

Human PTPN2 / TC-PTP Protein (aa 1-314, His & GST Tag)

Catalog Number: 10570-H20B



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Biological Solution Specialist

General Information

Gene Name Synonym:

PTN2; PTPT; TC-PTP; TCELLPTP; TCPTP

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.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 75 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to dephosphorylate a phosphotyrosine residue in an EGF receptor 988-998 phosphopeptide substrate, R&D Systems, Catalog # ES006.

The specific activity is > 20 nmoles/min/μg.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

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 PTPN2 (aa 1-314)/GST chimera consists of 551 amino acids and predicts a molecular mass of 64.4 kDa. It migrates as an approximately 60 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

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:

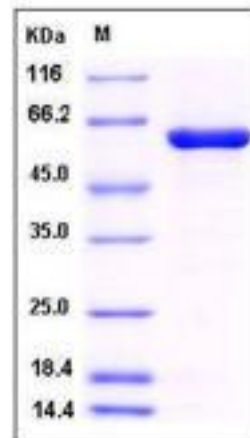
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Tyrosine-protein phosphatase non-receptor type 2, also known as T-cell protein-tyrosine phosphatase, PTPN2 and PTPT, is a cytoplasm protein which 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.

References

1. 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.
2. Ota T., *et al.*, (2004), Complete sequencing and characterization of 21,243 full-length human cDNAs. Nat. Genet. 36:40-45.
3. Nusbaum C., *et al.*, (2005), DNA sequence and analysis of human chromosome 18. Nature 437:551-555.

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