

DIAPH3 (F-20): sc-68067

BACKGROUND

DIAPH3 (diaphanous homolog 3), also known as DIAP3, DRF3 or mDia2 of mouse origin, is a 1,193 amino acid member of the formin homology protein family and is required for the correct function of various cellular processes. DIAPH3 binds to both Profilin, a protein involved in cell maintenance, and to the GTP-bound form of Rho (Rho-GTP). Binding to both of these proteins allows DIAPH3 to recruit Profilin to the membrane, in a Rho-dependent manner. At the membrane, DIAPH3 promotes actin polymerization and is required for stress fiber formation, cytokinesis and transcriptional activation of the serum response factor (SRF). DIAPH3 also regulates actin dynamics by coupling Src tyrosine kinase (c-Src) and Rho during actin signaling events. DIAPH3 contains one diaph-anous autoregulatory domain (DAD) and one Rho GTPase-binding domain (GBD). When DAD and GBD are intramolecularly bound, the GBD is occupied and DIAPH3 is inactive. Interruption of the DAD-GBD bond allows the GBD to bind to Rho-GTP, thus activating DIAPH3. Seven isoforms of DIAPH3 exist due to alternative splicing events.

REFERENCES

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- Katoh, M. and Katoh, M. 2004. Identification and characterization of human DIAPH3 gene in silico. *Int. J. Mol. Med.* 13: 473-478.
- Katoh, M. and Katoh, M. 2004. Identification and characterization of human FHOD3 gene in silico. *Int. J. Mol. Med.* 13: 615-620.
- Katoh, M. and Katoh, M. 2004. Identification and characterization of human FHDC1, mouse Fhdc1 and zebrafish fhdc1 genes in silico. *Int. J. Mol. Med.* 13: 929-934.
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CHROMOSOMAL LOCATION

Genetic locus: DIAPH3 (human) mapping to 13q21.2; Diap3 (mouse) mapping to 14 E1.

SOURCE

DIAPH3 (F-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DIAPH3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-68067 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

DIAPH3 (E-18) is recommended for detection of DIAPH3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DIAPH3 (F-20) is also recommended for detection of DIAPH3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for DIAPH3 siRNA (h): sc-62210, DIAPH3 siRNA (m): sc-62211, DIAPH3 shRNA Plasmid (h): sc-62210-SH, DIAPH3 shRNA Plasmid (m): sc-62211-SH, DIAPH3 shRNA (h) Lentiviral Particles: sc-62210-V and DIAPH3 shRNA (m) Lentiviral Particles: sc-62211-V.

Molecular Weight of DIAPH3: 137 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **DIAPH3 (4D5): sc-293288**, our highly recommended monoclonal alternative to DIAPH3 (F-20).