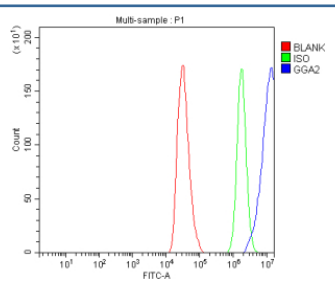
GGA2 Antibody / Golgi-localized, gamma ear-containing, ARF-binding protein 2 (FY12927)

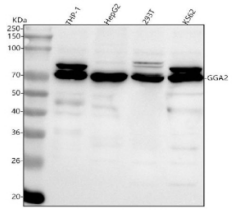
Catalog No.	Formulation	Size
FY12927	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

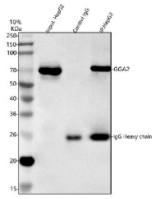
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9UJY4
Applications	ELISA: 0.1-0.5ug/ml Flow cytometry: 1-3ug/million cells Immunoprecipitation: 2-4ug/500ug of lysate Western Blot: 0.25-0.5ug/ml
Limitations	This GGA2 antibody is available for research use only.



Flow Cytometry analysis of HepG2 cells using anti-GGA2 antibody. Overlay histogram showing HepG2 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-GGA2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



Western blot analysis of GGA2 using anti-GGA2 antibody. Lane 1: human THP-1 whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human 293T whole cell lysates, Lane 4: human K562 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-GGA2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A band at ~70 kDa is detected across cell lysates, appearing as a tight doublet in some samples. The small upward shift from the ~67 kDa prediction and the doublet pattern are consistent with phosphorylation-dependent mobility differences reported for GGA2.



Immunoprecipitating GGA2 in HepG2 whole cell lysate. Western blot analysis of GGA2 using anti-GGA2 antibody; Lane 1: HepG2 whole cell lysates (30ug); Lane 2: Rabbit control IgG instead of anti-GGA2 antibody in HepG2 whole cell lysate; Lane 3: anti-GGA2 antibody (2ug) + HepG2 whole cell lysate (500ug). After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-GGA2 antibody at a dilution of 0.5 ug/ml and probed with a goat anti-rabbit IgG-HRP secondary antibody. The signal is developed using ECL Plus Western Blotting Substrate. The expected molecular weight of GGA2 is at 67 kDa.

Description

GGA2 antibody detects Golgi-associated, gamma-adaptin ear-containing, ARF-binding protein 2, a clathrin adaptor involved in vesicular trafficking between the trans-Golgi network (TGN) and endosomes. Encoded by the GGA2 gene on chromosome 16p12.3, this cytosolic adaptor belongs to the Golgi-localized, gamma-ear-containing, ARF-binding (GGA) protein family that mediates cargo selection and vesicle formation. GGA2 plays a critical role in sorting of lysosomal enzymes and membrane receptors by linking cargo proteins to clathrin-coated vesicles.

Structurally, GGA2 is a 613-amino-acid cytoplasmic protein of approximately 70 kilodaltons composed of three major domains: a VHS (Vps27, Hrs, STAM) domain that recognizes sorting signals on cargo proteins, a GAT (GGA and TOM1) domain that binds ARF1-GTP, and a GAE (gamma-adaptin ear) domain that recruits accessory proteins involved in vesicle formation. These domains coordinate to promote cargo capture, clathrin coat assembly, and vesicle budding from the TGN.

The GGA2 antibody is widely used in cell biology, membrane trafficking, and protein transport research to study endosomal sorting, Golgi organization, and receptor recycling. Western blot analysis detects a 70 kilodalton band corresponding to GGA2, while immunofluorescence reveals punctate perinuclear staining consistent with Golgi localization. This antibody serves as a valuable tool for examining vesicle-mediated transport and adaptor protein function in secretory pathways.

Functionally, GGA2 interacts with mannose-6-phosphate receptors and lysosomal hydrolase precursors, mediating their trafficking to late endosomes and lysosomes. It also contributes to receptor downregulation and recycling through ARF-dependent membrane dynamics. Loss or disruption of GGA2 impairs lysosomal enzyme delivery and can cause abnormal accumulation of cargo proteins within the Golgi apparatus. The GGA2 antibody enables detailed study of Golgi-to-endosome transport, cargo recognition mechanisms, and clathrin coat assembly. NSJ Bioreagents validates this antibody for its application, ensuring precise detection for intracellular trafficking research.

Application Notes

Optimal dilution of the GGA2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human GGA2 recombinant protein (Position: L26-A608) was used as the immunogen for the GGA2 antibody.

Storage

After reconstitution, the GGA2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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