

# Elmo1 (B-7): sc-271519

## 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, DOCK 1, Rac 1 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

- 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.

## CHROMOSOMAL LOCATION

Genetic locus: ELMO1 (human) mapping to 7p14.2; Elmo1 (mouse) mapping to 13 A2.

## SOURCE

Elmo1 (B-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 37-71 near the N-terminus of Elmo1 of human 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.

Elmo1 (B-7) is available conjugated to agarose (sc-271519 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271519 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271519 PE), fluorescein (sc-271519 FITC), Alexa Fluor® 488 (sc-271519 AF488), Alexa Fluor® 546 (sc-271519 AF546), Alexa Fluor® 594 (sc-271519 AF594) or Alexa Fluor® 647 (sc-271519 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271519 AF680) or Alexa Fluor® 790 (sc-271519 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271519 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

Elmo1 (B-7) is recommended for detection of Elmo1 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).

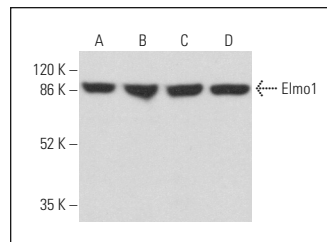
Elmo1 (B-7) is also recommended for detection of Elmo1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Elmo1 siRNA (h): sc-40525, Elmo1 siRNA (m): sc-40526, Elmo1 shRNA Plasmid (h): sc-40525-SH, Elmo1 shRNA Plasmid (m): sc-40526-SH, Elmo1 shRNA (h) Lentiviral Particles: sc-40525-V and Elmo1 shRNA (m) Lentiviral Particles: sc-40526-V.

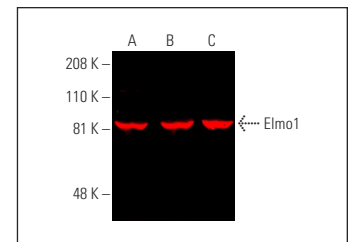
Molecular Weight of Elmo1: 84 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, NAMALWA cell lysate: sc-2234 or HL-60 whole cell lysate: sc-2209.

## DATA



Elmo1 (B-7): sc-271519. Western blot analysis of Elmo1 expression in CCRF-CEM (A), NAMALWA (B), RAW 264.7 (C) and HL-60 (D) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Elmo1 (B-7): sc-271519. Near-infrared western blot analysis of Elmo1 expression in CCRF-CEM (A), NAMALWA (B) and HL-60 (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

## SELECT PRODUCT CITATIONS

- Li, W., et al. 2018. Neuronal adaptor FE65 stimulates Rac 1-mediated neurite outgrowth by recruiting and activating Elmo1. *J. Biol. Chem.* 293: 7674-7688.
- Li, W., et al. 2018. HGF-induced formation of the Met-Axl-Elmo2-DOCK 180 complex promotes Rac 1 activation, receptor clustering, and cancer cell migration and invasion. *J. Biol. Chem.* 293: 15397-15418.
- Chan, W.W.R., et al. 2020. ARF6-Rac 1 signaling-mediated neurite outgrowth is potentiated by the neuronal adaptor FE65 through orchestrating ARF6 and Elmo1. *FASEB J.* 34: 16397-16413.
- Sharma, A., et al. 2023. The crosstalk between microbial sensors Elmo1 and NOD2 shape intestinal immune responses. *Virulence*. E-published.

## RESEARCH USE

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

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