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# SHP2 Antibody (Y546)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8471e

## Product Information

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|---|---|
| **Application** | WB, IHC-P, FC, E |
| **Primary Accession** | Q06124 |
| **Other Accession** | P41499, P35235, Q90687, NP_002825 |
| **Reactivity** | Human, Rat, Mouse |
| **Predicted** | Chicken, Mouse, Rat |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | RB21493 |
| **Calculated MW** | 68011 |
| **Antigen Region** | 526-551 |

## Additional Information

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| **Gene ID** | 5781 |
| **Other Names** | Tyrosine-protein phosphatase non-receptor type 11, Protein-tyrosine phosphatase 1D, PTP-1D, Protein-tyrosine phosphatase 2C, PTP-2C, SH-PTP2, SHP-2, Shp2, SH-PTP3, PTPN11, PTP2C, SHPTP2 |
| **Target/Specificity** | This SHP2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 526-551 amino acids from human SHP2. |
| **Dilution** | WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | SHP2 Antibody (Y546) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | PTPN11 |

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| **Synonyms** | PTP2C, SHPTP2 |
| **Function** | Acts downstream of various receptor and cytoplasmic protein tyrosine kinases to participate in the signal transduction from the cell surface to the nucleus (PubMed:10655584, PubMed:14739280, PubMed:18559669, PubMed:18829466, PubMed:26742426, PubMed:28074573, PubMed:32184441). Positively regulates MAPK signal transduction pathway (PubMed:28074573). Dephosphorylates GAB1, ARHGAP35 and EGFR (PubMed:28074573). Dephosphorylates ROCK2 at 'Tyr-722' resulting in stimulation of its RhoA binding activity (PubMed:18559669). Dephosphorylates CDC73 (PubMed:26742426). Dephosphorylates SOX9 on tyrosine residues, leading to inactivate SOX9 and promote ossification (By similarity). Dephosphorylates tyrosine-phosphorylated NEDD9/CAS-L (PubMed:19275884). Acts as an effector of PDCD1-mediated inhibition of T-cell response: recruited by phosphorylated PDCD1, mediating dephosphorylation of key T-cell receptor (TCR) proximal signaling molecules, leading to TCR signaling inhibition (PubMed:32184441). |
| **Cellular Location** | Cytoplasm. Nucleus |
| **Tissue Location** | Widely expressed, with highest levels in heart, brain, and skeletal muscle. |

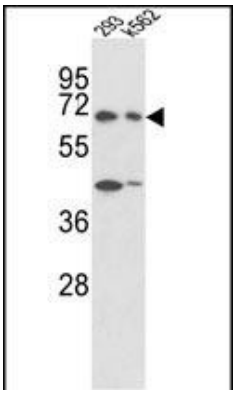
## Background

SHP2, also known as PTPN11, 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. This PTP contains two tandem Src homology-2 domains, which function as phospho-tyrosine binding domains and mediate the interaction of this PTP with its substrates. This PTP 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. Mutations in the gene are a cause of Noonan syndrome as well as acute myeloid leukemia.

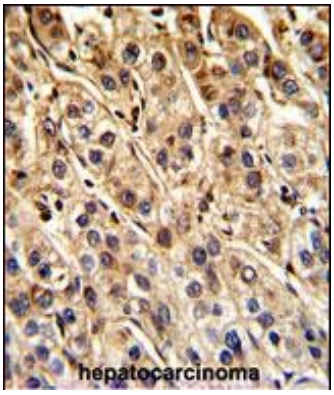
## References


Chan, R.J., et al., Blood 105(9):3737-3742 (2005).
Sturla, L.M., et al., J. Biol. Chem. 280(15):14597-14604 (2005).
Loh, M.L., et al., Leuk. Res. 29(4):459-462 (2005).
Wang, Q., et al., J. Biol. Chem. 280(9):8397-8406 (2005).
Niihori, T., et al., J. Hum. Genet. 50(4):192-202 (2005).

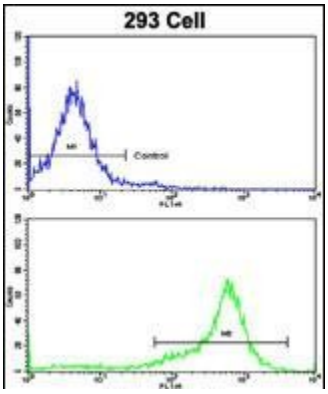

## Images




Western blot analysis of SHP2 Antibody (Y546) (Cat. #AP8471e) in 293, K562 cell line lysates (35ug/lane). SHP2 (arrow) was detected using the purified Pab.




Formalin-fixed and paraffin-embedded human hepatocarcinoma reacted with SHP2 Antibody (Y546), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.




Flow cytometric analysis of 293 cells using SHP2 Antibody (Y546)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

## Citations

- Gene expression profiling-derived immunohistochemistry signature with high prognostic value in colorectal carcinoma.