SunLong Biotech Co.,LTD
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[Marker Primary Antibody]

Rabbit Anti-GGA1/Biotin Conjugated antibody

Catalog Number: SL13343R-Bio

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-GGA1/Biotin
Immunogen:	KLH conjugated synthetic peptide derived from human GGA1
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4°C.
Applications:	IHC-P=1:100-500 IHC-F=1:100-500 ICC/IF=1:50-200 IF=1:100-500 ELISA=1:500-5000 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	(predicted:Human,Mouse,Rat,Dog,Pig,Cow,Sheep)
Background:	background: The GGA family of proteins (Golgi-localized, 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 (1?). Members of the GGA family, GGA1,GGA2 (also known as VEAR) and GGA3, are multidomain proteins that bind mannose 6-phosphate receptors (MPRs) (1,2,4). GGAs have modular structures with an N-terminal VHS (VPS-27, Hrs, and STAM) domain followed by a GAT (GGA and TOM1) domain, a connecting hinge segment, and a C-terminal GAE (?adaptin ear) domain (5). The amino-terminal VHS domains of GGAs form complexes with the cytoplasmic domains of sorting receptors by recognizing acidic-cluster di-

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	leucine (ACLL) sequences (3). GGA1 and GGA2 do not associate with each other, but they do colocalize on perinuclear membranes (2). The cytosolic domain of memapsin 2, but not that of memapsin 1, binds the VHS domains of GGA1 and GGA2 (6). The human GGA1 gene maps to chromosome 22 and encodes a protein that shares 45% sequence identity with GGA2 and GGA3 (1). **Function:** Plays a role in protein sorting and trafficking between the trans-Golgi network (TGN) and endosomes. Mediates the ARF-dependent recruitment of clathrin to the TGN and binds ubiquitinated proteins and membrane cargo molecules with a cytosolic acidic cluster-dileucine (AC-LL) motif. **Subunit:** Monomer. Interacts with NECAP1. Interacts with CNST (By similarity). Interacts with GGA2 and GGA3. Binds to clathrin and activated ARFs. Interacts with RABEP1 and RABGEF1. Interacts with the type-I membrane proteins SORT1, SORL1, LRP3, M6PR/CD-MPR, IGF2R/CI-MPR and BACE1. Binds CCDC91, P200, SYNRG, EPN4, NECAP2 and AFTPH/aftiphilin. Interacts with TSG101 and UBC. Interacts with RNF11. **Subcellular Location:** Golgi apparatus; trans-Golgi network membrane. Endosome membrane. **Tissue Specificity:** Ubiquitously expressed. **Post-translational modifications:** Phosphorylated by CK2 and dephosphorylated by PP2A. Phosphorylation of GGA1 allows the internal AC-LL motif to bind the VHS domain and to inhibit the recognition of cargo signals. Phosphorylated upon DNA damage, probably by ATM or ATR. Ubiquitinated. **Similarity:** Belongs to the GGA protein family. Contains 1 GAE domain. Contains 1 GAT domain. Contains 1 VHS domain. **Database links:** **Entrez Gene:** 26088 Human **Entrez Gene:** 106039 Mouse **Entrez Gene:** 300066 Rat Omim: 606004 Human **SwissProt:** Q9UJY5 Human **SwissProt:** Q8R0H9 Mouse **Unigene:** 499158 Human **Unigene:** 251331 Mouse **Unigene:** 75906 Rat Important

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