Revision 4

Store at +4C

#13328

Phospho-SHP-2 (Tyr580) (D66F10) Rabbit mAb (PE Conjugate)

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	M R	Endogenous	Rabbit IgG	#Q06124	5781

Product Usage Information

Application	Dilution
Flow Cytometry (Fixed/Permeabilized)	1:50

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibodies. Protect from light. Do not freeze.

Specificity/Sensitivity

Phospho-SHP-2 (Tyr580) (D66F10) Rabbit mAb detects endogenous level of SHP-2 only when phosphorylated at Tyr580.

Species predicted to react based on 100% sequence homology

Human

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr580 of human SHP-2 protein.

Description

This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometry analysis in mouse cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated Phospho-SHP-2 (Tyr580) (D66F10) Rabbit mAb #5431.

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).

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

M: Mouse **R:** Rat

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Limited Uses

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