Revision 1

Store at -20C

#4864

PTP-PEST (AG10) Mouse mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R Mk	Endogenous	110 to 125	Mouse IgG1	#Q05209	5782

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

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

PTP-PEST (AG10) Mouse mAb detects endogenous levels of total PTP-PEST protein. This antibody does not cross-react with other protein tyrosine phosphatases.

Source / Purification

Monoclonal antibody is produced by immunizing animals with human PTP-PEST recombinant protein. The antibody recognizes an epitope within the amino-terminal 305 residues.

Background

PTP-PEST is a ubiquitously expressed cytosolic protein tyrosine phosphatase with multiple proline-rich regions that appear to be the docking sites for PTP-PEST binding partners or substrates (1). PTP-PEST regulates fibroblast adhesion, migration, and cytokinesis through its association with and dephosphorylation of p130 Cas, paxillin, PSTPIP1, WASP, and other adhesion molecules (1-5). By modulating phosphorylation states of Shc, Pyk2, Fak, and WASP, PTP-PEST negatively regulates lymphocyte activation (1,6). In mammary epithelial cells, EGF facilitates the dephosphorylation of Jak2 by PTP-PEST, thereby interfering with lactogenic hormone PRL signaling (7). PTP-PEST dephosphorylates c-Abl as well, which affects the phosphorylation states of PTP-PEST substrates such as paxillin, p130 Cas, Crk, and PSTPIP1 (8).
PTP-PEST regulates adhesion and motility of cultured epithelial cells through modulation of Rho GTPase activity (9), and is required for integrin-mediated endothelial cell adhesion and migration (10).

Background References

1. Davidson, D. and Veillette, A. (2001) *EMBO J* 20, 3414-26.
2. Garton, A.J. and Tonks, N.K. (1999) *J Biol Chem* 274, 3811-8.
3. Shen, Y. et al. (2000) *J Biol Chem* 275, 1405-13.
4. Angers-Loustau, A. et al. (1999) *J Cell Biol* 144, 1019-31.
5. Côté, J.F. et al. (2002) *J Biol Chem* 277, 2973-86.
6. Badour, K. et al. (2004) *J Exp Med* 199, 99-112.
7. Horsch, K. et al. (2001) *Mol Endocrinol* 15, 2182-96.
8. Cong, F. et al. (2000) *Mol Cell* 6, 1413-23.
9. Espejo, R. et al. (2010) *Am J Physiol Cell Physiol* 299, C454-63.
10. Souza, C.M. et al. (2012) *J Biol Chem* 287, 43180-90.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

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

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