

DESCRIPTION

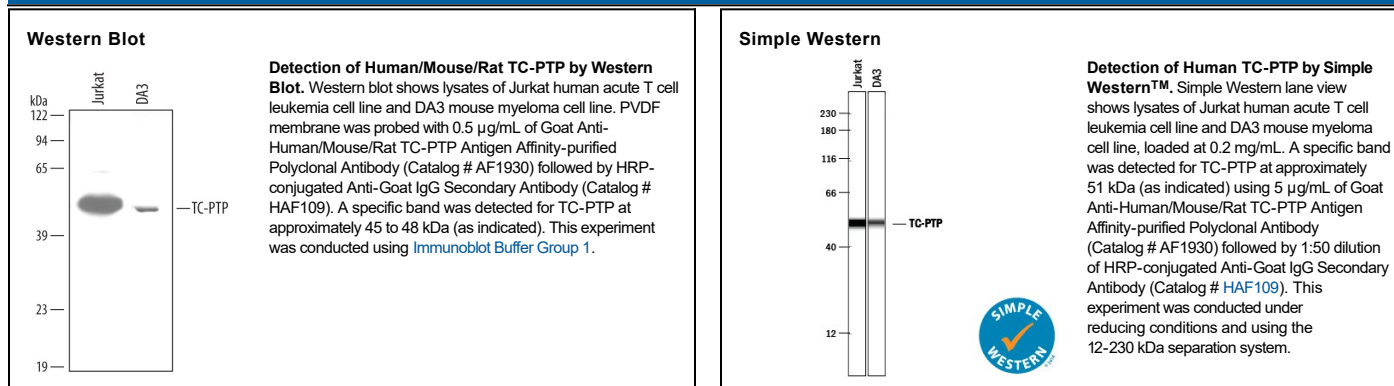
| | |
|---------------------------|---|
| Species Reactivity | Human/Mouse/Rat |
| Specificity | Detects human, mouse and rat TC-PTP in Western blots. |
| Source | Polyclonal Goat IgG |
| Purification | Antigen Affinity-purified |
| Immunogen | <i>E. coli</i> -derived recombinant human TC-PTP Pro2-Asn314 Accession # P17706 |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS. |

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

| | Recommended Concentration | Sample |
|-----------------------|----------------------------------|---------------|
| Western Blot | 0.5 µg/mL | See Below |
| Simple Western | 5 µg/mL | See Below |

DATA



PREPARATION AND STORAGE

| | |
|--------------------------------|--|
| Reconstitution | Reconstitute at 0.2 mg/mL in sterile PBS. |
| Shipping | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| Stability & Storage | Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

BACKGROUND

T-cell protein tyrosine phosphatase (TC-PTP), also known as PTPT and PTPN2, is an enzyme that removes phosphate groups covalently attached to tyrosine residues in proteins. This enzyme has two C-terminal end splice variants with distinctly different subcellular localizations. The shorter 45 kDa isoform is exclusively nuclear in resting cells, but redistributes to the cytosol upon stimulation with growth factors (1) and cellular stress (2). The longer 48 kDa isoform is exclusively found in the endoplasmic reticulum (3) and seems to have distinctly different physiologic substrates from the smaller isoform (1, 4). Although found in many cell types and tissues, TC-PTP is particularly prominent in hemopoietic cell types (5, 6). Knockout mice lacking TC-PTP are born viable but die 3 to 5 weeks after birth of erythropoietic and lymphopoietic deficits (7), indicating a critical role for TC-PTP in bone marrow maturation. TC-PTP will dephosphorylate a wide range of phosphoproteins, such as p52^{Shc} (6) and receptors for EGF (1), Insulin (8) and growth hormone (6). The recombinant protein lacks the C-terminal 100 amino acids that determine intracellular localization but is fully active (9).

References:

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5. Cool, D.E. *et al.* (1989) *Proc. Natl. Acad. Sci. USA* **86**:5257.
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