

TCPTP Protein, Human, Recombinant (aa 1-314, His & GST)

General Information

Synonyms:	TCPTP;TC-PTP;protein tyrosine phosphatase, non-receptor type 2;PTN2;TCELLPTP;PTPT
Protein Construction:	A DNA sequence encoding the amino acid (Met 1-Asn 314) of human PTPN2 (P17706-1) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P17706-1
Molecular Weight:	64.4 kDa (predicted); 60 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to dephosphorylate a phosphotyrosine residue in an EGF receptor 988-998 phosphopeptide substrate. The specific activity is > 20 nmoles/min/ μ g.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 300 mM NaCl, 10% glycerol, pH 8.0.

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

Tyrosine-protein phosphatase non-receptor type 2, also known as T-cell protein-tyrosine phosphatase, PTPN2 and PTPT, is a cytoplasm protein that belongs to the protein-tyrosine phosphatase family and Non-receptor class 1 subfamily. Members of the protein tyrosine phosphatase (PTP) family share a highly conserved catalytic motif, which is essential for the catalytic activity. TC-PTP / PTPN2 is a cytosolic tyrosine phosphatase that functions as a negative regulator of a variety of tyrosine kinases and other signaling proteins. The expression of TC-PTP / PTPN2 plays a role of tumor suppressor and may modulate response to treatment. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and

oncogenic transformation. Epidermal growth factor receptor and the adaptor protein Shc were reported to be substrates of this PTP, which suggested the roles in growth factor mediated cell signaling. TC-PTP / PTPN2 is an enzyme that is essential for the proper functioning of the immune system and that participates in the control of cell proliferation, and inflammation. TC-PTP / PTPN2 was identified as a negative regulator of NUP214-ABL1 kinase activity.

Reference

Cool D., et al.,(1989), cDNA isolated from a human T-cell library encodes a member of the protein-tyrosine-phosphatase family. Proc. Natl. Acad. Sci. U.S.A. 86:5257-5261.

Ota T., et al., (2004), Complete sequencing and characterization of 21,243 full-length human cDNAs. Nat. Genet. 36:40-45.

Nusbaum C., et al.,(2005), DNA sequence and analysis of human chromosome 18. Nature 437:551-555.

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