SANTA CRUZ BIOTECHNOLOGY, INC.

p-Dok-1 (Tyr 398): sc-101767

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 p62 Dok-1 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, is a member 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 p56 Dok) has also been identified as a potential mediator of the effects of p210 Bcr-Abl.

REFERENCES

1. Wisniewski, D., et al. 1994. A 62-kilodalton tyrosine phosphoprotein constitutively present in primary chronic phase chronic myelogenous leukemia enriched lineage negative blast populations. Leukemia 8: 688-693.
2. Myers, M.G., et al. 1994. The IRS-1 signaling system. Trends Biochem. Sci. 19: 289-293.
3. Mayer, B.J., et al. 1995. Evidence that SH2 domains promote processive phosphorylation by protein-tyrosine kinases. Curr. Biol. 5: 296-305.
4. Guo, D., et al. 1995. Vascular endothelial cell growth factor promotes tyrosine phosphorylation of mediators of signal transduction that contain SH2 domains. Association with endothelial cell proliferation. J. Biol. Chem. 270: 6729-6733.
5. Holgado, M.M., et al. 1996. A GRB2-associated docking protein in EGF- and Insulin-receptor signalling. Nature 379: 560-564.
6. Carpino, N., et al. 1997. p62 Dok-1: a constitutively tyrosine-phosphorylated, GAP-associated protein in chronic myelogenous leukemia progenitor cells. Cell 88: 197-204.
7. Yamanashi, Y. and Baltimore, D. 1997. Identification of the Abl- and rasGAP-associated 62 kDa protein as a docking protein, Dok. Cell 88: 205-211.

CHROMOSOMAL LOCATION

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

SOURCE

p-Dok-1 (Tyr 398) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 398 of Dok-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

p-Dok-1 (Tyr 398) is recommended for detection of Tyr 398 phosphorylated Dok-1 of human origin and correspondingly phosphorylated Tyr 397 of mouse and rat origin 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 shRNA Plasmid (h): sc-35210-SH, Dok-1 shRNA Plasmid (m): sc-35209-SH, Dok-1 shRNA (h) Lentiviral Particles: sc-35210-V and Dok-1 shRNA (m) Lentiviral Particles: sc-35209-V.

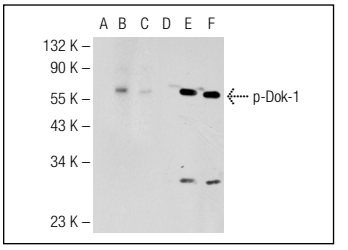
Molecular Weight of p-Dok-1: 62 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or human breast carcinoma tissue.

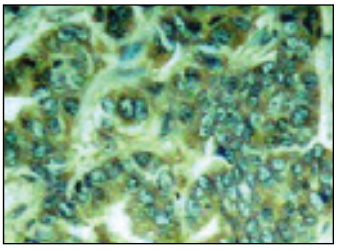
RECOMMENDED SECONDARY REAGENTS

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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Western blot analysis of Dok-1 phosphorylation in non-transfected: sc-117752 (**A**,**D**), untreated mouse Dok-1 transfected: sc-119822 (**B**,**E**) and lambda protein phosphatase (sc-200312A) treated mouse Dok-1 transfected: sc-119822 (**C**,**F**) 293T whole cell lysates. Antibodies tested include p-Dok-1 (Tyr 398): sc-101767 (**A**,**B**,**C**) and Dok-1 (M-276): sc-6934 (**D**,**E**,**F**).



p-Dok-1 (Tyr 398): sc-101767. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear and cytoplasmic staining.

RESEARCH USE

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