

PTP-PEST (H-11): sc-271351

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 signalling 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., et al. 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., et al. 1993. Cloning and expression of PTP-PEST. A novel, human, nontransmembrane protein tyrosine phosphatase. *J. Biol. Chem.* 268: 6622-6628.

CHROMOSOMAL LOCATION

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

SOURCE

PTP-PEST (H-11) is a mouse monoclonal antibody raised against amino acids 296-425 mapping within an internal region of PTP-PEST of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PTP-PEST (H-11) is available conjugated to agarose (sc-271351 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271351 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271351 PE), fluorescein (sc-271351 FITC), Alexa Fluor® 488 (sc-271351 AF488), Alexa Fluor® 546 (sc-271351 AF546), Alexa Fluor® 594 (sc-271351 AF594) or Alexa Fluor® 647 (sc-271351 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271351 AF680) or Alexa Fluor® 790 (sc-271351 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

PTP-PEST (H-11) is recommended for detection of PTP-PEST 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

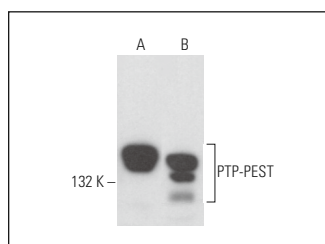
Molecular Weight of human PTP-PEST: 100 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or Hep G2 cell lysate: sc-2227.

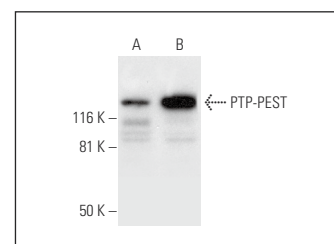
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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.

DATA



PTP-PEST (H-11): sc-271351. Western blot analysis of PTP-PEST expression in Hep G2 (A) and MCF7 (B) whole cell lysates.



PTP-PEST (H-11): sc-271351. Western blot analysis of PTP-PEST expression in HeLa (A) and Hep G2 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kim, O., et al. 2022. Syntenin-1-mediated small extracellular vesicles promotes cell growth, migration, and angiogenesis by increasing onco-miRNAs secretion in lung cancer cells. *Cell Death Dis.* 13: 122.

RESEARCH USE

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