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GGA3 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP55141

Product Information

Application	WB, IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q9NZ52
Reactivity	Rat, Pig, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	78315
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GGA3
Epitope Specificity	51-150/723
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Golgi apparatus; trans-Golgi network membrane. Endosome membrane.
SIMILARITY	Belongs to the GGA protein family. Contains 1 GAE domain. Contains 1 GAT domain. Contains 1 VHS domain.
SUBUNIT	Monomer. Interacts with SORT1, SORL1, LRP3, GGA binding partner (GGABP) and P200 (By similarity). Interacts with GGA1 and GGA2. Binds to clathrin and activated ARFs. Binds RABEP1 and RABGEF1. Interacts with the membrane proteins M6PR/CD-MPR, IGF2R/CI-MPR and BACE1 and the accessory proteins SYNRG, EPN4, NECAP1, NECAP2 and AFTPH/aftiphilin. Interacts with TSG101 and UBC.
Post-translational modifications	Phosphorylated by CK2 and dephosphorylated by PP2A (By similarity). Phosphorylation of GGA3 allows the internal AC-LL motif to bind the VHS domain and to inhibit the recognition of cargo signals. 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, g-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 (g-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.

Additional Information

Gene ID	23163
Other Names	ADP-ribosylation factor-binding protein GGA3, Golgi-localized, gamma ear-containing, ARF-binding protein 3, GGA3 {ECO:0000312|MIM:606006}, KIAA0154
Target/Specificity	Ubiquitously expressed.
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
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	GGA3 {ECO:0000312|MIM:606006}
Synonyms	KIAA0154
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). Mediates export of the GPCR receptor ADRA2B to the cell surface (PubMed:26811329). nvolved in BACE1 transport and sorting as well as regulation of BACE1 protein levels (PubMed:15615712, PubMed:17553422, PubMed:20484053). Regulates retrograde transport of BACE1 from endosomes to the trans-Golgi network via interaction through the VHS motif and dependent of BACE1 phosphorylation (PubMed:15615712). Modulates BACE1 protein levels independently of the interaction between VHS domain and DXXLL motif through recognition of ubiquitination (PubMed:20484053). Key player in a novel DXXLL-mediated endosomal sorting machinery to the recycling pathway that targets NTRK1 to the plasma membrane (By similarity).
Cellular Location	Golgi apparatus, trans-Golgi network membrane; Peripheral membrane protein. Endosome membrane; Peripheral membrane protein. Early endosome membrane; Peripheral membrane protein. Recycling endosome membrane {ECO:0000250|UniProtKB:A0A0G2JV04}; Peripheral membrane protein
Tissue Location	Ubiquitously expressed.