abcam

Product datasheet

Anti-DIAPH1 antibody ab11173

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Overview

Product name	Anti-DIAPH1 antibody
Description	Rabbit polyclonal to DIAPH1
Host species	Rabbit
Tested applications	**Suitable for:** IHC-P, ICC/IF, IHC-Fr, WB
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Gorilla, Orangutan
Immunogen	Synthetic peptide within DIAPH1. The exact immunogen sequence used to generate this antibody is proprietary information. If additional detail on the immunogen is needed to determine the suitability of the antibody for your needs, please **contact** our Scientific Support team to discuss your requirements. Database link: **O60610**
Positive control	WB: HeLa and HEK-293T whole cell lysates. IHC-P: Human kidney tissue.
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. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7 Preservative: 0.1% Sodium azide Constituents: 0.021% PBS, 1.764% Sodium citrate, 1.815% Tris
Purity	Immunogen affinity purified
Purification notes	Antibodies were affinity purified using the peptide immobilized on solid support.
Clonality	Polyclonal

Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab11173 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
IHC-P		Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ICC/IF	★★★★★ (1)	Use at an assay dependent concentration.
IHC-Fr		Use at an assay dependent concentration. PubMed: 24302570
WB	★★★★☆ (2)	1/5000 - 1/15000. Predicted molecular weight: 141 kDa.

Target

Function Acts in a Rho-dependent manner to recruit PFY1 to the membrane. Required for the assembly of F-actin structures, such as actin cables and stress fibers. Nucleates actin filaments. Binds to the barbed end of the actin filament and slows down actin polymerization and depolymerization. Required for cytokinesis, and transcriptional activation of the serum response factor. DFR proteins couple Rho and Src tyrosine kinase during signaling and the regulation of actin dynamics. Functions as a scaffold protein for MAPRE1 and APC to stabilize microtubules and promote cell migration (By similarity). Has neurite outgrowth promoting activity (By similarity). In hear cells, it may play a role in the regulation of actin polymerization in hair cells. The MEMO1-RHOA-DIAPH1 signaling pathway plays an important role in ERBB2-dependent stabilization of microtubules at the cell cortex. It controls the localization of APC and CLASP2 to the cell membrane, via the regulation of GSK3B activity. In turn, membrane-bound APC allows the localization of the MACF1 to the cell membrane, which is required for microtubule capture and stabilization.

Tissue specificity Expressed in brain, heart, placenta, lung, kidney, pancreas, liver, skeletal muscle and cochlea.

Involvement in disease Defects in DIAPH1 are the cause of deafness autosomal dominant type 1 (DFNA1) [MIM:124900]. DFNA1 is a form of sensorineural hearing loss. Sensorineural deafness results from damage to the neural receptors of the inner ear, the nerve pathways to the brain, or the area of the brain that receives sound information.

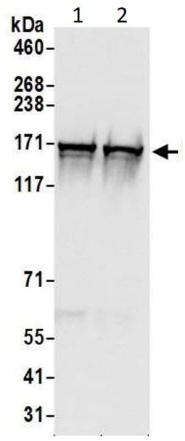
Sequence similarities Belongs to the formin homology family. Diaphanous subfamily.
Contains 1 DAD (diaphanous autoregulatory) domain.
Contains 1 FH1 (formin homology 1) domain.
Contains 1 FH2 (formin homology 2) domain.
Contains 1 GBD/FH3 (Rho GTPase-binding/formin homology 3) domain.

Domain DRFs are regulated by intramolecular GBD-DAD binding where Rho-GTP activates the DRFs by disrupting the GBD-DAD interaction (By similarity). DCAF7 binds to the FH2 (formin homology 2) domain.

Cellular localization Cell membrane. Cell projection > ruffle membrane. Cytoplasm > cytoskeleton. Membrane ruffles,

especially at the tip of ruffles, of motile cells.

Images



Western blot - Anti-DIAPH1 antibody (ab11173)

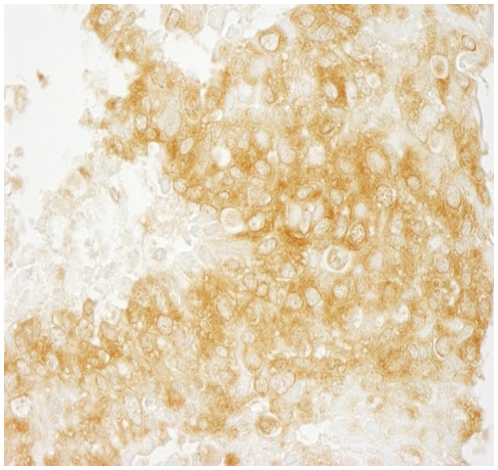
All lanes : Anti-DIAPH1 antibody (ab11173) at 0.66 µg/ml

Lane 1 : HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate
Lane 2 : HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate

Lysates/proteins at 50 µg per lane.

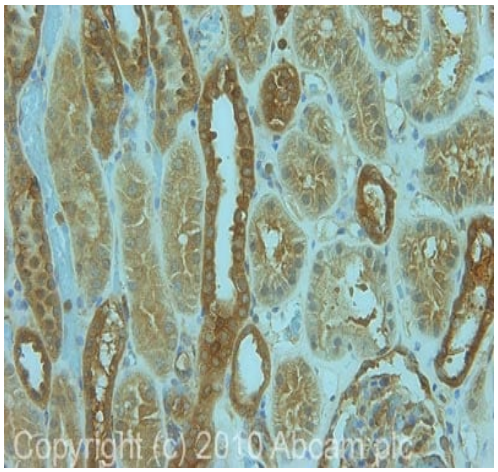
Predicted band size: 141 kDa

Exposure time: 1 second



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-DIAPH1 antibody (ab11173)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue labelling DIAPH1 with ab11173 at 1/1000 (1µg/ml). Detection: DAB.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-DIAPH1 antibody (ab11173)

IHC image of ab11173 staining in human kidney formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab11173, 1µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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