SANTA CRUZ BIOTECHNOLOGY, INC.

PYST2 (H-48): sc-135202

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mitogen-activated protein (MAP) kinases are a large class of proteins involved in signal transduction pathways that are activated by a range of stimuli and mediate a number of physiological and pathological changes in the cell. Dual specificity phosphatases (DSPs) are a subclass of the protein tyrosine phosphatase (PTP) gene superfamily, which are selective for dephosphorylating critical phosphothreonine and phosphotyrosine residues within MAP kinases. DSP gene expression is induced by a host of growth factors and/or cellular stresses, thereby negatively regulating MAP kinase superfamily members including MAPK/ERK, SAPK/JNK and p38. PYST2 inactivates MAPK/ERK, thereby regulating the MAP kinase signaling pathway. PYST2 is overexpressed in patients with acute myelogenous leukemia (AML).

REFERENCES

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2. Sun, H. 1998. Functional studies of dual-specificity phosphatases. Method. Mol. Biol. 84: 307-318.
3. Dowd, S., Sneddon, A.A. and Keyse, S.M. 1999. Isolation of the human genes encoding the PYST1 and PYST2 phosphatases: characterisation of PYST2 as a cytosolic dual-specificity MAP kinase phosphatase and its catalytic activation by both MAP and SAP kinases. J. Cell Sci. 111: 3389-3399.
4. Camps, M., Nichols, A. and Arkinstall, S. 2000. Dual specificity phosphatases: a gene family for control of MAP kinase function. FASEB J. 14: 6-16.
5. Levy-Nissenbaum, O., Sagi-Assif, O., Raanani, P., Avigdor, A., Ben-Bassat, I. and Witz, I.P. 2003. cDNA microarray analysis reveals an overexpression of the dual-specificity MAPK phosphatase PYST2 in acute leukemia. Methods Enzymol. 366: 103-113.
6. Levy-Nissenbaum, O., Sagi-Assif, O., Raanani, P., Avigdor, A., Ben-Bassat, I. and Witz, I.P. 2003. Overexpression of the dual-specificity MAPK phosphatase PYST2 in acute leukemia. Cancer Lett. 199: 185-192.
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CHROMOSOMAL LOCATION

Genetic locus: DUSP7 (human) mapping to 3p21.2; Dusp7 (mouse) mapping to 9 F1.

SOURCE

PYST2 (H-48) is a rabbit polyclonal antibody raised against amino acids 57-104 mapping within an internal region of PYST2 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

PYST2 (H-48) is recommended for detection of PYST2 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).

PYST2 (H-48) is also recommended for detection of PYST2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PYST2 siRNA (h): sc-61427, PYST2 siRNA (m): sc-61428, PYST2 shRNA Plasmid (h): sc-61427-SH, PYST2 shRNA Plasmid (m): sc-61428-SH, PYST2 shRNA (h) Lentiviral Particles: sc-61427-V and PYST2 shRNA (m) Lentiviral Particles: sc-61428-V.

Molecular Weight of PYST2: 41 kDa.

Positive Controls: rat heart extract: sc-2393.

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.