Anti-DIAPH1 antibody ab11173

Product name: Anti-DIAPH1 antibody
Description: Rabbit polyclonal to DIAPH1
Host species: Rabbit
Tested applications: Suitable for: ICC/IF, IHC-P, WB
Species reactivity: Reacts with: Human
Predicted to work with: Mouse, Gorilla, Orangutan
Immunogen: Synthetic peptide, which represents a portion of the human diaphanous homolog 1 encoded within exon 27 (LocusLink ID 1729).

Form: Liquid
Storage instructions: Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer: 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

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.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICC/IF</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>IHC-P</td>
<td></td>
<td>Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.</td>
</tr>
</tbody>
</table>
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 hair 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

Images

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>WB</td>
<td>1/5000 - 1/15000. Detects a band of approximately 200 kDa.</td>
<td></td>
</tr>
</tbody>
</table>
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)**

Western blot - Anti-DIAPH1 antibody (ab11173)

- **All lanes**: ab11173 diluted 1/5000
- **All lanes**: African Green Monkey COS-7 whole cell lysate with 5% Milk
- **Lysates/proteins at 20 µg per lane.**

**Secondary**

- **All lanes**: HRP conjugated Goat anti-rabbit polyclonal diluted 1/4000

Developed using the ECL technique.

- Performed under reducing conditions.

**Observed band size**: 200 kDa

*why is the actual band size different from the predicted?*

- **Exposure time**: 20 seconds

The gel running conditions were reducing. The blocking time was 2
hours at 25°C.
The primary antibody was incubated for 16 hours at 4°C.

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.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors