

Elmo (FL-727): sc-20965

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 cyto-skeletal 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

- 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.
- Brugnera, E., et al. 2002. Unconventional Rac-GEF activity is mediated through the DOCK 180-Elmo complex. *Nat. Cell Biol.* 4: 574-582.
- Katoh, H., et al. 2003. Rho G activates Rac 1 by direct interaction with the DOCK 180-binding protein Elmo. *Nature* 424: 461-464.
- Sanui, T., et al. 2003. DOCK2 regulates Rac activation and cytoskeletal reorganization through interaction with Elmo1. *Blood* 102: 2948-2950.
- 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.
- 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.
- Yokoyama, N., et al. 2005. Identification of tyrosine residues on Elmo1 that are phosphorylated by the Src-family kinase Hck. *Biochemistry* 44: 8841-8849.
- Akakura, S., et al. 2005. C-terminal SH3 domain of Crk II regulates the assembly and function of the DOCK 180/Elmo Rac-GEF. *J. Cell. Physiol.* 204: 344-351.
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SOURCE

Elmo (FL-727) is a rabbit polyclonal antibody raised against amino acids 1-727 representing full length Elmo1, isoform 1 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.

APPLICATIONS

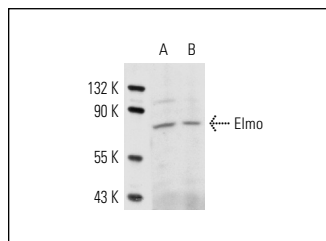
Elmo (FL-727) is recommended for detection of a broad range of Elmo proteins of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Elmo (FL-727) is also recommended for detection of a broad range of Elmo proteins in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Elmo: 84 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

DATA



Elmo (FL-727): sc-20965. Western blot analysis of Elmo expression in MOLT-4 (A) and Jurkat (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Chen, M., et al. 2009. Integrin $\alpha\beta4$ controls the expression of genes associated with cell motility, invasion and metastasis, including S100A4/metastasin. *J. Biol. Chem.* 284: 1484-1494.

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
Satisfation
Guaranteed

Try **Elmo (G-8): sc-166555**, our highly recommended monoclonal alternative to Elmo (FL-727).