

#### 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<br>Ala205-Lys595<br>Accession # P29350    |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 750<br>Excitation Wavelength: 749 nm<br>Emission Wavelength: 775 nm           |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                              |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                           |

#### 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.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### 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).

#### PRODUCT SPECIFIC NOTICES

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