Human PTP1B Antibody

Antigen Affinity-purified Polyclonal Rabbit IgG
Catalog Number: AF1366

DESCRIPTION

Species Reactivity	Human
Specificity	Detects endogenous human PTP1B in Western blots.
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human PTP1B
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.

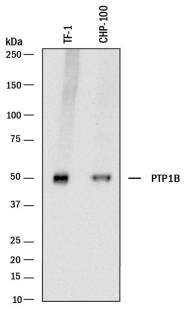
APPLICATIONS

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
Immunohistochemistry	5-15 µg/mL	See Below
Simple Western	10 µg/mL	See Below

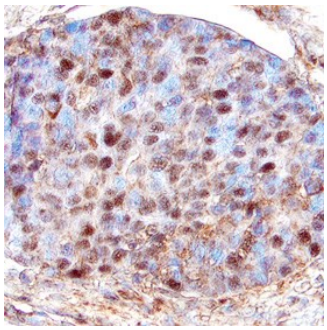
DATA

Western Blot



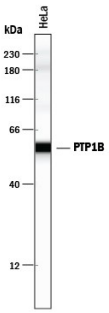
Detection of Human PTP1B by Western Blot. Western blot shows lysates of TF-1 human erythroleukemic cell line and CHP-100 human neuroblastoma cell line. PVDF membrane was probed with 0.5 µg/mL of Rabbit Anti-Human PTP1B Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1366) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for PTP1B at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



PTP1B in Human Breast Cancer Tissue. PTP1B was detected in immersion fixed paraffin-embedded sections of human breast cancer tissue using Rabbit Anti-Human PTP1B Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1366) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Rabbit HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS005) and counterstained with hematoxylin (blue). Specific labeling was localized to the perinuclear region in glandular epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Simple Western



Detection of Human PTP1B by Simple Western™. Simple Western lane view shows lysates of HeLa human cervical epithelial carcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for PTP1B at approximately 57 kDa (as indicated) using 10 µg/mL of Rabbit Anti-Human PTP1B Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1366). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

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.** • 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.

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BACKGROUND

Protein tyrosine phosphatase 1B (PTP1B) is an enzyme that removes phosphate groups covalently attached to tyrosine residues in proteins. This ubiquitously expressed enzyme is anchored in the endoplasmic reticulum by its C-terminal end and has its catalytic regions exposed to the cytosol. The recombinant protein lacks the C-terminal 114 amino acids but is fully active. PTP1B will dephosphorylate a wide variety of phosphoproteins, such as receptors for the growth factors insulin and epidermal growth factor (EGF), c-Src and β-catenin. Of particular interest is the observation that PTP1B knock-out mice are resistant to high-caloric intake-induced obesity and have exaggerated insulin responses, suggesting that PTP1B may play an important role in regulating growth factor responsiveness.

References:

1. Angers-Loustau, *et al*. (1999) Biochem. Cell Biol. **77**:493.
2. Sarmiento, *et al*. (1998) J. Biol. Chem. **273**:26368.
3. Bjorge, *et al*. (2000) J. Biol. Chem. **52**:41439.
4. Balsamo, *et al*. (1996) J. Cell Biol. **134**:801.
5. Elchebly, *et al*. (1999) Science **283**:1544.

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