

## DESCRIPTION

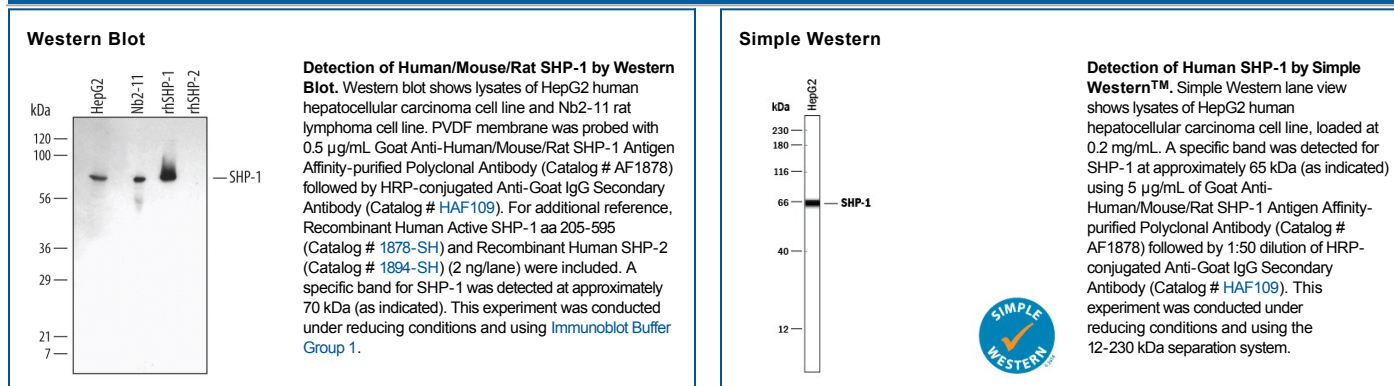
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects human, mouse, and rat SHP-1. The antibody does not detect SHP-2 in Western blots.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human SHP-1 Ala205-Lys595 Accession # P29350
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.5 µg/mL	See Below
<b>Simple Western</b>	5 µg/mL	See Below

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Src-Homology 2 domain Phosphatase-1 (SHP-1), also known as Protein Tyrosine Phosphatase 1C (PTP1C), PTPN6, and Hematopoietic Cell Phosphatase (HCPH), is an enzyme that selectively dephosphorylates tyrosine residues in proteins. Spontaneous point mutations in the SHP-1 gene in mice produce the "motheaten" and "motheaten viable" phenotypes that are severely autoimmune and immunodeficient (1). The enzyme is highly expressed in leukocyte cell types (2). SHP-1 has a regulatory region containing two Src homology 2 (SH2) domains that are critical for its binding to ITIM domains in inhibitory immunoreceptors (3). Deletion of the SH2 domains, as in this product, causes a marked increase in phosphatase activity (4). SHP-1 will dephosphorylate a wide variety of proteins, including the EGF receptor (5). A phosphopeptide containing the EGFR (Y992) sequence (R&D Systems, Catalog # ES006) can be used to measure the activity of SHP-1 by detecting the release of phosphate (R&D Systems, Catalog # DY996).

### References:

1. Tsui, H.W. *et al.* (1993) *Nature Genet.* **4**:124.
2. Matthews, R.J. *et al.* (1992) *Mol. Cell. Biol.* **12**:2396.
3. Burshtyn, D.N. *et al.* (1997) *J. Biol. Chem.* **272**:13066.
4. Pei, D. *et al.* (1994) *Biochemistry* **33**:15483.
5. Tomic, S. *et al.* (1995) *J. Biol. Chem.* **270**:21277.