

Dia 2 (H-110): sc-28776

BACKGROUND

Dia 2, also known as DIAPH2 (diaphanous homolog 2), DRF2 or mDia3 of mouse origin, is a mammalian homolog of the *Drosophila* diaphanous gene, and belongs to a family of formin homology (FH) proteins which are characterized by having tandemly aligned FH1 (formin homology 1) and FH2 (formin homology 2) domains in their carboxy terminal regions. Dia 2 contains a DAD (diaphanous autoregulatory) domain, which is involved in the elongation of actin filaments, and a GBD/FH3 (Rho GTPase-binding/formin homology 3) domain, which interacts with the DAD domain via autoinhibitory interactions to regulate the activation of Dia 2. Expressed in testis and ovary, Dia 2 may be involved in oogenesis. Defects to the gene encoding Dia 2 have been implicated in premature ovarian failure type 2A, a disorder characterized by decreased ovarian function. Dia 2 exists as three alternatively spliced isoforms.

REFERENCES

1. Lynch, E.D., et al. 1997. Nonsyndromic deafness DFNA1 associated with mutation of a human homolog of the *Drosophila* gene diaphanous. *Science* 278: 1315-1318.
2. Bione, S., et al. 1998. A human homologue of the *Drosophila melanogaster* diaphanous gene is disrupted in a patient with premature ovarian failure: evidence for conserved function in oogenesis and implications for human sterility. *Am. J. Hum. Genet.* 62: 533-541.
3. Alberts, A.S., et al. 1998. Analysis of RhoA-binding proteins reveals an interaction domain conserved in heterotrimeric G protein β subunits and the yeast response regulator protein Skn7. *J. Biol. Chem.* 273: 8616-8622.
4. Watanabe, N., et al. 1999. Cooperation between mDia1 and ROCK in Rho-induced actin reorganization. *Nat. Cell Biol.* 1: 136-143.
5. Nakano, K., et al. 1999. Distinct actions and cooperative roles of ROCK and mDia in Rho small G protein-induced reorganization of the actin cytoskeleton in Madin-Darby canine kidney cells. *Mol. Biol. Cell* 10: 2481-2491.
6. Afshar, K., et al. 2000. Functional analysis of the *Drosophila* diaphanous FH protein in early embryonic development. *Development* 127: 1887-1897.
7. Tominaga, T., et al. 2000. Diaphanous-related formins bridge Rho GTPase and Src tyrosine kinase signaling. *Mol. Cell* 5: 13-25.

CHROMOSOMAL LOCATION

Genetic locus: DIAPH2 (human) mapping to Xq21.33; Diap2 (mouse) mapping to X E3.

SOURCE

Dia 2 (H-110) is a rabbit polyclonal antibody raised against amino acids 23-110 mapping at the N-terminus of diaphanous 2 (Dia 2) of human origin.

PRODUCT

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

APPLICATIONS

Dia 2 (H-110) is recommended for detection of Dia 2 (also designated mDia3 of mouse origin) of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

Dia 2 (H-110) is also recommended for detection of Dia 2 (also designated mDia3 of mouse origin) in additional species, including equine and bovine.

Suitable for use as control antibody for Dia 2 siRNA (h): sc-35192, Dia 2 siRNA (m): sc-155883, Dia 2 shRNA Plasmid (h): sc-35192-SH, Dia 2 shRNA Plasmid (m): sc-155883-SH, Dia 2 shRNA (h) Lentiviral Particles: sc-35192-V and Dia 2 shRNA (m) Lentiviral Particles: sc-155883-V.

Molecular Weight of Dia 2: 134 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

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

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.

MONOS
Satisfaction
Guaranteed

Try **Dia 2 (H-3): sc-393489** or **Dia 2 (B-11): sc-55539**, our highly recommended monoclonal alternatives to Dia 2 (H-110).