



[26742426](http://www.uniprot.org/citations/26742426), PubMed:<[28074573](http://www.uniprot.org/citations/28074573)>. Positively regulates MAPK signal transduction pathway (PubMed:<[28074573](http://www.uniprot.org/citations/28074573)>). Dephosphorylates GAB1, ARHGAP35 and EGFR (PubMed:<[28074573](http://www.uniprot.org/citations/28074573)>). Dephosphorylates ROCK2 at 'Tyr-722' resulting in stimulation of its RhoA binding activity (PubMed:<[18559669](http://www.uniprot.org/citations/18559669)>). Dephosphorylates CDC73 (PubMed:<[26742426](http://www.uniprot.org/citations/26742426)>). Dephosphorylates SOX9 on tyrosine residues, leading to inactivate SOX9 and promote ossification (By similarity). Dephosphorylates tyrosine-phosphorylated NEDD9/CAS-L (PubMed:<[19275884](http://www.uniprot.org/citations/19275884)>).

#### Cellular Location

Cytoplasm. Nucleus

#### Tissue Location

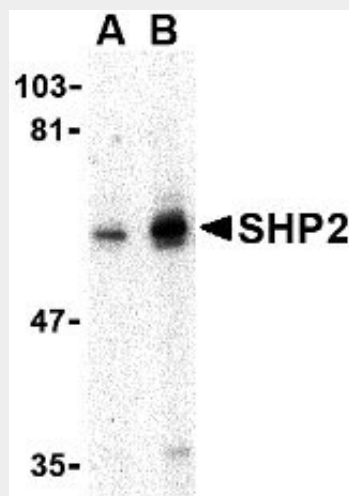
Widely expressed, with highest levels in heart, brain, and skeletal muscle.

#### SHP2 Antibody - Protocols

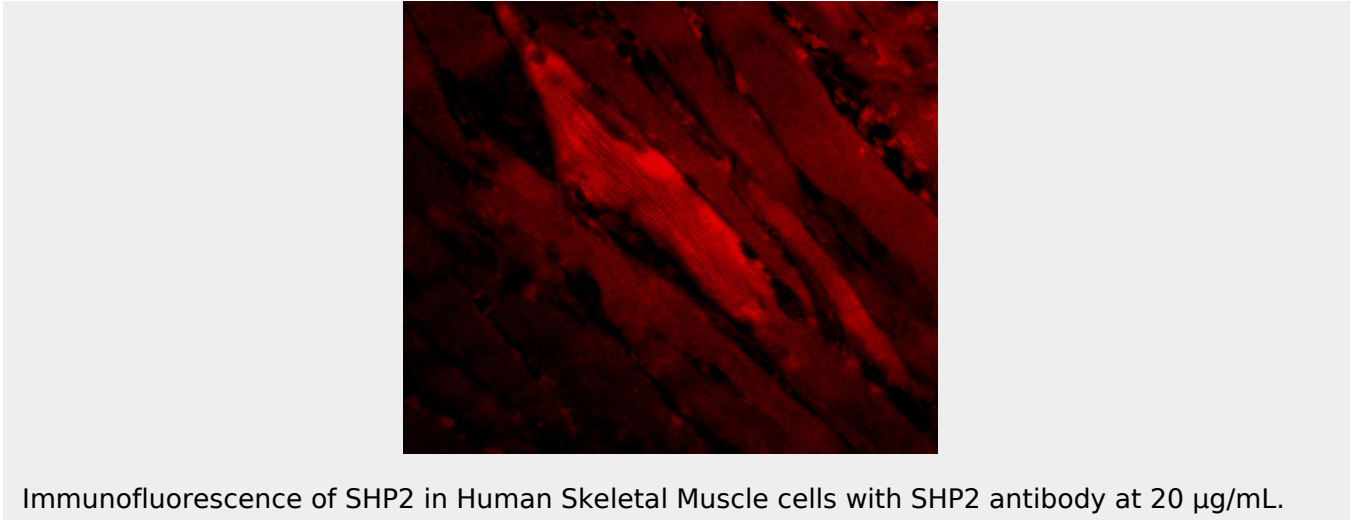
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### SHP2 Antibody - Images



Western blot analysis of SHP2 in mouse skeletal muscle tissue lysate with SHP2 antibody at (A) 0.5 and (B) 1 µg/mL.



### **SHP2 Antibody - Background**

**SHP2 Antibody:** Src homology-2 domain containing protein (SHP2) is a member of the protein tyrosine phosphatase (PTP) family, a protein family that contains signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. SHP2 contains two tandem Src homology-2 (SH2) domains, which function as phosphotyrosine binding domains either directly or through scaffolding intermediates such as the insulin-receptor substrate 1 (IRS-1). These SH2 domains mediate the interaction of SHP2 with its substrates, allowing SHP2 to dephosphorylate proteins that inhibit signaling kinases such as ERK1 and AKT. SHP2 is widely expressed in most tissues and plays a regulatory role in various cell signaling events that are important for a diversity of cell functions, such as mitogenic activation, metabolic control, transcription regulation, and cell migration. Recent experiments have shown SHP2 plays a significant role in hepatoprotection and liver regeneration.

### **SHP2 Antibody - References**

Yu Z, Ahmad S, Schwartz JL, et al. Protein-tyrosine phosphatase SHP2 is positively linked to proteinase-activated receptor 2-mediated mitogenic pathway. *J. Biol. Chem.* 1997; 272:7519-24.  
Ostman A, Hellberg C, and Bohmer FD. Protein-tyrosine phosphatases and cancer. *Nat. Rev. Cancer* 2006; 6:307-20.  
Bard-Chapeau EA, Yuan J, Droin N, et al. Concerted functions of Gab1 and Shp2 in liver regeneration and hepatoprotection. *Mol/ Cell. Biol.* 2006; 26:4664-74.