

GEF H1 Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP51844

Specification

GEF H1 Antibody - Product Information

Application
Primary Accession
Reactivity
Host
Clonality
Calculated MW

WB, E
O92974
Human, Mouse, Rat
Rabbit
Polyclonal
110 KDa

GEF H1 Antibody - Additional Information

Gene ID 9181

Other Names

Rho guanine nucleotide exchange factor 2, Guanine nucleotide exchange factor H1, GEF-H1, Microtubule-regulated Rho-GEF, Proliferating cell nucleolar antigen p40, ARHGEF2, KIAA0651, LFP40

Target/Specificity

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human GEF H1. The exact sequence is proprietary.

Dilution

WB~~1:1000 E~~N/A

Format

0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

Storage

Store at -20 °C. Stable for 12 months from date of receipt

GEF H1 Antibody - Protein Information

Name ARHGEF2

Synonyms KIAA0651, LFP40

Function

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 PubMed:<a





href="http://www.uniprot.org/citations/9857026" target=" blank">9857026. 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 S.flexneri 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 (PubMed:28453519). Involved in the migration of precerebellar neurons (By similarity).

Cellular 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 S.flexneri at tight junctions of polarized epithelial cells (PubMed:19043560). Colocalized with NOD2 and RIPK2 in vesicles and with the cytoskeleton (PubMed:21887730).

GEF H1 Antibody - Protocols

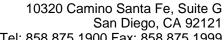
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- <u>Immunofluorescence</u>
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

GEF H1 Antibody - Images

GEF H1 Antibody - Background

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 PubMed:9857026. 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 S.flexneri 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





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phosphorylation of RIPK2 through Src tyrosine kinase leading to NF-kappaB activation by NOD2.

GEF H1 Antibody - References

Ren Y., et al.J. Biol. Chem. 273:34954-34960(1998). Krendel M., et al. Nat. Cell Biol. 4:294-301(2002). Ishikawa K.,et al.DNA Res. 5:169-176(1998). Ishikawa K., et al. Submitted (JAN-2005) to the EMBL/GenBank/DDBJ databases. Bechtel S., et al. BMC Genomics 8:399-399(2007).