SANTA CRUZ BIOTECHNOLOGY, INC.

Pim-1 (C-20): sc-7856

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The Power to Question

BACKGROUND

Pim-1 is a serine/threonine kinase that cooperates with c-Myc in lymphoid cell transformation. The expression of Pim-1 increases during the progression from early to late G_1, remaining high at the G_1/S boundary and G_2 phases of the cell cycle. Pim-1 is regulated at both the transcriptional and translational level, and it has been shown to be induced by IL-2 stimulation. Pim-1 also plays a role in T cell differentiation, and it has been shown to stimulate c-Myc-mediated apoptosis upstream of caspase-3-like proteases.

REFERENCES

1. Rohwer, F., et al. 1996. The effect of IL-2 treatment on transcriptional attenuation in proto-oncogenes Pim-1 and c-Myb in human thymic blast cells. J. Immunol. 157: 643-649.
2. Liang, H., et al. 1996. Ubiquitous expression and cell cycle regulation of the protein kinase Pim-1. Arch. Biochem. Biophys. 330: 259-265.

CHROMOSOMAL LOCATION

Genetic locus: PIM1 (human) mapping to 6p21.2; Pim1 (mouse) mapping to 17 A3.3.

SOURCE

Pim-1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Pim-1 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.

Blocking peptide available for competition studies, sc-7856 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Pim-1 (C-20) is recommended for detection of Pim-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Pim-1 (C-20) is also recommended for detection of Pim-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Pim-1 siRNA (h): sc-36225, Pim-1 siRNA (m): sc-36226, Pim-1 shRNA Plasmid (h): sc-36225-SH, Pim-1 shRNA Plasmid (m): sc-36226-SH, Pim-1 shRNA (h) Lentiviral Particles: sc-36225-V and Pim-1 shRNA (m) Lentiviral Particles: sc-36226-V.

Molecular Weight of Pim-1: 33 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, mouse spleen extract: sc-2391 or PC-3 cell lysate: sc-2220.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Foster, J.S., et al. 2001. Multifaceted regulation of cell cycle progression by estrogen: regulation of Cdk inhibitors and Cdc25A independent of cyclin D1-Cdk4 function. Mol. Cell. Biol. 21: 794-810.
2. Dhanasekaran, S.M., et al. 2001. Delineation of prognostic biomarkers in prostate cancer. Nature 412: 822-826.
3. Klejman, A., et al. 2002. The Src family kinase Hck couples Bcr/Abl to Stat5 activation in myeloid leukemia cells. EMBO J. 21: 5766-5774.
4. Nieborowska-Skorska, M., et al. 2002. Complementary functions of the antiapoptotic protein A1 and serine/threonine kinase Pim-1 in the Bcr/Abl-mediated leukemogenesis. Blood 99: 4531-4539.
5. Katakami, N., et al. 2004. Role of pim-1 in smooth muscle cell proliferation. J. Biol. Chem. 279: 54742-54749.
6. Gannot, G., et al. 2005. Histomathematical analysis of clinical specimens: challenges and progress. J. Histochem. Cytochem. 53: 177-185.
7. Zippo, A., et al. 2007. Pim-1-dependent phosphorylation of histone H3 at serine 10 is required for Myc-dependent transcriptional activation and oncogenic transformation. Nat. Cell Biol. 9: 932-944.
8. Andina, N., et al. 2009. Proviral integration site for Moloney murine leukemia virus 1, but not phosphatidylinositol-3 kinase, is essential in the antiapoptotic signaling cascade initiated by IL-5 in eosinophils. J. Allergy Clin. Immunol. 123: 603-611.
9. Neri, F., et al. 2012. Myc regulates the transcription of the PRC2 gene to control the expression of developmental genes in embryonic stem cells. Mol. Cell. Biol. 32: 840-851.

RESEARCH USE

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