

# Active Recombinant Human Protein Tyrosine Phosphatase, Non-receptor Type 6

**Cat. No.** PTPN6-71H    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Product Overview</b> | Recombinant Human PTPN6 produced in <i>E. Coli</i> is a single, non-glycosylated polypeptide chain containing 300 amino acids and having a molecular mass of 34.3 kDa. The protein coding region of the catalytic domain of SHP-1 (amino acids 243-541). The recombinant SHP-1 protein was purified by FPLC gel-filtration chromatography, after refolding of the isolated inclusion bodies in a redox buffer. Additional amino acid (Met) is attached at N-terminus.                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Protein Length</b>   | 243-541 a.a.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Description</b>      | SHP-1 is a member of the protein tyrosine phosphatase (PTP) family. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. N-terminal part of this PTP contains two tandem Src homolog (SH2) domains, which act as protein phospho-tyrosine binding domains, and mediate the interaction of this PTP with its substrates. This PTP is expressed primarily in hematopoietic cells, and functions as an important regulator of multiple signaling pathways in hematopoietic cells. This PTP has been shown to interact with, and dephosphorylate a wide spectrum of phospho-proteins involved in hematopoietic cell signaling. Multiple alternatively spliced variants of this gene, which encode distinct isoforms, have been |

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|                            |                                                                                                                                                                                                                                                                                                                               |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | reported.                                                                                                                                                                                                                                                                                                                     |
| <b>Amino Acid Sequence</b> | MGFWEEFESLQKQEVLNLHQRLEGQRPENKGKNRYKNILPFDHSRVILQGRDSNIP<br>GSDYINANYIKNQLLGPDENAKTYIASQGCLEATVNDFWQMAWQENSRVIVMTTRE<br>VEKGRNKCVPYWPEVGMQRAYGPYSVTNCGEHDTEYKLRTLQVSPLDNGDLIREI<br>WHYQYLSWPDHGVSEPGGVLSFLDQINQRQESLPHAGPIIVHCSAGIGRTGTIIVID<br>MLMENISTKGLDCDIDIQKTIQMVRAQRSGMVQTEAQYKFIYVAIAQFIETTKKKLEVL<br>QSQKGQSEYGNITY |
| <b>Physical Appearance</b> | Sterile filtered colorless solution.                                                                                                                                                                                                                                                                                          |
| <b>Purity</b>              | Greater than 95.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.                                                                                                                                                                                                                                       |
| <b>Formulation</b>         | The protein (1mg/ml) contains 25mM Tris-HCl, pH 7.5, 2mM $\beta$ -mercaptoethanol, 1mM EDTA, 1mM DTT and 20% Glycerol.                                                                                                                                                                                                        |
| <b>Unit Definition</b>     | One unit will hydrolyze 1nanomole of p-nitrophenylphosphatate per minute at pH 7.5 at 37°C using 10mM of substrate.                                                                                                                                                                                                           |
| <b>Activity</b>            | 5,000 U/mg                                                                                                                                                                                                                                                                                                                    |
| <b>Storage</b>             | Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.                                                                                          |

## GENE INFORMATION

|                  |                                                                          |
|------------------|--------------------------------------------------------------------------|
| <b>Gene Name</b> | PTPN6 protein tyrosine phosphatase, non-receptor type 6 [ Homo sapiens ] |
| <b>Synonyms</b>  | HCP; HCPH; SHP1; SHP-1; HPTP1C; PTP-1C; SHP-1L; SH-PTP1; PTPN6; protein  |

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|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | tyrosine phosphatase, non-receptor type 6; SHP1; hematopoietic cell phosphatase; protein-tyrosine phosphatase 1C; hematopoietic cell protein-tyrosine phosphatase; EC 3.1.3.48; Hematopoietic cell protein-tyrosine phosphatase; Protein-tyrosine phosphatase SHP-1 |
| <b>Gene ID</b>             | 5777                                                                                                                                                                                                                                                                |
| <b>mRNA Refseq</b>         | NM_002831                                                                                                                                                                                                                                                           |
| <b>Protein Refseq</b>      | NP_002822                                                                                                                                                                                                                                                           |
| <b>MIM</b>                 | 176883                                                                                                                                                                                                                                                              |
| <b>UniProt ID</b>          | P29350                                                                                                                                                                                                                                                              |
| <b>Chromosome Location</b> | 12p13.31                                                                                                                                                                                                                                                            |
| <b>Pathway</b>             | Adherens junction; B cell receptor signaling pathway; Jak-STAT signaling pathway; Natural killer cell mediated cytotoxicity; T cell receptor signaling pathway; Hemostasis; Signaling in Immune system                                                              |
| <b>Function</b>            | hydrolase activity; protein binding; protein tyrosine phosphatase activity                                                                                                                                                                                          |

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on 1fpr.



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