

**#24188** Store at -20°C

## Phospho-PDGF Receptor $\alpha$ (Tyr762) (D9B1N) Rabbit mAb


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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	190	Rabbit IgG	#P16234	5156

### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation

#### Dilution

1:1000  
1:100

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at  $-20^{\circ}\text{C}$ . Do not aliquot the antibody.

### Specificity / Sensitivity

Phospho-PDGF Receptor  $\alpha$  (Tyr762) (D9B1N) Rabbit mAb recognizes endogenous levels of PDGF Receptor  $\alpha$  protein only when phosphorylated at Tyr762. The antibody might cross react slightly with other overexpressed phosphorylated receptor tyrosine kinase such as EGFR.

### Species predicted to react based on 100% sequence homology:

Mouse, Rat

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr762 of human PDGF Receptor  $\alpha$  protein.

### 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  $\alpha$  (PDGFR $\alpha$ ) and PDGF receptor  $\beta$  (PDGFR $\beta$ ). PDGFR $\alpha$  and PDGFR $\beta$  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). PDGFR $\alpha$  homodimers bind all PDGF isoforms except those containing PDGF D. PDGFR $\beta$  homodimers bind PDGF BB and DD isoforms, as well as the PDGF AB heterodimer. The heteromeric PDGF receptor  $\alpha/\beta$  binds PDGF B, C, and D homodimers, as well as the PDGF AB heterodimer (2). PDGFR $\alpha$  and PDGFR $\beta$  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, PLC $\gamma$ , 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 PDGFR $\alpha$  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 PDGFR $\alpha$  kinase domain. Phosphorylation of PDGFR $\alpha$  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).

### 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.

### 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**

**WB:** Western Blotting **IP:** Immunoprecipitation

**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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