

#### DESCRIPTION

|                                                                                                                                                                                                         |                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human/Mouse/Rat                                                                      |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human, mouse, and rat 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-2<br>Glu2-Thr435<br>Accession # Q06124 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 700<br>Excitation Wavelength: 675-700 nm<br>Emission Wavelength: 723 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 domain-2 containing protein tyrosine Phosphatase 2 (SHP-2), also called protein tyrosine phosphatase, non-receptor type 11 (PTPN11), PTP1D, PTP2C, and SYP, is an enzyme that dephosphorylates tyrosine residues in proteins. The protein contains two Src homology 2 (SH2) domains, which both regulate the activity of the enzyme (1) and allow it to selectively bind to SH2 sites on proteins such as Dok1, IRS1, and the insulin receptor (2). SHP-2 plays a unique stimulatory role in cell signaling. Cells lacking SHP-2 have poor mobility because the hyper-phosphorylation of FAK and other proteins in the focal adhesion complex (3) prevents turnover of cellular attachment points. Without SHP-2, sustained ERK stimulation does not take place (4). The Y992 phosphorylation site of EGFR is a particularly good substrate for SHP-2 (5) and a phosphopeptide containing this sequence can be used to measure the activity of the enzyme (R&D Systems, Catalog # ES006) by detecting release of phosphate (R&D Systems, Catalog # DY996).

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