

# Elmo2 (C-12): sc-365739

## 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 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.

## CHROMOSOMAL LOCATION

Genetic locus: ELMO1 (human) mapping to 7p14.2, ELMO2 (human) mapping to 20q13.12; Elmo1 (mouse) mapping to 13 A2, Elmo2 (mouse) mapping to 2 H3.

## SOURCE

Elmo2 (C-12) is a mouse monoclonal antibody raised against amino acids 1-551 representing full length Elmo2 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.

Elmo2 (C-12) is available conjugated to agarose (sc-365739 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365739 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365739 PE), fluorescein (sc-365739 FITC), Alexa Fluor® 488 (sc-365739 AF488), Alexa Fluor® 546 (sc-365739 AF546), Alexa Fluor® 594 (sc-365739 AF594) or Alexa Fluor® 647 (sc-365739 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365739 AF680) or Alexa Fluor® 790 (sc-365739 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

Elmo2 (C-12) is recommended for detection of Elmo1 and Elmo2 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).

Elmo2 (C-12) is also recommended for detection of Elmo1 and Elmo2 in additional species, including equine, canine, bovine and porcine.

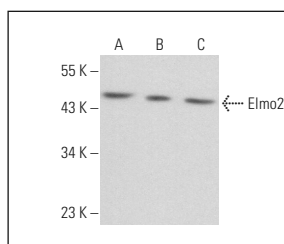
Molecular Weight of Elmo2: 84 kDa.

Positive Controls: TK-1 whole cell lysates: sc-364798, Jurkat whole cell lysate: sc-2204 or Ramos cell lysate: sc-2216.

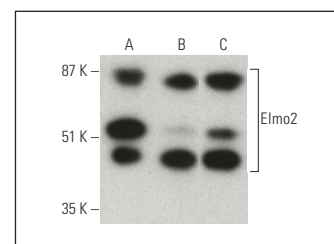
## RECOMMENDED SUPPORT REAGENTS

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



Elmo2 (C-12): sc-365739. Western blot analysis of Elmo2 expression in Jurkat (A), Ramos (B) and WEHI-231 (C) whole cell lysates.



Elmo2 (C-12) HRP: sc-365739 HRP. Direct western blot analysis of Elmo2 expression in Jurkat (A), TK-1 (B) and Ramos (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Cetinkaya, A., et al. 2016. Loss-of-function mutations in Elmo2 cause intraosseous vascular malformation by impeding Rac 1 signaling. *Am. J. Hum. Genet.* 99: 299-317.
- 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.
- Elliott, B., et al. 2019. Essential role of JunD in cell proliferation is mediated via Myc signaling in prostate cancer cells. *Cancer Lett.* 48: 155-167.

## RESEARCH USE

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