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PYST2 (m): 293T Lysate: sc-122861

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. *Methods 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 Arkininstall, 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.
7. Levy-Nissenbaum, O., Sagi-Assif, O., Kapon, D., Hantisteanu, S., Burg, T., Raanani, P., Avigdor, A., Ben-Bassat, I. and Witz, I.P. 2003. Dual-specificity phosphatase PYST2-L is constitutively highly expressed in myeloid leukemia and other malignant cells. *Oncogene* 22: 7649-7660.
8. Levy-Nissenbaum, O., Sagi-Assif, O. and Witz, I.P. 2003. Characterization of the dual-specificity phosphatase PYST2 and its transcripts. *Genes Chromosomes Cancer* 39: 37-47.

CHROMOSOMAL LOCATION

Genetic locus: *Dusp7* (mouse) mapping to 9 F1.

PRODUCT

PYST2 (m): 293T Lysate represents a lysate of mouse PYST2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

PYST2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive PYST2 antibodies. Recommended use: 10-20 µl per lane.

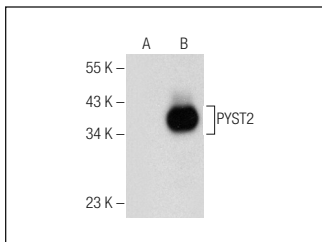
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PYST2 (D-8): sc-377106 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse PYST2 expression in PYST2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

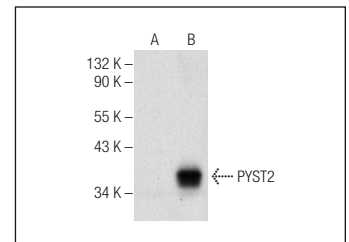
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



PYST2 (D-8): sc-377106. Western blot analysis of PYST2 expression in non-transfected: sc-117752 (A) and mouse PYST2 transfected: sc-122861 (B) 293T whole cell lysates.



PYST2 (C-9): sc-377381. Western blot analysis of PYST2 expression in non-transfected: sc-117752 (A) and mouse PYST2 transfected: sc-122861 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.