

GGA3 (H-300): sc-30104



The Power to Question

BACKGROUND

The GGA family of proteins (Golgi-localized, γ -adaptin ear-containing, ARF-binding proteins) are ubiquitous coat proteins that facilitate the trafficking of soluble proteins from the *trans*-Golgi network (TGN) to endosomes/lysosomes by means of interactions with TGN-sorting receptors, ARF (ADP-ribosylation factor), and clathrin. Members of the GGA family, GGA1, GGA2 (also known as VEAR) and GGA3, are multi-domain proteins that bind mannose 6-phosphate receptors (MPRs). GGAs have modular structures with an N-terminal VHS (VPS27, Hrs and STAM) domain followed by a GAT (GGA and Tom1) domain, a connecting hinge segment and a C-terminal GAE (γ -adaptin ear) domain. The amino-terminal VHS domains of GGAs form complexes with the cytoplasmic domains of sorting receptors by recognizing acidic-cluster di-leucine (ACLL) sequences. The human GGA3 gene maps to chromosome 17 and encodes a 723 amino acid protein that shares 46% sequence identity with GGA1 and 38% with GGA2.

REFERENCES

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- Shiba, T., et al. 2002. Structural basis for recognition of acidic-cluster dileucine sequence by GGA1. *Nature* 415: 937-941.
- Doray, B., et al. 2002. Cooperation of GGAs and AP-1 in packaging MPRs at the *trans*-Golgi network. *Science* 297: 1700-1703.
- Doray, B., et al. 2002. Autoinhibition of the ligand-binding site of GGA1/3 VHS domains by an internal acidic-cluster dileucine motif. *Proc. Natl. Acad. Sci. USA* 99: 8072-8077.
- He, X., et al. 2002. Memapsin 2 (β -secretase) cytosolic domain binds to the VHS domains of GGA1 and GGA2: implications on the endocytosis mechanism of memapsin 2. *FEBS Lett.* 524: 183-187.
- Miller, G.J., et al. 2003. Recognition of accessory protein motifs by the γ -adaptin ear domain of GGA3. *Nat. Struct. Biol.* 10: 599-606.

CHROMOSOMAL LOCATION

Genetic locus: GGA3 (human) mapping to 17q25.1; Gga3 (mouse) mapping to 11 E2.

SOURCE

GGA3 (H-300) is a rabbit polyclonal antibody raised against amino acids 281-580 mapping within an internal region of GGA3 of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

GGA3 (H-300) is recommended for detection of GGA3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 GGA3 siRNA (h): sc-41171, GGA3 siRNA (m): sc-61343, GGA3 shRNA Plasmid (h): sc-41171-SH, GGA3 shRNA Plasmid (m): sc-61343-SH, GGA3 shRNA (h) Lentiviral Particles: sc-41171-V and GGA3 shRNA (m) Lentiviral Particles: sc-61343-V.

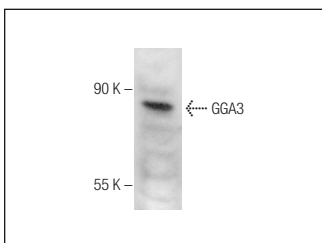
Molecular Weight of GGA3: 90 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



GGA3 (H-300): sc-30104. Western blot analysis of GGA3 expression in Jurkat whole cell lysate.

RESEARCH USE

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



Try **GGA3 (8): sc-135923**, our highly recommended monoclonal alternative to GGA3 (H-300).