


## Product datasheet

# Anti-DIAPH1 antibody ab11173

★★★★☆ 2 Abreviews 6 References 3 Images

### Overview

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<b>Product name</b>	Anti-DIAPH1 antibody
<b>Description</b>	Rabbit polyclonal to DIAPH1
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> ICC/IF, IHC-P, WB
<b>Species reactivity</b>	<b>Reacts with:</b> Human <b>Predicted to work with:</b> Mouse, Gorilla, Orangutan 
<b>Immunogen</b>	Synthetic peptide, which represents a portion of the human diaphanous homolog 1 encoded within exon 27 (LocusLink ID 1729).
<b>General notes</b>	<p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications &amp; species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.</p> <p>In preparation for this, we have started to update the applications &amp; species that this product is Abpromise guaranteed for.</p> <p>We are also updating the applications &amp; species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.</p> <p>Applications &amp; species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.</p> <p>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, as well as customer reviews and Q&amp;As.</p>

### Properties

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<b>Form</b>	Liquid
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<b>Storage instructions</b>	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
<b>Storage buffer</b>	pH: 7 Preservative: 0.1% Sodium azide Constituents: 0.021% PBS, 1.764% Sodium citrate, 1.815% Tris
<b>Purity</b>	Immunogen affinity purified
<b>Purification notes</b>	Antibodies were affinity purified using the peptide immobilized on solid support.
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	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.

Application	Abreviews	Notes
ICC/IF		Use at an assay dependent concentration.
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.
WB	★★★★☆	1/5000 - 1/15000. Detects a band of approximately 200 kDa.

## Target

<b>Function</b>	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.
<b>Tissue specificity</b>	Expressed in brain, heart, placenta, lung, kidney, pancreas, liver, skeletal muscle and cochlea.
<b>Involvement in disease</b>	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.
<b>Sequence similarities</b>	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.

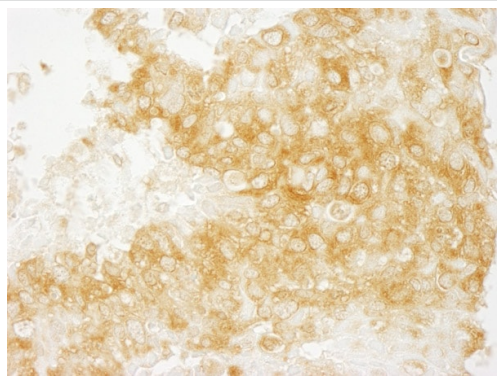
## Domain

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

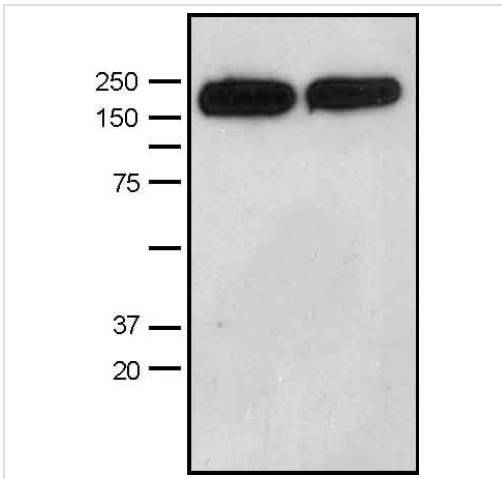
Cell membrane. Cell projection > ruffle membrane. Cytoplasm > cytoskeleton. Membrane ruffles, especially at the tip of ruffles, of motile cells.

## Images



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)  
This image is courtesy of an anonymous Abreview

**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.

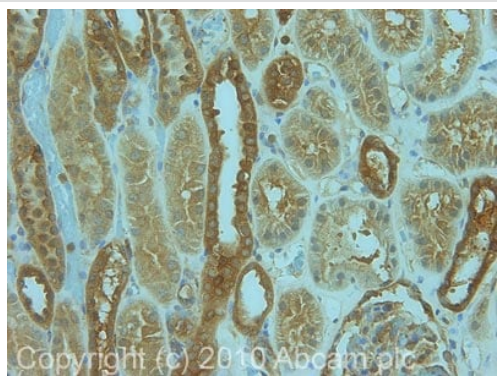
**Observed band size:** 200 kDa

[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.



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, 1 µg/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"

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