

PYST2 (D-8): sc-377106

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

1. Keyse, S.M. 1995. An emerging family of dual specificity MAP kinase phosphatases. *Biochim. Biophys. Acta* 1265: 152-160.
2. Sun, H. 1998. Functional studies of dual-specificity phosphatases. *Methods Mol. Biol.* 84: 307-118.
3. Dowd, S., et al. 1998. 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., et al. 2000. Dual specificity phosphatases: a gene family for control of MAP kinase function. *FASEB J.* 14: 6-16.
5. Levy-Nissenbaum, O., et al. 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., et al. 2003. Overexpression of the dual-specificity MAPK phosphatase PYST2 in acute leukemia. *Cancer Lett.* 199: 185-192.

CHROMOSOMAL LOCATION

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

SOURCE

PYST2 (D-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 341-368 at the C-terminus of PYST2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-377106 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

PYST2 (D-8) is recommended for detection of PYST2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 (D-8) 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.

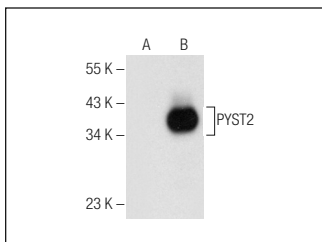
Molecular Weight of PYST2: 41 kDa.

Positive Controls: rat heart extract: sc-2393 or PYST2 (m): 293T Lysate: sc-122861.

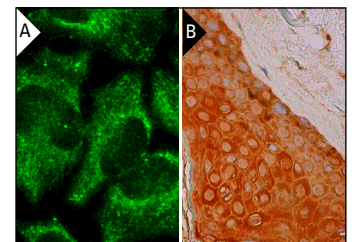
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohisto-mount: sc-45086, or Organo/Limonene Mount: sc-45087.

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 (D-8): sc-377106. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, Langerhans cells and melanocytes (B).

RESEARCH USE

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