

# Human PTP1B / PTPN1 Protein (His Tag)

Catalog Number: 10304-H07E



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

PTP1B; PTPN1

### Protein Construction:

A DNA sequence encoding the human PTPN1 (NP\_002818.1) (Glu 2-Asn 321) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: E. coli

## QC Testing

Purity: > 95 % as determined by SDS-PAGE

### Bio Activity:

Measured by its ability to dephosphorylate a phosphotyrosine residue in an EGF receptor (aa988-998) phosphopeptide substrate, R&D Systems, Catalog # ES006. The specific activity is > 15 nmoles/min/μg.

### Endotoxin:

Please contact us for more information.

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

### Molecular Mass:

The recombinant human PTPN1 consisting of 327 amino acids and has a calculated molecular mass of 38 kDa.

### Formulation:

Supplied as sterile 10 mM Hepes, 150 mM NaCl, 1 mM DTT, pH 7.5.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

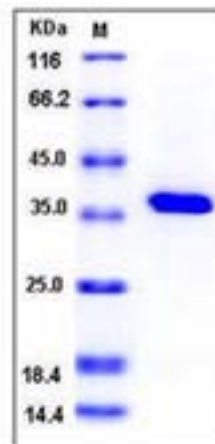
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

PTP1B, also known as PTPN1, belongs to the protein-tyrosine phosphatase (PTP) family. PTPs catalyze the hydrolysis of the phosphate monoesters specifically on tyrosine residues. Members of the PTP family share a highly conserved catalytic motif, which is essential for the catalytic activity. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. PTP1B contains 1 tyrosine-protein phosphatase domain and is expressed in many tissues. PTP1B is localized to the cytoplasmic face of the endoplasmic reticulum. PTP1B was also reported to dephosphorylate epidermal growth factor receptor kinase, as well as JAK2 and TYK2 kinases, which implicated the role of PTP1B in cell growth control, and cell response to IFN stimulation.

## References

1. Frangioni JV, *et al.* (1992) The nontransmembrane tyrosine phosphatase PTP-1B localizes to the endoplasmic reticulum via its 35 amino acid C-terminal sequence. *Cell*. 68(3):545-60.
2. Zhu S, *et al.* (2007) PTP1B contributes to the oncogenic properties of colon cancer cells through Src activation. *Cancer Res*. 67(21):10129-37.
3. Aoki N, *et al.* (2000) A cytosolic protein-tyrosine phosphatase PTP1B specifically dephosphorylates and deactivates prolactin-activated STAT5a and STAT5b. *J Biol Chem*. 275(50):39718-26.

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