

Rabbit GEF H1 Polyclonal Antibody | anti-GEFH1 antibody

Phospho-GEF H1 (Ser886) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA329485	Rabbit	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Xenopus (100%)	ELISA, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

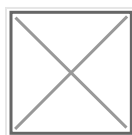
GEF H1; Polyclonal Antibody; Phospho-GEF H1 (Ser886) Antibody; AA408978; ARHG2; ARHG2_HUMAN; ARHGEF 2; ARHGEF-2; ARHGEF2; GEF; GEF-H1; GEFH1; Guanine nucleotide exchange factor H1; KIAA0651; Lbc11; Lfc; LFP40; MGC95068; Microtubule-regulated Rho-GEF; mKIAA0651; P40; Proliferating cell nucleolar antigen p40; Protein GEF-H1; Rho guanine nucleotide exchange factor 2; rho/rac guanine nucleotide exchange factor (GEF) 2; rho/rac guanine nucleotide exchange factor 2; rho/rac guanine nucleotide exchange factor; anti-GEFH1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Xenopus (100%)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-GEF H1 (Ser886) Antibody detects endogenous levels of GEF H1 only when phosphorylated at Ser886.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-GEFH1 antibody	ELISA (Peptide ELISA), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human GEF H1 around the phosphorylation site of Ser886.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Phosphorylation of Ser-886 by PAK1 induces binding to protein YWHAZ, promoting its relocation to microtubules and the inhibition of its activity. Phosphorylated by AURKA and CDK1 during mitosis, which negatively regulates its activity. Phosphorylation by MAPK1 or MAPK3 increases nucleotide exchange activity. Phosphorylation by PAK4 releases GEF-H1 from the microtubules. Phosphorylated on serine, threonine and tyrosine residues in a RIPK2-dependent manner.
Subunit Structure	Found in a complex composed at least of ARHGEF2, NOD2 and RIPK2. Interacts with RIPK2; the interaction mediates tyrosine phosphorylation of RIPK2 by Src kinase CSK. Interacts with RIPK1 and RIPK3. Interacts with YWHAZ/14-3-3 zeta; when phosphorylated at Ser-886. Interacts with the kinases PAK4, AURKA and MAPK1. Interacts with RHOA and RAC1. Interacts with NOD1. Interacts (via the N-terminal zinc finger) with CAPN6 (via domain II). Interacts with DYNLT1 (By similarity).
Similarity	The DH (DBL-homology) domain interacts with and promotes loading of GTP on RhoA. Promotes tyrosine phosphorylation of RIPK2. The pH domain has no affinity for phosphoinositides suggesting that it does not interact directly with membranes. The phorbol-ester/DAG-type zinc-finger and the C-terminal coiled-coil domains (606-986) are both important for association with microtubules.

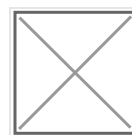
Subcellular Location	Cytoplasm>Cytoskeleton. Cytoplasm. Cell junction>Tight junction. Golgi apparatus. Cytoplasm>Cytoskeleton>Spindle. Cell projection>Ruffle membrane. Cytoplasmic vesicle. Note: Localizes to the tips of cortical microtubules of the mitotic spindle during cell division, and is further released upon microtubule depolymerization (PubMed:15827085). Recruited into membrane ruffles induced by <i>S.flexneri</i> at tight junctions of polarized epithelial cells (PubMed:19043560). Colocalized with NOD2 and RIPK2 in vesicles and with the cytoskeleton (PubMed:21887730).
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



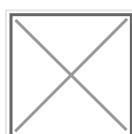
IHC (Immunohistochemistry)

At 1/100 staining Mouse muscle tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



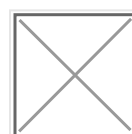
IHC (Immunohistochemistry)

At 1/100 staining Rat skin tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of extracts from 293T, using Phospho-GEF-H1 (Ser886) Antibody. Lane1 was treated with phospho-blocking peptide, Lane2 was treated with non-phospho-blocking peptide.



WB (Western Blot)

Western blot analysis of extracts from various samples, using Phospho-GEF H1 (Ser886) Antibody. Lane 1: HeLa cells(1hUV treatment), blocked with antigen-specific peptides, Lane 2: HeLa cells(1hUV treatment), Lane 3: K562 cells(serum starvation treatment).

ADDITIONAL INFORMATION

Related Product Information for anti-GEFH1 antibody	Activates Rho-GTPases by promoting the exchange of GDP for GTP. May be involved in epithelial barrier permeability, cell motility and polarization, dendritic spine morphology, antigen presentation, leukemic cell differentiation, cell cycle regulation, innate immune response, and cancer. Binds Rac-GTPases, but does not seem to promote nucleotide exchange activity toward Rac-GTPases, which was uniquely reported in. May stimulate instead the cortical activity of Rac. Inactive toward CDC42, TC10, or Ras-GTPases. Forms an intracellular sensing system along with NOD1 for the detection of microbial effectors during cell invasion by pathogens. Required for RHOA and RIP2 dependent NF-kappaB signaling pathways activation upon <i>S.flexneri</i> cell invasion. Involved not only in sensing peptidoglycan (PGN)-derived muropeptides through NOD1 that is independent of its GEF activity, but also in the activation of NF-kappaB by Shigella effector proteins (IpgB2 and OspB) which requires its GEF activity and the activation of RhoA. Involved in innate immune signaling transduction pathway promoting cytokine IL6/interleukin-6 and TNF-alpha secretion in macrophage upon stimulation by bacterial peptidoglycans; acts as a signaling intermediate between NOD2 receptor and RIPK2 kinase. Contributes to the tyrosine phosphorylation of RIPK2 through Src tyrosine kinase leading to NF-kappaB activation by NOD2. Overexpression activates Rho-, but not Rac-GTPases, and increases paracellular permeability (By similarity). Involved in neuronal progenitor cell division and differentiation. Involved in the migration of precerebellar neurons (By similarity).
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NCBI AND UNIPROT INFORMATION

NCBI GI #	253735775
NCBI GeneID	9181
NCBI Accession #	NP_001155855.1
NCBI GenBank Nucleotide #	NM_001162383.1
UniProt Accession #	Q92974; O75142; Q15079; Q5VY92; Q8TDA3; Q8WUG4; Q9H023; D3DVA6
Molecular Weight	111,543 Da
NCBI Official Full Name	rho guanine nucleotide exchange factor 2 isoform 1

NCBI Official Synonym Full Names	Rho/Rac guanine nucleotide exchange factor (GEF) 2
NCBI Official Symbol	ARHGEF2
NCBI Official Synonym Symbols	GEF; P40; GEFH1; LFP40; GEF-H1
NCBI Protein Information	rho guanine nucleotide exchange factor 2; microtubule-regulated Rho-GEF; guanine nucleotide exchange factor H1; proliferating cell nucleolar antigen p40; Rho/Rac guanine nucleotide exchange factor 2
UniProt Protein Name	Rho guanine nucleotide exchange factor 2
UniProt Gene Name	ARHGEF2
UniProt Synonym Gene Names	KIAA0651; LFP40; GEF-H1
UniProt Entry Name	ARHG2_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/gef-h1-antibody-peptide-elisa-immunohistochemistry-western-blot-elisa/329485>