Revision 1

Store at -20C

#8849

Phospho-SHP-1 (Tyr564) (D11G5) Rabbit mAb

Cell Signaling TECHNOLOGY®

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

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M	Endogenous	68	Rabbit IgG	#P29350	5777

Product Usage Information

Application	Dilution
Western Blotting	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

Phospho-SHP-1 (Tyr564) (D11G5) Rabbit mAb recognizes endogenous levels of SHP-1 protein only when phosphorylated at Tyr564.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr564 of human SHP-1 protein.

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).

SHP-1 is a substrate of Src family kinases (7,8) and phosphorylation of Tyr564 is thought to be critical for achieving maximal phosphatase activity (8). In a murine model of chronic myelomonocytic leukemia (CMML), genetic suppression of Tyr564 phosphorylation led to constitutive overactivation of the transcription factor Stat5 and an accelerated onset of CMML-like disease (8).

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.
7. Zhang, Z. et al. (2003) *J Biol Chem* 278, 4668-74.
8. Xiao, W. et al. (2010) *Blood* 116, 6003-13.

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

Trademarks and Patents

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.