

## Elmo3 (E-4): sc-166364

### BACKGROUND

Elmo (engulfment and cell motility) proteins share similarity to *C. elegans* CED-12. The *C. elegans* genes CED-2, CED-5, CED-10, and CED-12 and their mammalian homologs Crk II, Dock1, Rac 1 and Elmo mediate cytoskeletal rearrangements during phagocytosis of apoptotic cells and cell motility. Elmo1 associates with DOCK 180 and may influence phagocytosis and effect cell shape changes. Src family kinase mediated tyrosine phosphorylation of Elmo1 influences signaling through Elmo1/Crk/DOCK 180 pathways. Elmo2 interacts directly with Rho G in a GTP-dependent manner and forms a ternary complex with DOCK 180 to induce activation of Rac 1. The Rho G-Elmo2-DOCK 180 pathway is required for activation of Rac 1 and cell spreading mediated by integrin, as well as for neurite outgrowth induced by nerve growth factor. Elmo3 acts in association with DOCK 180 and Crk II and may be required in complex with DOCK 180 to activate Rac/Rho small GTPases.

### REFERENCES

1. Gumienny, T.L., et al. 2001. CED-12/Elmo, a novel member of the Crk II/DOCK 180/Rac pathway, is required for phagocytosis and cell migration. *Cell* 107: 27-41.
2. Brugnera, E., et al. 2002. Unconventional Rac-GEF activity is mediated through the DOCK 180-Elmo complex. *Nat. Cell Biol.* 4: 574-582.
3. Katoh, H., et al. 2003. Rho G activates Rac 1 by direct interaction with the DOCK 180-binding protein Elmo. *Nature* 424: 461-464.
4. Sanui, T., et al. 2003. DOCK2 regulates Rac activation and cytoskeletal reorganization through interaction with Elmo1. *Blood* 102: 2948-2950.

### CHROMOSOMAL LOCATION

Genetic locus: ELMO3 (human) mapping to 16q22.1; Elmo3 (mouse) mapping to 8 D3.

### SOURCE

Elmo3 (E-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 64-95 within an internal region of Elmo3 of mouse origin.

### PRODUCT

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

Elmo3 (E-4) is available conjugated to agarose (sc-166364 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166364 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166364 PE), fluorescein (sc-166364 FITC), Alexa Fluor<sup>®</sup> 488 (sc-166364 AF488), Alexa Fluor<sup>®</sup> 546 (sc-166364 AF546), Alexa Fluor<sup>®</sup> 594 (sc-166364 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-166364 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-166364 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-166364 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166364 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

### APPLICATIONS

Elmo3 (E-4) is recommended for detection of Elmo3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Elmo3 (E-4) is also recommended for detection of Elmo3 in additional species, including canine and porcine.

Suitable for use as control antibody for Elmo3 siRNA (h): sc-43750, Elmo3 siRNA (m): sc-44582, Elmo3 shRNA Plasmid (h): sc-43750-SH, Elmo3 shRNA Plasmid (m): sc-44582-SH, Elmo3 shRNA (h) Lentiviral Particles: sc-43750-V and Elmo3 shRNA (m) Lentiviral Particles: sc-44582-V.

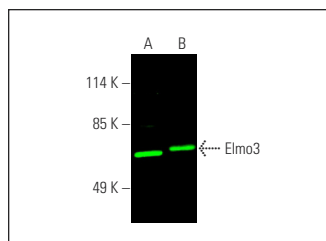
Molecular Weight of Elmo3: 81 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232 or HEL 92.1.7 cell lysate: sc-2270.

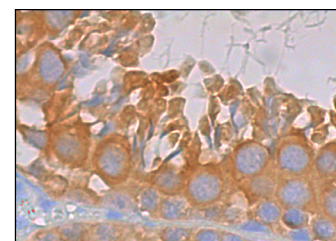
### RECOMMENDED SUPPORT REAGENTS

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

### DATA



Elmo3 (E-4): sc-166364. Near-infrared western blot analysis of Elmo3 expression in MDA-MB-231 (A) and HEL 92.1.7 (B) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



Elmo3 (E-4) HRP: sc-166364 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded mouse testis tissue showing cytoplasmic staining of cells in seminiferous ducts. Blocked with 0.25X UltraCruz<sup>®</sup> Blocking Reagent: sc-516214.

### 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.

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