abcam

Product datasheet

Anti-GEF H1 antibody ab185697

2 Images

Overview

Product name	Anti-GEF H1 antibody
Description	Rabbit polyclonal to GEF H1
Host species	Rabbit
Tested applications	**Suitable for:** WB, IHC-P
Species reactivity	**Reacts with:** Mouse, Rat **Predicted to work with:** Dog, Pig
Immunogen	Recombinant fragment corresponding to Human GEF H1 aa 1-350 (N terminal). Database link: **Q92974** Run BLAST with Run BLAST with
Positive control	Mouse brain and lung cell lysate
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.30 Preservative: 0.02% Sodium azide Constituents: 50% Glycerol, 49% PBS
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab185697 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/500 - 1/2000. Predicted molecular weight: 112 kDa.
IHC-P		1/50 - 1/200.

Target

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, 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.

Sequence similarities

Contains 1 DH (DBL-homology) domain.
Contains 1 PH domain.
Contains 1 phorbol-ester/DAG-type zinc finger.

Domain

The DH (DBL-homology) domain interacts with and promotes loading of GTP on RhoA.
The PH (pleckstrin-homology) domain is involved in microtubule binding and targeting to tight junctions.

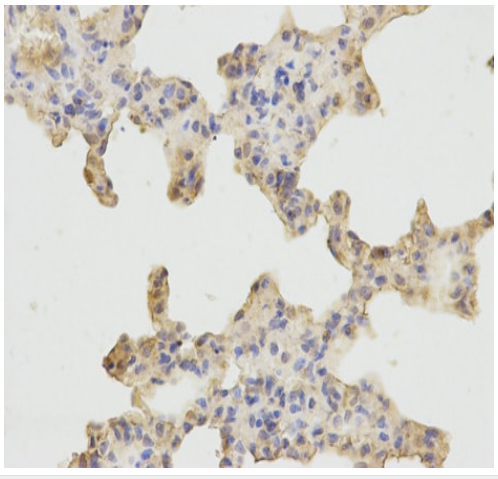
Post-translational modifications

Phosphorylation of Ser-886 by PAK1 induces binding to protein 14-3-3 zeta, promoting its relocation to microtubules and the inhibition of its activity. Phosphorylated by STK6 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.

Cellular localization

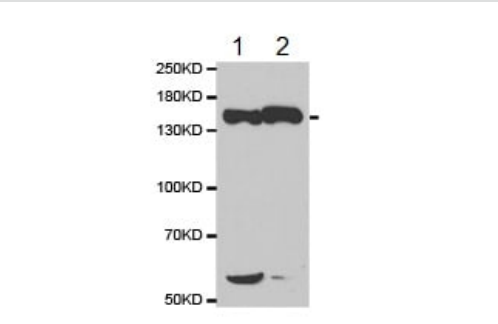
Cytoplasm. Cell junction > tight junction. Golgi apparatus. Cytoplasm > cytoskeleton > spindle. Cell projection > ruffle membrane. Localizes to the tips of cortical microtubules of the mitotic spindle during cell division, and is further released upon microtubule depolymerization. Recruited into membrane ruffles induced by S.flexneri at tight junctions of polarized epithelial cells.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GEF H1 antibody (ab185697)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat lung tissue labelling GEF H1 with ab185697 at 1/200. Magnification: 400x.



Western blot - Anti-GEF H1 antibody (ab185697)

All lanes : Anti-GEF H1 antibody (ab185697) at 1/500 dilution

Lane 1 : Mouse brain cell lysate
Lane 2 : Mouse lung cell lysate

Predicted band size: 112 kDa

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