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GGA1 Rabbit pAb

Catalog # AP97418

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q9UJY5
Other Accession	Q9UJY5
Predicted	Rat, Pig, Human, Mouse, Dog, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	70384
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GGA1
Epitope Specificity	51-150/639
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the GGA protein family. Contains 1 GAE domain. Contains 1 GAT domain. Contains 1 VHS domain.
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.
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.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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-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).

Additional Information

Gene ID	26088
Other Names	4930406E12Rik; GGA1_HUMAN; GGA1; Gamma-adaptin-related protein 1; Golgi-localized, gamma ear-containing, ARF-binding protein 1; GGA1_MOUSE; golgi associated, gamma adaptin ear containing, ARF binding protein 1
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	GGA1
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 (DXXLL) motif (PubMed:11301005, PubMed:15886016). Mediates export of the GPCR receptor ADRA2B to the cell surface (PubMed:27901063). Required for targeting PKD1:PKD2 complex from the trans-Golgi network to the cilium membrane (By similarity). Regulates retrograde transport of proteins such as phosphorylated form of BACE1 from endosomes to the trans-Golgi network (PubMed:15615712, PubMed:15886016).
Cellular Location	Golgi apparatus, trans-Golgi network membrane; Peripheral membrane protein. Endosome membrane; Peripheral membrane protein Early endosome membrane; Peripheral membrane protein
Tissue Location	Ubiquitously expressed.

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