#12022 Store at -20°C

Phospho-PDGF Receptor α (Tyr762) Antibody

Cell Signaling TECHNOLOGY®

Orders ■ 877-616-CELL (2355)
orders@cellsignal.com
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info@cellsignal.com
Web ■ www.cellsignal.com

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For Research Use Only. Not For Use In Diagnostic Procedures.

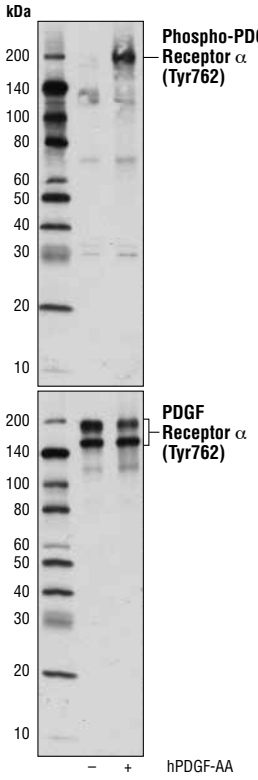
Entrez-Gene ID #5156
Swiss-Prot Acc. #P16234

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, (M, R)	190 kDa	Rabbit**

Background: Platelet derived growth factor (PDGF) family proteins exist as several disulphide-bonded, dimeric isoforms (PDGF AA, PDGF AB, PDGF BB, PDGF CC, and PDGF DD) that bind in a specific pattern to two closely related receptor tyrosine kinases, PDGF receptor α (PDGFRα) and PDGF receptor β (PDGFRβ). PDGFRα and PDGFRβ share 75% to 85% sequence homology between their two intracellular kinase domains, while the kinase insert and carboxy-terminal tail regions display a lower level (27% to 28%) of homology (1). PDGFRα homodimers bind all PDGF isoforms except those containing PDGF D. PDGFRβ homodimers bind PDGF BB and DD isoforms, as well as the PDGF AB heterodimer. The heteromeric PDGF receptor α/β binds PDGF B, C, and D homodimers, as well as the PDGF AB heterodimer (2). PDGFRα and PDGFRβ can each form heterodimers with EGFR, which is also activated by PDGF (3). Various cells differ in the total number of receptors present and in the receptor subunit composition, which may account for responsive differences among cell types to PDGF binding (4). Ligand binding induces receptor dimerization and autophosphorylation, followed by binding and activation of cytoplasmic SH2 domain-containing signal transduction molecules, such as GRB2, Src, GAP, PI3 kinase, PLCγ, and NCK. A number of different signaling pathways are initiated by activated PDGF receptors and lead to control of cell growth, actin reorganization, migration, and differentiation (5).

Phosphorylation of PDGFRα at Tyr762 was identified at Cell Signaling Technology using PTMScan®, our LC-MS/MS platform for phosphorylation site discovery (6). Tyr762 is located in the activation loop of the DDR1 kinase domain. Phosphorylation of PDGFRα at this site was also reported by several other labs to be a docking site for CrkII and CrkL upon induction by growth factor treatment (7,8).

Specificity/Sensitivity: Phospho-PDGF Receptor α (Tyr762) Antibody recognizes endogenous levels of PDGF receptor α protein only when phosphorylated at Tyr762. This antibody does not cross-react with endogenous levels of phosphorylated PDGF receptor β protein.



Western blot analysis of extracts from NCI-H1703 cells serum-starved overnight, untreated (-) or treated with Human Platelet-Derived Growth Factor AA (hPDGF-AA) #8913 (100 ng/ml, 10 min;+), using Phospho-PDGF Receptor α (Tyr762) Antibody (upper) or PDGF Receptor α (D13C6) XP® Rabbit mAb #5241 (lower).

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr762 of human PDGF receptor α protein. Antibodies are purified by protein A and peptide affinity chromatography.

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.

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.*

***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	1:100

For product 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 complementary products.

Background References:

(1) Deuel, T.F. et al. (1988) *Biofactors* 1, 213-7.
(2) Bergsten, E. et al. (2001) *Nat Cell Biol* 3, 512-6.
(3) Betsholtz, C. et al. (2001) *Bioessays* 23, 494-507.
(4) Coughlin, S.R. et al. (1988) *Prog Clin Biol Res* 266, 39-45.
(5) Ostman, A. and Heldin, C.H. (2001) *Adv Cancer Res* 80, 1-38.
(6) Rikova, K. et al. (2007) *Cell* 131, 1190-203.
(7) Matsumoto, T. et al. (2000) *Biochem Biophys Res Commun* 270, 28-33.
(8) Yokote, K. et al. (1998) *Oncogene* 16, 1229-39.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.