Revision 1

Store at -20C

#4481

Phospho-PTPα (Tyr789) Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R Mk	Endogenous	145	Rabbit	#P18433	5786

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 and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-PTPα (Tyr789) Antibody detects endogenous levels of PTPα only when phosphorylated at Tyr789. This antibody does not cross-react with other phosphorylated receptor tyrosine phosphatases.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr789 of human PTPα. Antibodies are purified by protein A and peptide affinity chromatography.

Background

PTPα (PTPRA) is a transmembrane receptor tyrosine phosphatase implicated in the regulation of Src family kinases during the G2 to mitosis entry point. Two identified splice variants differ in the size of the extracellular region; the shorter form appears to be ubiquitously expressed while the larger protein is more limited in distribution (1). The cytoplasmic region of PTPα contains two putative catalytic domains. One phosphatase domain (D1) exhibits catalytic activity while the other (D2) may regulate phosphatase activity by allowing receptor dimer formation (2,3). PTPα is a physiological regulator of Src and Src family kinases (4). Constitutive phosphorylation of the carboxy-terminal Tyr789 of PTPα is essential for dephosphorylation of Src at Tyr527. Phosphorylation of PTPα at this residue also allows binding of the Grb2 inhibitor, restricting PTPα activation of Src (5,6). PKC-mediated phosphorylation of the PTP at Ser180 and Ser204 also increases PTPα phosphatase activity (7).

Background References

1. Kapp, K. et al. (2007) *Genes Cells* 12, 63-73.
2. Blanchetot, C. et al. (2002) *J Biol Chem* 277, 47263-9.
3. Krueger, N.X. et al. (1990) *EMBO J* 9, 3241-52.
4. den Hertog, J. et al. (1993) *EMBO J* 12, 3789-98.
5. Zheng, X.M. et al. (2000) *EMBO J* 19, 964-78.
6. Zheng, X.M. et al. (2002) *J Biol Chem* 277, 21922-9.
7. Tracy, S. et al. (1995) *J Biol Chem* 270, 10587-94.

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 **IP:** Immunoprecipitation

Cross-Reactivity Key

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

Trademarks and Patents

Limited Uses

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