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PDGFRB

Reactivity: Human Mouse Rat

Tested applications:WB IHC IF

Recommended Dilution:WB 1:500 - 1:2000 IHC 1:50 - 1:200 IF 1:20 - 1:50

Calculated MW:124kDa

Observed MW: Refer to Figures

Immunogen:

Recombinant protein of human PDGFRB

Storage Buffer:

Store at -20. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Synonym:

CD140B; JTK12; PDGF-R-beta; PDGFR; PDGFR1;

Catalog #:A2180

Antibody Type:

Polyclonal Antibody

Species: Rabbit

Gene ID:5159

Isotype: IgG

Swiss Prot:P09619

Purity: Affinity purification

For research use only.

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 (PDGFR) and PDGF receptor (PDGFR). PDGFR and PDGFR 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 homodimers bind all PDGF isoforms except those containing PDGF D. PDGFR homodimers bind PDGF BB and DD isoforms, as well as the PDGF AB heterodimer. The heteromeric PDGF receptor / binds PDGF B, C, and D homodimers, as well as the PDGF AB heterodimer (2). PDGFR and PDGFR 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, 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 PDGFR is the docking site for PI3 kinase (6). Phosphorylated pentapeptides derived from Tyr751 of PDGFR (pTyr751-Val-Pro-Met-Leu) inhibit the association of the carboxy-terminal SH2 domain of the p85 subunit of PI3 kinase with PDGFR (7). Tyr740 is also required for PDGFR-mediated PI3 kinase activation (8).

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