SANTA CRUZ BIOTECHNOLOGY, INC.

Dok-1 (A-3): sc-6929

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Dok-1 associates with the Ras GTPase-activating protein (Ras GAP) upon tyrosine phosphorylation. Evidence suggests that Dok-1 (also designated p62dok) is a substrate of the constitutive tyrosine kinase activity of p210 Bcr-Abl, a fusion protein caused by the t(9;22) translocation and associated with chronic myelogenous leukemia. Dok-1, as well as the tyrosine kinase substrates IRS-1 and Cas, are members of a class of "docking" proteins which contain multiple tyrosine residues and putative SH2 binding sites. Dok-1 is suspected to be the substrate phosphorylated in response to stimulation by a number of growth factors, including PDGF, VEGF, Insulin and IGF. Dok-2 (also designated p56dok) has also been identified as a potential mediator of the effects of p210 Bcr-Abl.

CHROMOSOMAL LOCATION

Genetic locus: DOK1 (human) mapping to 2p13.1; Dok1 (mouse) mapping to 6 C3.

SOURCE

Dok-1 (A-3) is a mouse monoclonal antibody raised against amino acids 1-276 mapping at the N-terminus of Dok-1 (GAP-associated p62) of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Dok-1 (A-3) is available conjugated to agarose (sc-6929 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-6929 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-6929 PE), fluorescein (sc-6929 FITC), Alexa Fluor® 488 (sc-6929 AF488), Alexa Fluor® 546 (sc-6929 AF546), Alexa Fluor® 594 (sc-6929 AF594) or Alexa Fluor® 647 (sc-6929 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-6929 AF680) or Alexa Fluor® 790 (sc-6929 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Dok-1 (A-3) is recommended for detection of Dok-1 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Dok-1 siRNA (h): sc-35210, Dok-1 siRNA (m): sc-35209, Dok-1 siRNA (r): sc-270314, Dok-1 shRNA Plasmid (h): sc-35210-SH, Dok-1 shRNA Plasmid (m): sc-35209-SH, Dok-1 shRNA Plasmid (r): sc-270314-SH, Dok-1 shRNA (h) Lentiviral Particles: sc-35210-V, Dok-1 shRNA (m) Lentiviral Particles: sc-35209-V and Dok-1 shRNA (r) Lentiviral Particles: sc-270314-V.

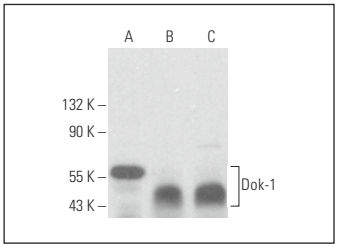
Molecular Weight of Dok-1: 62 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, RAW 264.7 whole cell lysate: sc-2211 or K-562 whole cell lysate: sc-2203.

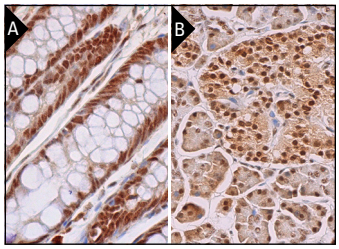
STORAGE

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

DATA



Dok-1 (A-3): sc-6929. Western blot analysis of Dok-1 expression in RAW 264.7 (**A**), K-562 (**B**) and HEL 92.1.7 (**C**) whole cell lysates.



Dok-1 (A-3): sc-6929. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing nuclear staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic and nuclear staining of exocrine glandular cells and Islets of Langerhans (**B**).

SELECT PRODUCT CITATIONS

1. Yamanashi, Y., et al. 2000. Role of the Ras GAP-associated docking protein $p62^{dok}$ in negative regulation of B cell receptor-mediated signaling. Genes Dev. 14: 11-16.
2. Borczuk, A.C., et al. 2003. Non-small-cell lung cancer molecular signatures recapitulate lung developmental pathways. Am. J. Pathol. 163: 1949-1960.
3. Shinohara, H., et al. 2004. Dok-1 tyrosine residues at 336 and 340 are essential for the negative regulation of Ras-Erk signalling, but dispensable for Ras GAP-binding. Genes Cells 9: 601-607.
4. Hosooka, T., et al. 2008. Dok1 mediates high-fat diet-induced adipocyte hypertrophy and obesity through modulation of PPARγ phosphorylation. Nat. Med. 14: 188-193.
5. Johnson, K.J., et al. 2009. A Bcr-Abl mutant lacking direct binding sites for the GRB2, CBL and CRKL adapter proteins fails to induce leukemia in mice. PLoS ONE 4: e7439.
6. Mercier, P.L., et al. 2011. Characterization of DOK1, a candidate tumor suppressor gene, in epithelial ovarian cancer. Mol. Oncol. 5: 438-453.
7. Ng, K.Y., et al. 2015. Phosphorylation of Dok1 by Abl family kinases inhibits Crkl transforming activity. Oncogene 34: 2650-2659.
8. Friedrich, T., et al. 2016. Subcellular compartmentalization of docking protein-1 contributes to progression in colorectal cancer. EBioMedicine 8: 159-172.
9. Tian, X., et al. 2017. Losartan improves palmitate-induced Insulin resistance in 3T3-L1 adipocytes through upregulation of Src phosphorylation. Exp. Clin. Endocrinol. Diabetes 125: 136-140.

RESEARCH USE

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