

TC-PTP (H-124): sc-135425

BACKGROUND

T cell protein tyrosine phosphatase (TC-PTP) is a nontransmembrane enzyme. The noncatalytic domain of TC-PTP is alternatively spliced to generate p45TC, which localizes to the nucleus, and p48TC, which contains a hydrophobic C-terminal tail and localizes to the ER. The C-terminal segment of p45TC regulates the activity of the catalytic domain through an intramolecular interaction. The p45TC variant of TC-PTP exits the nucleus upon EGF receptor activation and recognizes the EGF receptor and p52Shc cellular substrates. The p45TC activity almost completely inhibits the EGF-dependent activation of PI 3-kinase and PKB/Akt. In glioblastoma cells, the p45TC variant inhibits the DEGR-mediated activation of ERK2 and suppresses tumorigenicity *in vivo*. TC-PTP may play a role in lymphocyte signaling and hematopoietic homeostasis. TC-PTP negatively regulates JAK1 and JAK3 and TC-PTP-deficient mice display gross defects in the hematopoietic system. The gene encoding human TC-PTP maps to chromosome 18p11.21.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: PTPN2 (human) mapping to 18p11.21; Ptpn2 (mouse) mapping to 18 E1.

SOURCE

TC-PTP (H-124) is a rabbit polyclonal antibody raised against amino acids 292-415 mapping at the C-terminus of TC-PTP 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.

APPLICATIONS

TC-PTP (H-124) is recommended for detection of TC-PTP of human and, to a lesser extent, mouse and rat 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).

Suitable for use as control antibody for TC-PTP siRNA (h): sc-76635, TC-PTP siRNA (m): sc-154127, TC-PTP shRNA Plasmid (h): sc-76635-SH, TC-PTP shRNA Plasmid (m): sc-154127-SH, TC-PTP shRNA (h) Lentiviral Particles: sc-76635-V and TC-PTP shRNA (m) Lentiviral Particles: sc-154127-V.

Molecular Weight of TC-PTP isoforms: 48/45 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.


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Try **TC-PTP (F-8): sc-373835** or **TC-PTP (D-3): sc-398997**, our highly recommended monoclonal alternatives to TC-PTP (H-124).