SANTA CRUZ BIOTECHNOLOGY, INC.

Elmo (G-8): sc-166555

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, CRKII, DOCK1, RAC1 and ELMO, mediate cytoskeletal rearrangements during phagocytosis of apoptotic cells as well as 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 assocation 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. DOCK 2 regulates Rac activation and cytoskeletal reorganization through interaction with Elmo1. Blood 102: 2948-2950.
5. Lu, M., et al. 2004. PH domain of Elmo functions *in trans* to regulate Rac activation via DOCK 180. Nat. Struct. Mol. Biol. 11: 756-762.
6. deBakker, C.D., et al. 2004. Phagocytosis of apoptotic cells is regulated by a UNC-73/Trio-Mig-2/Rho G signaling module and armadillo repeats of CED-12/Elmo. Curr. Biol. 14: 2208-2216.
7. Yokoyama, N., et al. 2005. Identification of tyrosine residues on Elmo1 that are phosphorylated by the Src-family kinase Hck. Biochemistry 44: 8841-8849.

SOURCE

Elmo (G-8) is a mouse monoclonal antibody raised against amino acids 1-727 representing full length Elmo of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Elmo (G-8) is available conjugated to agarose (sc-166555 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166555 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166555 PE), fluorescein (sc-166555 FITC), Alexa Fluor® 488 (sc-166555 AF488), Alexa Fluor® 546 (sc-166555 AF546), Alexa Fluor® 594 (sc-166555 AF594) or Alexa Fluor® 647 (sc-166555 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166555 AF680) or Alexa Fluor® 790 (sc-166555 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Elmo (G-8) is recommended for detection of a broad range of Elmo proteins 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).

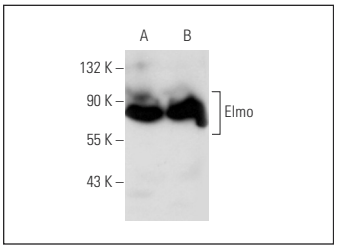
Molecular Weight of Elmo: 84 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MOLT-4 cell lysate: sc-2233 or RAW 264.7 whole cell lysate: sc-2211.

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™ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



Elmo (G-8): sc-166555. Western blot analysis of Elmo expression in Jurkat (**A**) and RAW 264.7 (**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.

PROTOCOLS

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