

Elmo1 (m): 293T Lysate: sc-120003

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 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. 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.

CHROMOSOMAL LOCATION

Genetic locus: Elmo1 (mouse) mapping to 13 A2.

PRODUCT

Elmo1 (m): 293T Lysate represents a lysate of mouse Elmo1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

Elmo1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Elmo1 antibodies. Recommended use: 10-20 µl per lane.

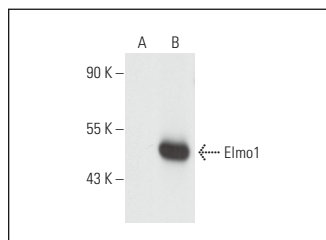
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Elmo1 (C-3): sc-166661 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Elmo1 expression in Elmo1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



Elmo1 (C-3): sc-166661. Western blot analysis of Elmo1 expression in non-transfected: sc-117752 (A) and mouse Elmo1 transfected: sc-120003 (B) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.