

# phospho-SHP1 (Ser-591) Blocking Peptide

Cat. # **SX1535**  
Size **50 µg**

## **Background:**

SHP1 (PTP1C, SH-PTP1, or HCP) is a protein-tyrosine phosphatase (PTP) involved in cell migration, cell proliferation, and immune cell function. This phosphatase contains two N-terminal SH2 domains and a C-terminal phosphatase domain. SHP1 associates with a variety of cytokine and growth factor receptors and regulates signal transduction through dephosphorylation of these receptors or their downstream effectors. Downstream of receptor activation, SHP1 regulates the transcriptional activity stimulated by JAK/Stat and MAPK pathways. SHP1 activity is regulated by both tyrosine and serine phosphorylation. Phosphorylation of Tyr-536 and Tyr-564 stimulates phosphatase activity and promotes interaction with Grb-2. Serine phosphorylation at Ser-591 is mediated by PKC $\alpha$  and leads to inhibition of phosphatase activity. Thus, phosphorylation at tyrosine relative to serine residues may be regulated by different cell signaling pathways to control SHP1 activity.

## **References:**

Jones, M.L. et al. (2004) J. Biol. Chem. 279(39):40475.  
Zhang, Z. et al. (2003) J. Biol. Chem. 278(7):4668.  
Zhang, J. et al. (2000) Semin. Immunol. 12:361.

## **Peptide Sequence:**

Phospho-SHP1 (Ser-591) synthetic peptide corresponds to amino acids around serine 591 of human SHP1. The sequence is highly conserved in rat and mouse SHP1.

## **Buffer and Storage:**

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

## **Applications:**

Antibody Blocking 1 µg/ml<sup>1</sup>  
ELISA 10-100 ng/well<sup>2</sup>

End user should determine optimal concentration dependent on the concentration of the antibody.

<sup>1</sup>Recommended for blocking antibody reactivity in Western blot and immunocytochemistry.

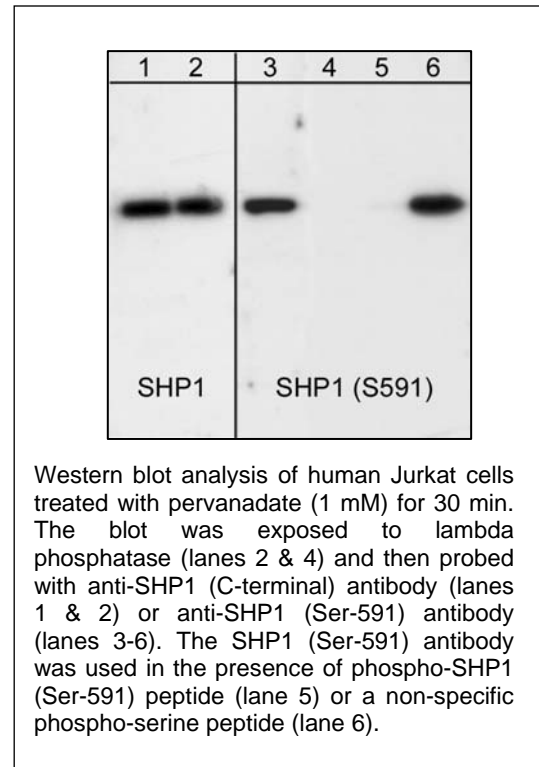
<sup>2</sup>Established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

## **Specificity:**

The peptide is specifically recognized by anti-SHP1 (Ser-591) phospho-specific antibody (SP1531) in ELISA, and has been shown to block the reactivity of SP1531 during Western blot. In addition, the peptide is recommended for use in blocking SP1531 reactivity in immunocytochemistry.

## **Related Products:**

SP1531 SHP1 (Ser-591), phospho-specific Rabbit Polyclonal SM1601 SHP1 (C-terminal region) Mouse Monoclonal  
SP1571 SHP1 (Tyr-536), phospho-specific Rabbit Polyclonal SM1631 SHP2 (N-terminal region) Mouse Monoclonal



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www.ecmbiosciences.com  
telephone: 859-879-2075  
toll-free: 1-800-859-8202  
tech: info@ecmbiosciences.com

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