SANTA CRUZ BIOTECHNOLOGY, INC.

DOCK 2 (H-99): sc-99070

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.

REFERENCES

1. Nagase, T., et al. 1997. Prediction of the coding sequences of unidentified human genes. VI. The coding sequences of 80 new genes (KIAA0201-KIAA0280) deduced by analysis of cDNA clones from cell line KG-1 and brain. DNA Res. 3: 321-329, 341-354.
2. Fukui, Y., et al. 2001. Haematopoietic cell-specific CDM family protein DOCK 2 is essential for lymphocyte migration. Nature 412: 826-831.
3. Sanui, T., et al. 2003. DOCK 2 is essential for antigen-induced translocation of TCR and lipid rafts, but not PKC τ and LFA-1, in T cells. Immunity 19: 119-129.
4. Nombela-Arrieta, C., et al. 2004. Differential requirements for DOCK 2 and phosphoinositide-3-kinase γ during T and B lymphocyte homing. Immunity 21: 429-441.
5. Jiang, H., et al. 2005. Deletion of DOCK 2, a regulator of the Actin cytoskeleton in lymphocytes, suppresses cardiac allograft rejection. J. Exp. Med. 202: 1121-1130.
6. Kunisaki, Y., et al. 2006. DOCK 2 is required in T cell precursors for development of Vα14 NK T cells. J. Immunol. 176: 4640-4645.
7. Shulman, Z., et al. 2006. DOCK 2 regulates chemokine-triggered lateral lymphocyte motility but not transendothelial migration. Blood 108: 2150-2158.

CHROMOSOMAL LOCATION

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

SOURCE

DOCK 2 (H-99) is a rabbit polyclonal 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 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DOCK 2 (H-99) is recommended for detection of DOCK 2 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).

DOCK 2 (H-99) is also recommended for detection of DOCK 2 in additional species, including equine, canine, porcine and avian.

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

Molecular Weight of DOCK 2: 220 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.