

**BACKGROUND**

The DOCK2 gene encodes dedicator of cytokinesis 2 (DOCK 2), a hematopoietic cell-specific CDM family protein that is indispensable for lymphocyte chemotaxis. DOCK 2 participates in the cytoskeletal rearrangements that are required for lymphocyte migration in response of chemokines. This peripheral membrane protein activates Rac 1 and Rac 2 small GTPases, while presumably acting as a guanine nucleotide exchange factor (GEF), which exchanges bound GDP for free GTP. DOCK 2 may also participate in IL-2 transcriptional activation through the activation of Rac 2. DOCK 2 contains one DHR-1 (CZH-1) domain, one DHR-2 (CZH-2) domain and one SH3 domain. The DHR-2 domain is a putative GEF activity mediator. The DOCK 2 protein also co-localizes with F-Actin, and demonstrates expression in several human tissues, with the highest levels observed in peripheral blood leukocytes, thymus, spleen and liver.

**CHROMOSOMAL LOCATION**

Genetic locus: DOCK2 (human) mapping to 5q35.1; Dock2 (mouse) mapping to 11 A4.

**SOURCE**

DOCK 2 (E-7) is a mouse monoclonal antibody raised against amino acids 796-894 mapping within an internal region of DOCK 2 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.

DOCK 2 (E-7) is available conjugated to agarose (sc-365242 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365242 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365242 PE), fluorescein (sc-365242 FITC), Alexa Fluor® 488 (sc-365242 AF488), Alexa Fluor® 546 (sc-365242 AF546), Alexa Fluor® 594 (sc-365242 AF594) or Alexa Fluor® 647 (sc-365242 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365242 AF680) or Alexa Fluor® 790 (sc-365242 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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**APPLICATIONS**

DOCK 2 (E-7) is recommended for detection of DOCK 2 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).

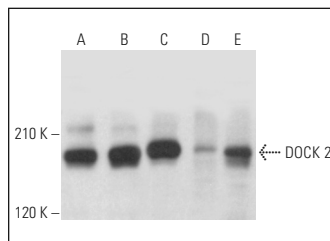
Suitable for use as control antibody for DOCK2 siRNA (h): sc-60545, DOCK 2 siRNA (m): sc-60546, DOCK2 shRNA Plasmid (h): sc-60545-SH, DOCK 2 shRNA Plasmid (m): sc-60546-SH, DOCK2 shRNA (h) Lentiviral Particles: sc-60545-V and DOCK 2 shRNA (m) Lentiviral Particles: sc-60546-V.

Molecular Weight of DOCK 2: 220 kDa.

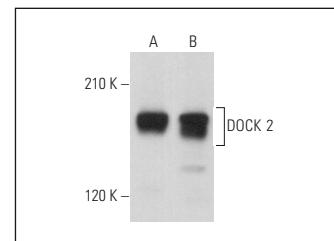
Positive Controls: HEL 92.1.7 cell lysate: sc-2270, K-562 whole cell lysate: sc-2203 or IB4 whole cell lysate: sc-364780.

**STORAGE**

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

**DATA**

DOCK 2 (E-7): sc-365242. Western blot analysis of DOCK 2 expression in K-562 (A), HEL 92.1.7 (B), Daudi (C), Ramos (D) and SP2/0 (E) whole cell lysates.



DOCK 2 (E-7): sc-365242. Western blot analysis of DOCK 2 expression in K-562 (A) and IB4 (B) whole cell lysates.

**SELECT PRODUCT CITATIONS**

- Toffali, L., et al. 2017. SOS1, ARHGEF1, and DOCK 2 Rho-GEFs mediate JAK-dependent LFA-1 activation by chemokines. *J. Immunol.* 198: 708-717.
- Wu, M., et al. 2017. DOCK 2 interacts with FLT3 and modulates the survival of FLT3-expressing leukemia cells. *Leukemia* 31: 688-696.
- Xu, X., et al. 2017. ITRAQ-based proteomics analysis of acute lung injury induced by oleic acid in mice. *Cell. Physiol. Biochem.* 44: 1949-1964.
- Wu, M., et al. 2019. FLT3/ITD cooperates with Rac1 to modulate the sensitivity of leukemic cells to chemotherapeutic agents via regulation of DNA repair pathways. *Haematologica* 104: 2418-2428.
- Jing, Y., et al. 2019. Dedicator of cytokinesis protein 2 couples with lymphoid enhancer-binding factor 1 to regulate expression of CD21 and B-cell differentiation. *J. Allergy Clin. Immunol.* 144: 1377-1390.e4.
- Yang, L., et al. 2020. DOCK 2 couples with LEF-1 to regulate B cell metabolism and memory response. *Biochem. Biophys. Res. Commun.* 529: 296-302.
- Hasan, M.K., et al. 2021. Wnt5a enhances proliferation of chronic lymphocytic leukemia and ERK1/2 phosphorylation via a ROR1/DOCK 2-dependent mechanism. *Leukemia* 35: 1621-1630.
- Ma, X., et al. 2022. DOCK 2 regulates antifungal immunity by regulating RAC GTPase activity. *Cell. Mol. Immunol.* 19: 602-618.
- Song, J.H., et al. 2022. TLR4 activation induces inflammatory vascular permeability via Dock1 targeting and NOX4 upregulation. *Biochim. Biophys. Acta Mol. Basis Dis.* 1868: 166562.

**RESEARCH USE**

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

**PROTOCOLS**

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.