

# PTP-PEST (V-20): sc-18412

## BACKGROUND

Protein tyrosine phosphatases (PTPs) and protein tyrosine kinases (PTKs) play an ubiquitous role in the regulation of tyrosine phosphorylation-mediated signaling pathways. Tyrosine-phosphorylated proteins can be dephosphorylated through the action of PTPs, which are likely to play a regulatory role in the control of cellular growth and differentiation. The gene encoding human PTP-PEST maps to chromosome 7q11.23 and encodes a 780 amino acid cytosolic nonreceptor protein. PTP-PEST is expressed abundantly in a wide variety of hemopoietic cell types, including B cells and T cells. PTP-PEST may constitutively associate with several signaling molecules, including Shc, paxillin, Csk and Cas. In addition, PTP-PEST can induce dephosphorylation of Shc, Pyk2, Fak and Cas, and inactivate the Ras pathway. Dephosphorylation of c-Abl by PTP-PEST represents a novel mechanism by which c-Abl activity is regulated. PTP-PEST can also influence cytoskeletal organization by promoting the turnover of focal adhesions required for cell migration, and through regulation of the proline, serine, threonine phosphatase interacting protein (PSTPIP)-mediated cleavage furrow formation or disassembly during normal cell division.

## REFERENCES

1. Takekawa, M., Itoh, F., Hinoda, Y., Arimura, Y., Toyota, M., Sekiya, M., Adachi, M., Imai, K. and Yachi, A. 1992. Cloning and characterization of a human cDNA encoding a novel putative cytoplasmic protein-tyrosine-phosphatase. *Biochem. Biophys. Res. Commun.* 189: 1223-1230.
2. Yang, Q., Co, D., Sommercorn, J. and Tonks, N.K. 1993. Cloning and expression of PTP-PEST. A novel, human, nontransmembrane protein tyrosine phosphatase. *J. Biol. Chem.* 268: 6622-6628.
3. Takekawa, M., Itoh, F., Hinoda, Y., Adachi, M., Ariyama, T., Inazawa, J., Imai, K. and Yachi, A. 1994. Chromosomal localization of the protein tyrosine phosphatase G1 gene and characterization of the aberrant transcripts in human colon cancer cells. *FEBS Lett.* 339: 222-228.
4. Angers-Loustau, A., Cote, J.F., Charest, A., Dowbenko, D., Spencer, S., Lasky, L.A. and Tremblay, M.L. 1999. Protein tyrosine phosphatase-PEST regulates focal adhesion disassembly, migration, and cytokinesis in fibroblasts. *J. Cell Biol.* 144: 1019-1031.

## CHROMOSOMAL LOCATION

Genetic locus: PTPN12 (human) mapping to 7q11.23; Ptpn12 (mouse) mapping to 5 A3.

## SOURCE

PTP-PEST (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PTP-PEST 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-18412 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PTP-PEST (V-20) is recommended for detection of PTP-PEST 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).

PTP-PEST (V-20) is also recommended for detection of PTP-PEST in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for PTP-PEST siRNA (h): sc-39207, PTP-PEST siRNA (m): sc-39208, PTP-PEST shRNA Plasmid (h): sc-39207-SH, PTP-PEST shRNA Plasmid (m): sc-39208-SH, PTP-PEST shRNA (h) Lentiviral Particles: sc-39207-V and PTP-PEST shRNA (m) Lentiviral Particles: sc-39208-V.

Molecular Weight of mouse PTP-PEST: 120 kDa.

Molecular Weight of human PTP-PEST: 100 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410.

## 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **PTP-PEST (H-11): sc-271351** or **PTP-PEST (AG25): sc-65229**, our highly recommended monoclonal alternatives to PTP-PEST (V-20).