Human/Mouse/Rat SHP-1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1878

DESCRIPTION

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

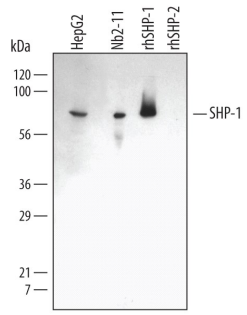
APPLICATIONS

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
Western Blot	0.5 µg/mL	See Below
Simple Western	5 µg/mL	See Below

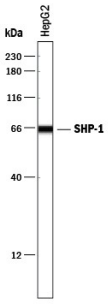
DATA

Western Blot



Detection of Human/Mouse/Rat SHP-1 by Western Blot. Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line and Nb2-11 rat lymphoma cell line. PVDF membrane was probed with 0.5 µg/mL Goat Anti-Human/Mouse/Rat SHP-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1878) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). For additional reference, Recombinant Human Active SHP-1 aa 205-595 (Catalog # 1878-SH) and Recombinant Human SHP-2 (Catalog # 1894-SH) (2 ng/lane) were included. A specific band for SHP-1 was detected at approximately 70 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western



Detection of Human SHP-1 by Simple Western™. Simple Western lane view shows lysates of HepG2 human hepatocellular carcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for SHP-1 at approximately 65 kDa (as indicated) using 5 µg/mL of Goat Anti-Human/Mouse/Rat SHP-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1878) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Src-Homology 2 domain Phosphatase-1 (SHP-1), also known as Protein Tyrosine Phosphatase 1C (PTP1C), PTPN6, and Hematopoetic 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.

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