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#5876

PDGF Receptor α (D13C6) XP® Rabbit mAb (Alexa Fluor® 647 Conjugate)


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 TECHNOLOGY®

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

Applications: FC-FP, FC-L	Reactivity: H	Sensitivity: Endogenous	Source/Isotype: Rabbit IgG	UniProt ID: #P16234	Entrez-Gene Id: 5156
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Product Usage Information	Application Flow Cytometry (Fixed/Permeabilized) Flow Cytometry (Live)	Dilution 1:50 1:50
Storage	Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.	
Specificity / Sensitivity	PDGF Receptor α (D13C6) XP® Rabbit mAb (Alexa Fluor® 647 Conjugate) recognizes endogenous levels of PDGF receptor α protein.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a recombinant protein corresponding to the PDGF receptor α extracellular domain.	
Product Description	This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 647 fluorescent dye and tested in-house for direct flow cytometry analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated PDGF Receptor α (D13C6) XP® Rabbit mAb #5241.	
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).</p>	
Background References	1. Deuel, T.F. et al. (1988) <i>Biofactors</i> 1, 213-217. 2. Bergsten, E. et al. (2001) <i>Nat. Cell Biol.</i> 3, 512-516. 3. Betsholtz, C. et al. (2001) <i>Bioessays</i> 23, 494-507. 4. Coughlin, S.R. et al. (1988) <i>Prog. Clin. Biol. Res.</i> 266, 39-45. 5. Ostman, A. and Heldin, C.H. (2001) <i>Adv. Cancer Res.</i> 80, 1-38. 6. Panayotou, G. et al. (1992) <i>EMBO J.</i> 11, 4261-4272. 7. Ramalingam, K. et al. (1995) <i>Bioorg. Med. Chem.</i> 3, 1263-1272. 8. Kashishian, A. et al. (1992) <i>EMBO J.</i> 11, 1373-1382.	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Applications Key	FC-FP: Flow Cytometry (Fixed/Permeabilized) FC-L: Flow Cytometry (Live)
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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