



## Synonym

PTP1B

## Source

Human PTP1B Protein, His Tag(PTB-H5143) is expressed from E. coli cells. It contains AA Glu 2 - Asn 321 (Accession # [NP\\_002818.1](#)).

Predicted N-terminus: Met

## Molecular Characterization

Poly-his PTP1B(Glu 2 - Asn 321)  
NP\_002818.1

This protein carries a polyhistidine tag at the N-terminus.

The protein has a calculated MW of 39.2 kDa. The protein migrates as 38-40 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE).

## Endotoxin

Less than 1.0 EU per µg by the LAL method.

## Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

## Formulation

Lyophilized from 0.22 µm filtered solution in 10 mM HEPES, 150 mM NaCl, 1 mM DTT, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

## Reconstitution

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

## Storage

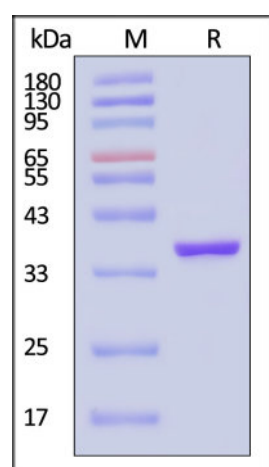
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

## SDS-PAGE

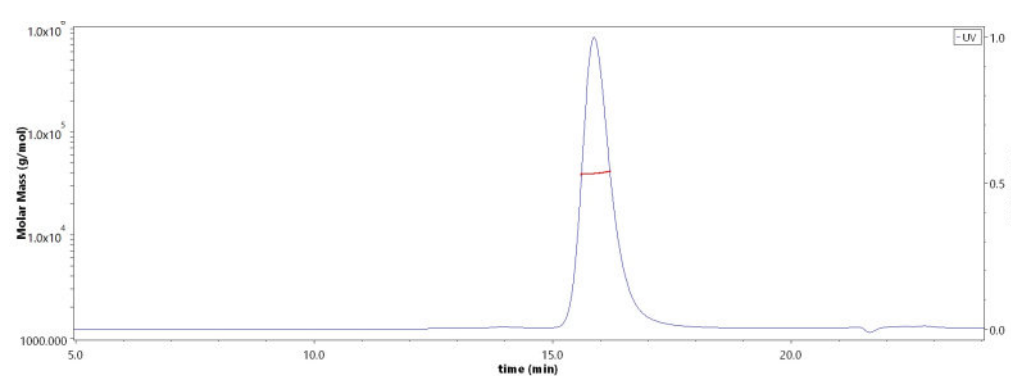


Human PTP1B Protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

## Bioactivity

Measured by its ability to dephosphorylate a tyrosine residue in a peptide containing the EGFR Y992 phosphorylation site. The specific activity is >11 µmol/min/mg.

## SEC-MALS



The purity of Human PTP1B Protein, His Tag (Cat. No. PTB-H5143) is more than 90% and the molecular weight of this protein is around 35-50 kDa verified by SEC-MALS.

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## Background

The protein encoded by this gene is the founding member of the protein tyrosine phosphatase (PTP) family, which was isolated and identified based on its enzymatic activity and amino acid sequence. 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. This PTP has been shown to act as a negative regulator of insulin signaling by dephosphorylating the phosphotyrosine residues of insulin receptor kinase. This PTP was also reported to dephosphorylate epidermal growth factor receptor kinase, as well as JAK2 and TYK2 kinases, which implicated the role of this PTP in cell growth control, and cell response to interferon stimulation. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2013]

## Clinical and Translational Updates

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