

PTP1B Protein, Human, Recombinant (His)

General Information

Synonyms:	protein tyrosine phosphatase, non-receptor type 1;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. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	A8K3M3
Molecular Weight:	38.1 kDa (predicted)

QC Testing

Biological Activity:	Measured by its ability to dephosphorylate a phosphotyrosine residue in an EGF receptor (aa988-998) phosphopeptide substrate. The specific activity is > 15 nmoles/min/μg.
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
Endotoxin:	Please contact us for more information.
Formulation:	Supplied as sterile 10 mM Hepes, 150 mM NaCl, 1 mM DTT, pH 7.5.

Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	Proteins are shipped with blue ice.

Protein Background

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.

Reference

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- 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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