SANTA CRUZ BIOTECHNOLOGY, INC.

# GGA2 (H-175): sc-30103

## 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 colocalize 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-dileucine motif in the cytoplasmic tail of the cation-independent mannose 6-phosphate receptor (CI-MPR) and this is important for lysosomal enzyme targeting.

## REFERENCES


1. 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.
2. Poussu, A., et al. 2000. Vear, a novel Golgi-associated protein with VHS and γ-adaptin "ear" domains. J. Biol. Chem. 275: 7176-7183.
3. Zhu, Y., et al. 2001. Binding of GGA2 to the lysosomal enzyme sorting motif of the mannose 6-phosphate receptor. Science 292: 1716-1718.
4. Nielsen, M.S., et al. 2001. The sortilin cytoplasmic tail conveys Golgi-endosome transport and binds the VHS domain of the GGA2 sorting protein. EMBO J. 20: 2180-2190.


## CHROMOSOMAL LOCATION

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

## SOURCE

GGA2 (H-175) is a rabbit polyclonal antibody raised against amino acids 301-475 mapping within an internal region of GGA2 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.

## 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.

## APPLICATIONS

GGA2 (H-175) is recommended for detection of GGA2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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.

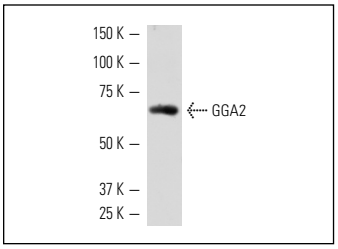
Molecular Weight of GGA2: 67 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SK-N-MC cell lysate: sc-2237 or mouse lymph node extract: sc-364243.

## 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




GGA2 (H-175): sc-30103. Western blot analysis of GGA2 expression in mouse lymph node tissue extract.

## SELECT PRODUCT CITATIONS


1. Doray, B., et al. 2012. Do GGA adaptors bind internal DXXLL motifs? Traffic 13: 1315-1325.