

ARHGEF2 / GEF-H1 Antibody (aa383-432)
Rabbit Polyclonal Antibody
Catalog # ALS15805

Specification

ARHGEF2 / GEF-H1 Antibody (aa383-432) - Product Information

Application	WB
Primary Accession	O92974
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	112kDa KDa

ARHGEF2 / GEF-H1 Antibody (aa383-432) - 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

ARHGEF2 Antibody detects endogenous levels of total ARHGEF2 protein.

Reconstitution & Storage

Store at -20°C for up to one year.

Precautions

ARHGEF2 / GEF-H1 Antibody (aa383-432) is for research use only and not for use in diagnostic or therapeutic procedures.

ARHGEF2 / GEF-H1 Antibody (aa383-432) - 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: [9857026](http://www.uniprot.org/citations/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).

Volume

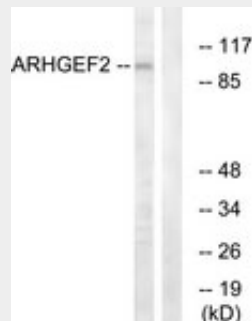
50 µl

ARHGEF2 / GEF-H1 Antibody (aa383-432) - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

ARHGEF2 / GEF-H1 Antibody (aa383-432) - Images



Western blot of extracts from RAW264.7 cells, using ARHGEF2 Antibody.

ARHGEF2 / GEF-H1 Antibody (aa383-432) - Background

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

ARHGEF2 / GEF-H1 Antibody (aa383-432) - References

- Ren Y.,et al.J. Biol. Chem. 273:34954-34960(1998).
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Ishikawa K.,et al.DNA Res. 5:169-176(1998).
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Bechtel S.,et al.BMC Genomics 8:399-399(2007).