

TC-PTP (S-17): sc-102129

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 (S-17) is a purified rabbit polyclonal antibody raised against TC-PTP of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

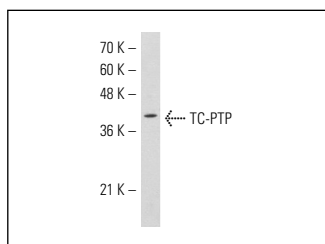
TC-PTP (S-17) is recommended for detection of TC-PTP of mouse, rat, human and dog origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

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

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or PC-3 cell lysate: sc-2220.

DATA



TC-PTP (S-17): sc-102129. Western blot analysis of TC-PTP expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

- Nerstedt, A., Cansby, E., Amrutkar, M., Smith, U. and Mahlapuu, M. 2013. Pharmacological activation of AMPK suppresses inflammatory response evoked by IL-6 signalling in mouse liver and in human hepatocytes. *Mol. Cell. Endocrinol.* 375: 68-78.

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.



Try **TC-PTP (F-8): sc-373835** or **TC-PTP (D-3): sc-398997**, our highly recommended monoclonal alternatives to TC-PTP (S-17).