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Store at -20C
#3751

Phospho-SHP-2 (Tyr542) Antibody

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

Applications: W, W-S, IP	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 72	Source/Isotype: Rabbit	UniProt ID: #Q06124	Entrez-Gene Id: 5781
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Product Usage Information

Application

Western Blotting
Simple Western™
Immunoprecipitation

Dilution

1:1000
1:50 - 1:250
1:50

Storage

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

Specificity/Sensitivity

Phospho-SHP-2 (Tyr542) Antibody detects endogenous levels of SHP-2 only when phosphorylated at Tyr542. This antibody may cross-react with activated receptor tyrosine kinases.

Species predicted to react based on 100% sequence homology

Monkey, Chicken, Xenopus

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr542 of human SHP-2 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

SHP-2 (PTPN11) is a ubiquitously expressed, nonreceptor protein tyrosine phosphatase (PTP). It participates in signaling events downstream of receptors for growth factors, cytokines, hormones, antigens, and extracellular matrices in the control of cell growth, differentiation, migration, and death (1). Activation of SHP-2 and its association with Gab1 is critical for sustained Erk activation downstream of several growth factor receptors and cytokines (2). In addition to its role in Gab1-mediated Erk activation, SHP-2 attenuates EGF-dependent PI3 kinase activation by dephosphorylating Gab1 at p85 binding sites (3). SHP-2 becomes phosphorylated at Tyr542 and Tyr580 in its carboxy terminus in response to growth factor receptor activation (4). These phosphorylation events are thought to relieve basal inhibition and stimulate SHP-2 tyrosine phosphatase activity (5). Mutations in the corresponding gene result in a pair of clinically similar disorders (Noonan syndrome and LEOPARD syndrome) that may result from abnormal MAPK regulation (6).

Background References

1. Qu, C.K. (2000) *Cell Res* 10, 279-88.
2. Maroun, C.R. et al. (2000) *Mol Cell Biol* 20, 8513-25.
3. Zhang, S.Q. et al. (2002) *Mol Cell Biol* 22, 4062-72.
4. Bennett, A.M. et al. (1994) *Proc Natl Acad Sci USA* 91, 7335-9.
5. Lu, W. et al. (2001) *Mol Cell* 8, 759-69.
6. Edouard, T. et al. (2007) *Cell Mol Life Sci* 64, 1585-90.

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 **W-S:** Simple Western™ **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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