCATION

Genetic locus: GGA2 (human) mapping to 16p12.2; Gga2 (mouse) mapping to 7 F2.

SOURCE

GGA2 (E-3) is a mouse monoclonal antibody raised against amino acids 301-475 mapping within an internal region of GGA2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GGA2 (E-3) is available conjugated to agarose (sc-133147 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133147 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133147 PE), fluorescein (sc-133147 FITC), Alexa Fluor® 488 (sc-133147 AF488), Alexa Fluor® 546 (sc-133147 AF546), Alexa Fluor® 594 (sc-133147 AF594) or Alexa Fluor® 647 (sc-133147 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133147 AF680) or Alexa Fluor® 790 (sc-133147 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

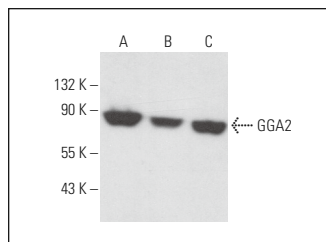
GGA2 (E-3) is recommended for detection of GGA2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GGA2 siRNA (h): sc-41169, GGA2 siRNA (m): sc-41170, GGA2 shRNA Plasmid (h): sc-41169-SH, GGA2 shRNA Plasmid (m): sc-41170-SH, GGA2 shRNA (h) Lentiviral Particles: sc-41169-V and GGA2 shRNA (m) Lentiviral Particles: sc-41170-V.

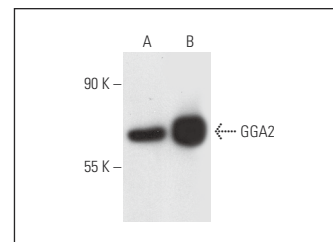
Molecular Weight of GGA2: 67 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or Raji whole cell lysate: sc-364236.

DATA



GGA2 (E-3): sc-133147. Western blot analysis of GGA2 expression in Daudi (A), Raji (B) and F9 (C) whole cell lysates.



GGA2 (E-3): sc-133147. Western blot analysis of GGA2 expression in HeLa (A) and Jurkat (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Doray, B., et al. 2014. Impact of genetic background on neonatal lethality of GGA2 gene-trap mice. *G3* 4: 885-890.
- Tolvanen, T.A., et al. 2015. Lack of CD2AP disrupts Glut4 trafficking and attenuates glucose uptake in podocytes. *J. Cell Sci.* 128: 4588-4600.
- O'Farrell, H., et al. 2019. Integrative genomic analyses identifies GGA2 as a cooperative driver of EGFR-mediated lung tumorigenesis. *J. Thorac. Oncol.* 14: 656-671.
- Obata, Y., et al. 2023. Golgi retention and oncogenic KIT signaling via PLC γ 2-PKD2-PI4KIII β activation in gastrointestinal stromal tumor cells. *Cell Rep.* 42: 113035.

RESEARCH USE

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

PROTOCOLS

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