## Shp-1 (human), (recombinant)

Shp-1 is one of two human "Src Homology-2 (SH2) containing phosphatases", enzymes in which two regulatory phosphotyrosine binding domains (N-SH2 & C-SH2) lie N-terminal to the catalytic (PTP) domain. Recruitment of Shp-1 (Src Homology-2 (SH2) containing phosphatase-1) to cell-surface receptors is mediated by SH2-domain binding to "Immunoreceptor Tyrosine-based Inhibitory Motifs" (consensus ITIM: [I/V/L]-x-pY-xx-[I/V/L]; death receptor variant: A-x-pY-x-x-L). This binding activates Shp-1 phosphatase by displacing an inhibitory interaction between the N-SH2 and PTP domains. By dephosphorylating the downstream elements of various signal transduction pathways, Shp-1 acts as a negative regulator. Shp-1 is highly expressed in hematopoietic cells and to a lesser extent in epithelial cells. It plays a significant role in various stages of hematopoietic development and in limiting neutrophil activation and inflammatory tissue damage through down-regulation of anti-apoptotic, cytokine-derived signals. In most lymphomas and leukemias Shp-1 expression is decreased or absent and Shp-1 may play a role in the pathogenesis of these and other cancers.

Citations: 2

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**Ordering Information** 

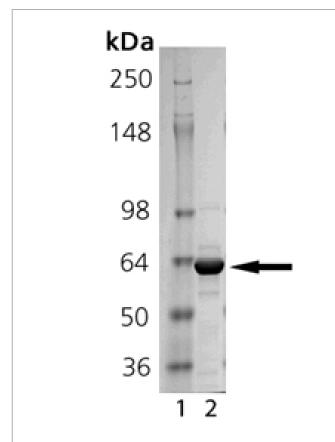
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BML-SE334-0020

20µg

Manuals, SDS & CofA

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SDS-PAGE analysis: Lane 1: MW Marker; Lane 2: 2.0µg of purified Shp-1 (human) (recombinant).

## **Handling & Storage**

**Long Term Storage** -80°C

Shipping Dry Ice

Regulatory Status RUO - Research Use Only

**Product Details** 

Alternative Name Src homology-2 containing protein tyrosine phosphatase 1

**Formulation** Liquid. In 50mM TRIS/HCl, pH 8.0, containing 150mM

NaCl, 5mM DTT, 0.03% Brij 35, 0.1mM EDTA and 10%

glycerol.

**MW** 67.5 kDa

Purity ≥90% (SDS-PAGE)

Purity Detail Purified by multi-step chromatography.

**Source** Produced in *E. coli*. Full length human Shp-1 (aa 1-595).

Specific Activity ≥2000 pmol/min/µg assayed by p-nitrophenylphosphate

(pNPP, 50 mM) hydrolysis at pH 7.0, 30°C

UniProt ID P29350

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