

#2227 Store at -20°C

Phospho-PDGF Receptor β (Tyr1021) (6F10) Rabbit mAb


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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H M R	Endogenous	190	Rabbit IgG	#P09619	5159

Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C . Do not aliquot the antibody.	
Specificity / Sensitivity	Phospho-PDGF Receptor β (Tyr1021) (6F10) Rabbit mAb detects endogenous levels of PDGF receptor β only when phosphorylated at tyrosine 1021. The antibody may cross-react with other activated PDGF receptor family members and other activated protein tyrosine kinases including EGFR.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr1021 of human PDGF receptor β .	
Background	<p>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). Tyr751 in the kinase-insert region of PDGFRβ is the docking site for PI3 kinase (6). Phosphorylated pentapeptides derived from Tyr751 of PDGFRβ (pTyr751-Val-Pro-Met-Leu) inhibit the association of the carboxy-terminal SH2 domain of the p85 subunit of PI3 kinase with PDGFRβ (7). Tyr740 is also required for PDGFRβ-mediated PI3 kinase activation (8). PDGF-stimulated PLCγ signaling is dependent on autophosphorylation of the PDGF β receptor at Tyr1009 and Tyr1021 (8). It was also shown that both Tyr1009 and Tyr1021 alone and in cooperation mediate PDGF-BB triggered calcium signalling (9).</p>	
Background References	<ol style="list-style-type: none"> Deuel, T.F. et al. (1988) <i>Biofactors</i> 1, 213-217. Bergsten, E. et al. (2001) <i>Nat. Cell Biol.</i> 3, 512-516. Betsholtz, C. et al. (2001) <i>Bioessays</i> 23, 494-507. Coughlin, S.R. et al. (1988) <i>Prog. Clin. Biol. Res.</i> 266, 39-45. Ostman, A. and Heldin, C.H. (2001) <i>Adv. Cancer Res.</i> 80, 1-38. Panayotou, G. et al. (1992) <i>EMBO J.</i> 11, 4261-4272. Ramalingam, K. et al. (1995) <i>Bioorg. Med. Chem.</i> 3, 1263-1272. Kashishian, A. et al. (1992) <i>EMBO J.</i> 11, 1373-1382. Rönnstrand, L. et al. (1992) <i>EMBO J</i> 11, 3911-9. Ridefelt, P. and Siegbahn, A. <i>Anticancer Res</i> 18, 1819-25. 	

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**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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