

Product datasheet

Anti-GEF H1 antibody ab155785

★★★★★ [4 Abreviews](#) [23 References](#) [8 Images](#)

Overview

Product name	Anti-GEF H1 antibody
Description	Rabbit polyclonal to GEF H1
Host species	Rabbit
Tested applications	Suitable for: IP, WB, IHC-P, ICC/IF
Species reactivity	Reacts with: Mouse, Human
Immunogen	Recombinant fragment, corresponding to a region within amino acids 656-1000 of Human GEF H1.
Positive control	293T, A431, HeLa, hMSC-3A6, RAW264.7 and C2C12 whole cell lysates; GEF H1 protein; HeLa cells; Human gastric carcinoma tissue.
General notes	<p>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.</p> <p>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</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	<p>pH: 7.00</p> <p>Preservative: 0.025% Proclin 300</p> <p>Constituents: 79% PBS, 20% Glycerol (glycerin, glycerine)</p>
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab155785 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
IP	★★★★★ (1)	Use at an assay dependent concentration.
WB	★★★★★ (2)	1/500 - 1/3000. Predicted molecular weight: 111 kDa.
IHC-P		1/100 - 1/1000.
ICC/IF	★★★★★ (1)	1/100 - 1/1000.

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.

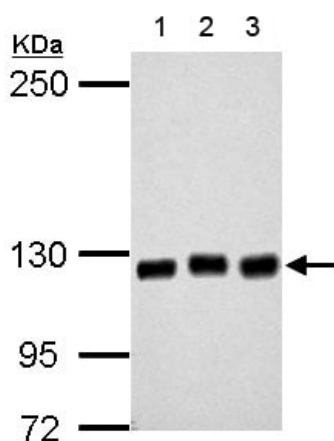
Post-translational modifications

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



Western blot - Anti-GEF H1 antibody (ab155785)

All lanes : Anti-GEF H1 antibody (ab155785) at 1/2000 dilution

Lane 1 : 293T whole cell lysate

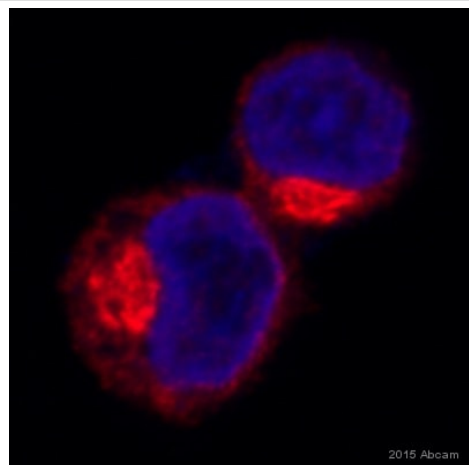
Lane 2 : A431 whole cell lysate

Lane 3 : HeLa whole cell lysate

Lysates/proteins at 30 µg per lane.

Predicted band size: 111 kDa

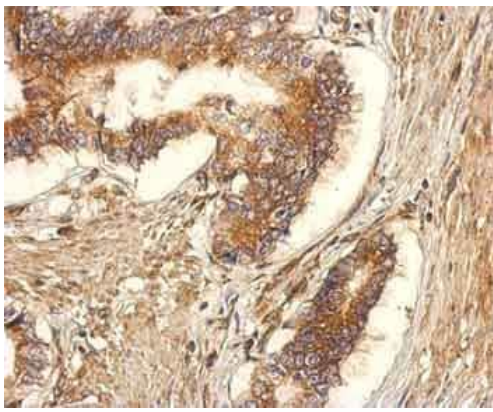
5% SDS PAGE



Immunocytochemistry/ Immunofluorescence - Anti-GEF H1 antibody (ab155785)

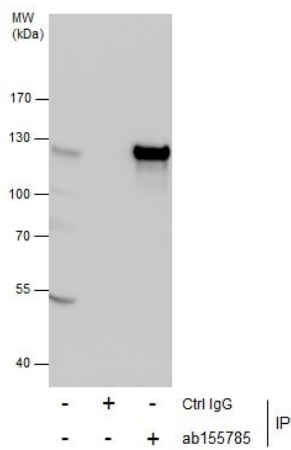
Image is courtesy of an AbReview submitted by Dr Armen Petrosyan.

Immunocytochemical immunofluorescence analysis of formaldehyde-fixed human HepG2 cells, labelling GEF H1 with ab155785 with a dilution of 1/50 incubated for 3 hours at 22°C in 1% donkey serum in 0.1% PBST diluent. Permeabilization with 0.2% Triton X-100. Blocking was with 1% donkey serum in 0.1% PBST incubated for 1 hour at 22°C. Secondary was a donkey anti-rabbit polyclonal Alexa Fluor® 594 at 1/200. Counterstain is DAPI (blue) against nuclear DNA.



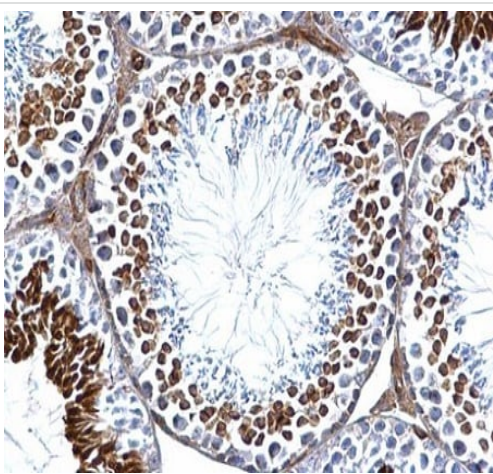
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GEF H1 antibody (ab155785)

Immunohistochemical analysis of paraffin-embedded Human Gastric carcinoma tissue, labeling GEF H1 with ab155785 at 1/500 dilution.



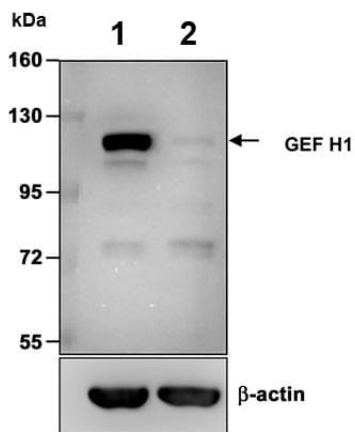
Immunoprecipitation - Anti-GEF H1 antibody (ab155785)

Immunoprecipitation of GEF H1 from 293T whole cell extracts using 5 µg of ab155785. Western blot analysis was performed using ab155785.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GEF H1 antibody (ab155785)

Immunohistochemical analysis of paraffin-embedded Mouse testis tissue, labeling GEF H1 with ab155785 at 1/500 dilution.



Western blot - Anti-GEF H1 antibody (ab155785)

All lanes : Anti-GEF H1 antibody (ab155785) at 1/1000 dilution

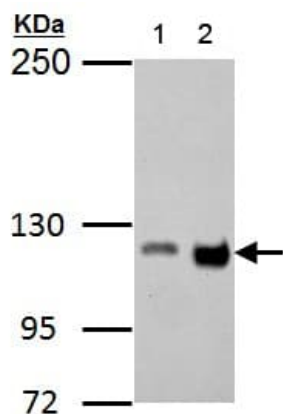
Lane 1 : hMSC-3A6 whole cell lysate, mock transfected

Lane 2 : hMSC-3A6 whole cell lysate, transfected with GEF H1 siRNA

Lysates/proteins at 10 µg per lane.

Predicted band size: 111 kDa

8% SDS PAGE



Western blot - Anti-GEF H1 antibody (ab155785)

All lanes : Anti-GEF H1 antibody (ab155785) at 1/1000 dilution

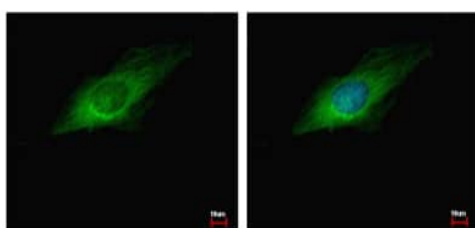
Lane 1 : RAW264.7 whole cell lysate

Lane 2 : C2C12 whole cell lysate

Lysates/proteins at 30 µg per lane.

Predicted band size: 111 kDa

5 % SDS-PAGE



Immunocytochemistry/ Immunofluorescence - Anti-GEF H1 antibody (ab155785)

Immunofluorescent analysis of methanol-fixed (-20°C 100% MeOH for 5 min) HeLa cells, labeling GEF H1 with ab155785 at 1/500 dilution. Right image shows cells co-stained with Hoechst 33342.

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