Anti-SHP1 Antibody

R1511-24

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 68 kDa

Description: Tyrosine-protein phosphatase non-receptor type 6, also known as Src homology region 2 domain-containing phosphatase-1 (SHP-1), is an enzyme that in humans is encoded by the PTPN6 gene. The protein encoded by this gene is a member of the protein tyrosine phosphatase (PTP) family. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitotic cycle, and oncogenic transformation. N-terminal part of this PTP contains two tandem Src homolog (SH2) domains, which act as protein phospho-tyrosine binding domains, and mediate the interaction of this PTP with its substrates. This PTP is expressed primarily in hematopoietic cells, and functions as an important regulator of multiple signaling pathways in hematopoietic cells. This PTP has been shown to interact with, and dephosphorylate a wide spectrum of phospho-proteins involved in hematopoietic cell signaling, (e.g., the LYN-CD22-SHP-1 pathway). Multiple alternatively spliced variants of this gene, which encode distinct isoforms, have been reported. SHP-1 gene has two promoters: P-1, active in epithelial cells, and P-2, active in hemopoietic cells. In addition the expression of SHP-1 is low in epithelial cells and high in hemopoietic cells. SHP-1 level in epithelial cells increases and in hematopoietic cells decreases in cancer.

Immunogen:	Recombinant protein within C-terminal Human SHP-1 aa 550-595 595.
Positive control:	Mouse spleen tissue lysate, A549, Hela, Jurkat, rat spinal cord tissue, human tonsil tissue, human spleen tissue.
Subcellular location:	Cytoplasm. Nucleus.
Database links:	SwissProt: P29350 Human | P29351 Mouse | P81718 Rat
Recommended Dilutions:	
WB	1:1,000-1:2,000
IF-Cell	1:50-1:200
IHC-P	1:50-1:200
FC	1:50-1:200
Storage Buffer:	1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

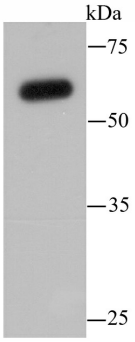

Fig1: Western blot analysis of SHP1 on mouse spleen tissue lysate using anti- SHP1 antibody at 1/5,000 dilution.

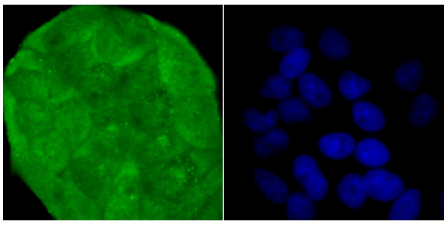

Fig2: ICC staining SHP1 in Hela cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

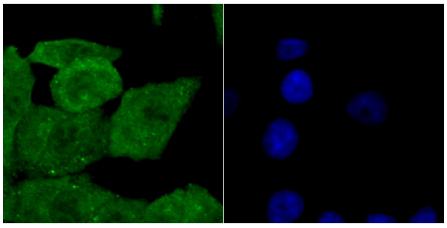

Fig3: ICC staining SHP1 in A549 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

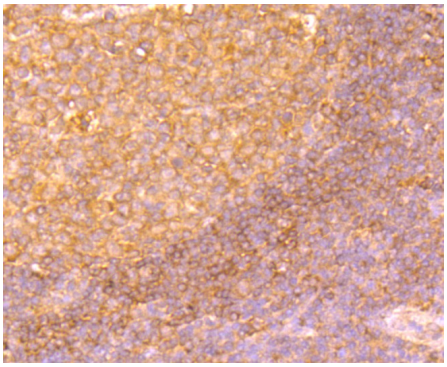

Fig4: Immunohistochemical analysis of paraffin-embedded human tonsil tissue using anti- SHP1 antibody. Counter stained with hematoxylin.

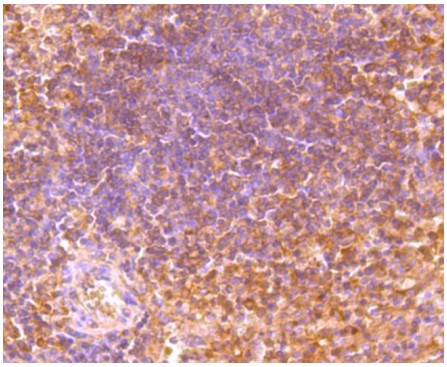

Fig5: Immunohistochemical analysis of paraffin-embedded human spleen tissue using anti- SHP1 antibody. Counter stained with hematoxylin.

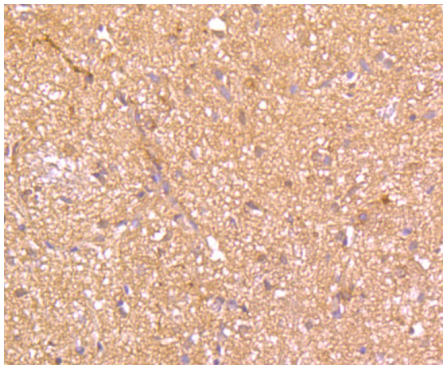

Fig6: Immunohistochemical analysis of paraffin-embedded rat spinal cord tissue using anti- SHP1 antibody. Counter stained with hematoxylin.

Background References

1. Buschmann I et al. Inhibition of protein tyrosine phosphatases enhances cerebral collateral growth in rats. J Mol Med (Berl) 92:983-94 (2014).
2. Sauer, MG. et al. SHP-1 Acts as a Key Regulator of Alloresponses by Modulating LFA-1-Mediated Adhesion in Primary Murine T Cells. Mol. Cell. Biol.. 36: 3113-3127 (2016).