

GGA3 (S-20): sc-23265

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

- 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.
- 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.
- LocusLink Report (LocusID: 606004). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: GGA3 (human) mapping to 17q25.1.

SOURCE

GGA3 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-23265 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

GGA3 (S-20) is recommended for detection of GGA3 of 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), 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).

GGA3 (S-20) is also recommended for detection of GGA3 in additional species, including equine and canine.

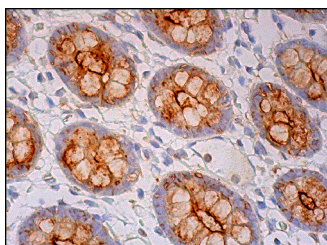
Suitable for use as control antibody for GGA3 siRNA (h): sc-41171, GGA3 shRNA Plasmid (h): sc-41171-SH and GGA3 shRNA (h) Lentiviral Particles: sc-41171-V.

Molecular Weight of GGA3: 90 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



GGA3 (S-20): sc-23265. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic and membrane staining of glandular cells.

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.