

# PYST2 (C-17): sc-47667

## 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: 307-318.
3. Dowd, S., et al. 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., 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. *Meth. 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 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus 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.

Blocking peptide available for competition studies, sc-47667 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

PYST2 (C-17) 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 (C-17) 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.

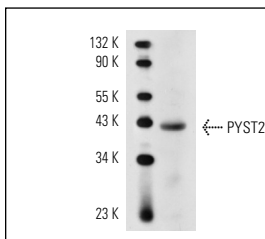
Molecular Weight of PYST2: 41 kDa.

Positive Controls: rat heart extract: sc-2393.

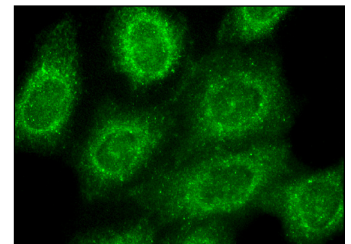
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



PYST2 (C-17): sc-47667. Western blot analysis of PYST2 expression in rat heart tissue extract.



PYST2 (C-17): sc-47667. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## RESEARCH USE

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

**MONOS**  
Satisfaction  
Guaranteed

Try **PYST2 (D-8): sc-377106** or **PYST2 (C-9): sc-377381**, our highly recommended monoclonal alternatives to PYST2 (C-17).