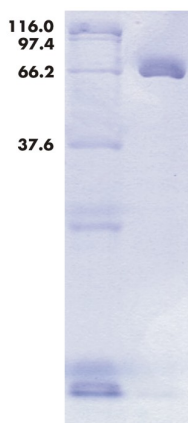


SHP-1^{GST}, catalytic domain Src homology 2 domain Phosphatase human, recombinant, *E. coli*

Cat. No.	Amount
PR-901	20 µg



For *in vitro* use only
Quality guaranteed for 12 months
Store at -80°C

Avoid freeze / thaw cycles

Form

Liquid. Supplied in 50 mM Tris-HCl pH 8.0, 100 mM NaCl and 1 mM DTT.

Activity

150 pmol Pi/min/µg

Activity was determined with pNPP (JBS Phosphatase Assay Kit PR-944) as substrate at pH 7.5 and 30°C. The enzyme was used in final concentrations of 15 and 30 nM.

Purity

>90% by SDS-PAGE

Description

The N-terminal GST-tagged fusion protein was expressed in *E. coli* and purified by affinity chromatography with GSH-beads.

The GST-tag influences to some degree the stimulation by ligands of the N-terminal SH2-domain, can dimerize and even be phosphorylated. The enzyme should only be used in diluted solutions or by adding 10% glycerol.

SHP-1 (Src homology-2 containing protein tyrosine phosphatase-1) is a non-receptor protein tyrosine phosphatase with two phosphotyrosine binding domains. N- and C-terminal tandem SH2 domains lie N-terminal to the catalytic domain (PTP). In the unstimulated state interaction of the N-terminal SH2 domain with the catalytic domain leads to self inhibition. Natural ligand sequences from cytosolic parts of receptors, signal and scaffold proteins or synthetic phosphotyrosine peptides stimulate the phosphatase activity. Thus, SHP-1 acts as negative regulator in the signaling of various receptors, including erythropoietin receptor, IL3-receptor, CSF-1 receptor, B-cell receptor and ROS-kinase. SHP-1 prefers as substrate such proteins which are phosphorylated from the SRC-kinase. SHP-1 can act as tumor suppressor or can inhibit the processing of some immune cells.

Application

The GST-tagged catalytic domain of SHP-1 can be used to screen for natural and synthetic substrates or inhibitors and subsequent kinetic studies. The catalytic domain is in contrast to the full length SHP-1 constitutively active and allows direct studies on the active centre excluding the interaction of interesting compounds with N- or C-terminal SH2-domains.

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