

DIAPH1 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20655a

Specification

DIAPH1 Antibody (N-term) - Product Information

Application	WB,E
Primary Accession	O60610
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	141347

DIAPH1 Antibody (N-term) - Additional Information

Gene ID 1729

Other Names

Protein diaphanous homolog 1, Diaphanous-related formin-1, DRF1, DIAPH1, DIAP1

Target/Specificity

This DIAPH1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 18-52 amino acids from the N-terminal region of human DIAPH1.

Dilution

WB~~1:500-1:1000

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

DIAPH1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

DIAPH1 Antibody (N-term) - Protein Information

Name DIAPH1

Synonyms DIAP1

Function Actin nucleation and elongation factor required for the assembly of F-actin structures, such as actin cables and stress fibers (By similarity). Binds to the barbed end of the actin filament

and slows down actin polymerization and depolymerization (By similarity). Required for cytokinesis, and transcriptional activation of the serum response factor (By similarity). DFR proteins couple Rho and Src tyrosine kinase during signaling and the regulation of actin dynamics (By similarity). Functions as a scaffold protein for MAPRE1 and APC to stabilize microtubules and promote cell migration (By similarity). Has neurite outgrowth promoting activity. Acts in a Rho-dependent manner to recruit PFY1 to the membrane (By similarity). In hair cells, it may play a role in the regulation of actin polymerization in hair cells (PubMed:[20937854](#), PubMed:[21834987](#), PubMed:[26912466](#)). The MEMO1-RHOA- DIAPH1 signaling pathway plays an important role in ERBB2-dependent stabilization of microtubules at the cell cortex (PubMed:[20937854](#), PubMed:[21834987](#)). It controls the localization of APC and CLASP2 to the cell membrane, via the regulation of GSK3B activity (PubMed:[20937854](#), PubMed:[21834987](#)). In turn, membrane-bound APC allows the localization of the MACF1 to the cell membrane, which is required for microtubule capture and stabilization (PubMed:[20937854](#), PubMed:[21834987](#)). Plays a role in the regulation of cell morphology and cytoskeletal organization. Required in the control of cell shape (PubMed:[20937854](#), PubMed:[21834987](#)). Plays a role in brain development (PubMed:[24781755](#)). Also acts as an actin nucleation and elongation factor in the nucleus by promoting nuclear actin polymerization inside the nucleus to drive serum-dependent SRF-MRTFA activity (By similarity).

Cellular Location

Cell membrane {ECO:0000250|UniProtKB:O08808}. Cell projection, ruffle membrane {ECO:0000250|UniProtKB:O08808} Cytoplasm, cytoskeleton. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle. Cytoplasm {ECO:0000250|UniProtKB:O08808}. Nucleus {ECO:0000250|UniProtKB:O08808} Note=Membrane ruffles, especially at the tip of ruffles, of motile cells. {ECO:0000250|UniProtKB:O08808}

Tissue Location

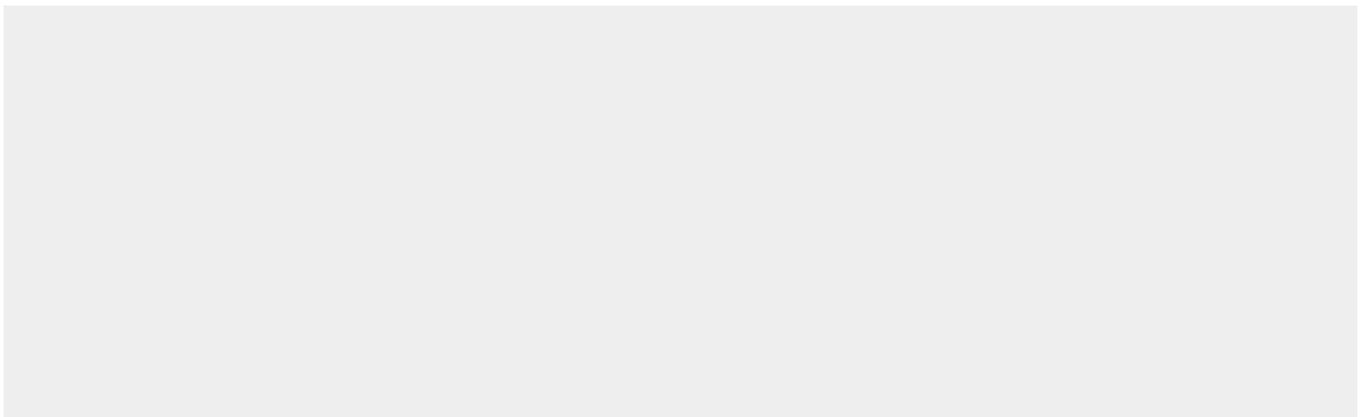
Expressed in brain, heart, placenta, lung, kidney, pancreas, liver, skeletal muscle and cochlea. Expressed in platelets (PubMed:[26912466](#)).

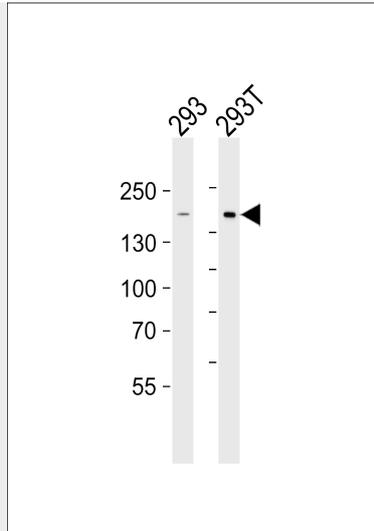
DIAPH1 Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

DIAPH1 Antibody (N-term) - Images





Western blot analysis of lysates from 293, 293T cell line (from left to right), using DIAPH1 Antibody (N-term)(Cat. #AP20655a). AP20655a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.

DIAPH1 Antibody (N-term) - Background

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. Plays a role in the regulation of cell morphology and cytoskeletal organization. Required in the control of cell shape.

DIAPH1 Antibody (N-term) - References

- Lynch E.D.,et al.Science 278:1315-1318(1997).
- Totoki Y.,et al.Submitted (MAR-2005) to the EMBL/GenBank/DDBJ databases.
- Schmutz J.,et al.Nature 431:268-274(2004).
- Ota T.,et al.Nat. Genet. 36:40-45(2004).
- Morita K.,et al.J. Dermatol. Sci. 44:11-20(2006).