

## Dia 2 (H-3): sc-393489

### 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  $\beta$  subunits and the yeast response regulator protein Skn7. *J. Biol. Chem.* 273: 8616-8622.

### CHROMOSOMAL LOCATION

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

### SOURCE

Dia 2 (H-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 52-69 within an internal region of Dia 2 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Dia 2 (H-3) is available conjugated to agarose (sc-393489 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393489 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393489 PE), fluorescein (sc-393489 FITC), Alexa Fluor® 488 (sc-393489 AF488), Alexa Fluor® 546 (sc-393489 AF546), Alexa Fluor® 594 (sc-393489 AF594) or Alexa Fluor® 647 (sc-393489 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393489 AF680) or Alexa Fluor® 790 (sc-393489 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393489 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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### APPLICATIONS

Dia 2 (H-3) is recommended for detection of Dia 2 (also designated mDia3 of mouse origin) of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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-3) is also recommended for detection of Dia 2 (also designated mDia3 of mouse origin) in additional species, including bovine and avian.

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.

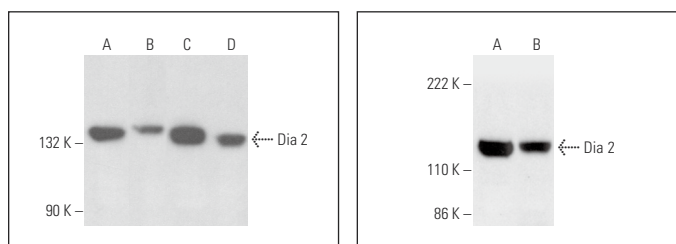
Molecular Weight of Dia 2: 134 kDa.

Positive Controls: MDA-MB-435S whole cell lysate: sc-364184, NIH/3T3 whole cell lysate: sc-2210 or HeLa whole cell lysate: sc-2200.

### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

### DATA



Dia 2 (H-3): sc-393489. Western blot analysis of Dia 2 expression in MDA-MB-435S (A), RAW 264.7 (B), NIH/3T3 (C) and COLO 205 (D) whole cell lysates.

Dia 2 (H-3): sc-393489. Western blot analysis of Dia 2 expression in MDA-MB-435S (A) and HeLa (B) whole cell lysates.

### 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.