



**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

Store at -20C  
#3759

## SHP-1 (C14H6) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

<b>Applications:</b> W	<b>Reactivity:</b> H M	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 68	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #P29350	<b>Entrez-Gene Id:</b> 5777
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### Product Usage Information

#### Application

Western Blotting

#### Dilution

1:1000

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

SHP-1 (C14H6) Rabbit mAb detects endogenous level of total SHP-1 protein.

### Species predicted to react based on 100% sequence homology

Rat

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro161 of human SHP-1.

### Background

SHP-1 (PTPN6) is a non-receptor protein tyrosine phosphatase that is expressed primarily in hematopoietic cells. The enzyme is composed of two SH2 domains, a tyrosine phosphatase catalytic domain, and a carboxy-terminal regulatory domain (1). SHP-1 removes phosphates from target proteins to downregulate several tyrosine kinase-regulated pathways. In hematopoietic cells, the amino-terminal SH2 domain of SHP-1 binds to tyrosine phosphorylated erythropoietin receptors (EPORs) to negatively regulate hematopoietic growth (2). Overexpression of SHP-1 in epithelial cells results in dephosphorylation of the Ros receptor tyrosine kinase and subsequent downregulation of Ros-dependent cell proliferation and transformation (3). Following ligand binding in myeloid cells, SHP-1 associates with the IL-3R β chain and downregulates IL-3-induced tyrosine phosphorylation and cell proliferation (4). Because SHP-1 downregulates various proliferation pathways, SHP-1 is considered a potential tumor suppressor and angiogenesis regulator (5,6).

### Background References

1. Yi, T.L. et al. (1992) *Mol Cell Biol* 12, 836-46.
2. Yi, T. et al. (1995) *Blood* 85, 87-95.
3. Keilhack, H. et al. (2001) *J Cell Biol* 152, 325-34.
4. Yi, T. et al. (1993) *Mol Cell Biol* 13, 7577-86.
5. Wu, C. et al. (2003) *Gene* 306, 1-12.
6. Bhattacharya, R. et al. (2008) *J Mol Signal* 3, 8.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**W:** Western Blotting

### Cross-Reactivity Key

**H:** Human **M:** Mouse

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