

Phospho-PTP α (Tyr789) Antibody

100 μ l
 (10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, R, Mk	145 kDa	Rabbit**

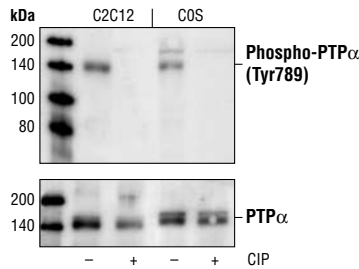
Background: PTP α (PTPRA) is a transmembrane receptor tyrosine phosphatase implicated in the regulation of Src family kinases during the G2 to mitosis entry point. Two identified splice variants differ in the size of the extracellular region; the shorter form appears to be ubiquitously expressed while the larger protein is more limited in distribution (1). The cytoplasmic region of PTP α 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). PTP α is a physiological regulator of Src and Src family kinases (4). Constitutive phosphorylation of the carboxy-terminal Tyr789 of PTP α is essential for dephosphorylation of Src at Tyr527. Phosphorylation of PTP α at this residue also allows binding of the Grb2 inhibitor, restricting PTP α activation of Src (5,6). PKC-mediated phosphorylation of the PTP at Ser180 and Ser204 also increases PTP α phosphatase activity (7).

Specificity/Sensitivity: Phospho-PTP α (Tyr789) Antibody detects endogenous levels of PTP α 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 PTP α . Antibodies are purified by protein A and peptide affinity chromatography.

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.



Western blot analysis of C2C12 and COS cell lysates, untreated or alkaline phosphatase (CIP)-treated, using Phospho-PTP α (Tyr789) Antibody (upper) or PTP α Antibody (Gift from Dr. D. Shalloway, Dept. of Molecular Biology and Genetics, Cornell University, Ithaca, NY.) (lower).

Entrez-Gene ID #5786
Swiss-Prot Acc. #P18433

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

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western Blotting	1:1000
Immunoprecipitation	1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.