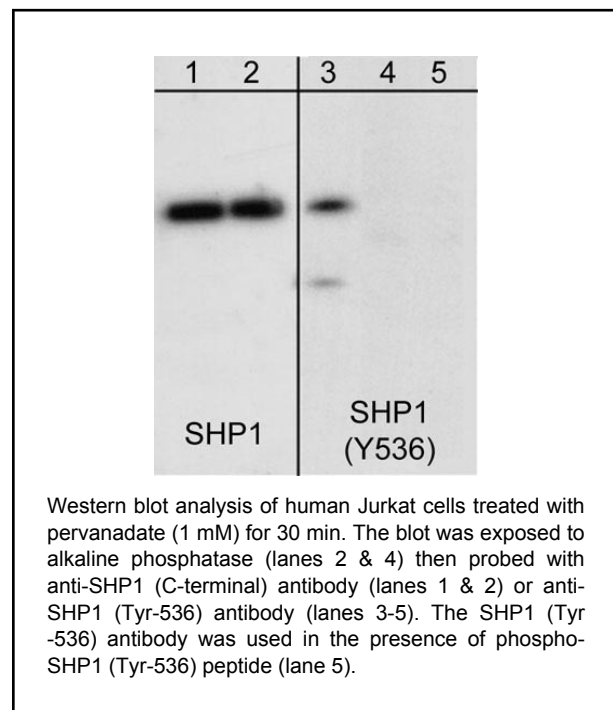


### Background

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.

### Background References

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



### Applications

WB 1:1000  
 ELISA 1:2000

### Species Reactivity

Hu, Rt, Ms

### Specificity

This antibody was cross-adsorbed to a non-specific phospho-tyrosine peptide then affinity-purified using phospho-SHP1 (Tyr-536) peptide. The antibody detects a 68 kDa\* band on SDS-PAGE immunoblots of human Jurkat cells treated with pervanadate, but is not observed in control cells.

End user should determine optimal dilution for their particular applications and experiments.  
 Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

\*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

### Immunogen

Uniprot ID: P29350

Phospho-SHP1 (Tyr-536) synthetic peptide (coupled to carrier protein) corresponding to amino acids around tyrosine 536 in human SHP1. The sequence is highly conserved in rat and mouse SHP1.

### Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

### Related Products

PP2351 PTP1B (a.a.146-157) Rabbit Polyclonal  
 PP2411 PTP1B (Ser-50), phospho-specific Rabbit Polyclonal  
 PP2391 PTP1B (Tyr-152), phospho-specific Rabbit Polyclonal  
 SM1601 SHP1 (C-terminal region) Mouse Monoclonal  
 SP1531 SHP1 (Ser-591), phospho-specific Rabbit Polyclonal

### Product References

Moogk D. et al. (2016) *J Immunol.* 197(2):644.  
 WB: mouse T cells  
 Choi, Y.R. et al. (2015) *Neurobiol Dis.* 83: 90.  
 IF, WB: BV-2, COS-2, rat primary microglia  
 Kataoka, T. R. et al. (2015) *Int Immunol.* 27(2): 95.  
 WB: mouse BMMCs

FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.