

PDGF Receptor α Antibody Sampler Kit



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1 Kit (4 x 20 microliters)

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

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Phospho-PDGF Receptor α (Tyr754) (23B2) Rabbit mAb	2992	20 μ l	190 kDa	Rabbit
Phospho-PDGF Receptor α (Tyr849)/PDGF Receptor β (Tyr857) (C43E9) Rabbit mAb	3170	20 μ l	190 kDa	Rabbit IgG
Phospho-PDGF Receptor α (Tyr1018) Antibody	4547	20 μ l	190 kDa	Rabbit
PDGF Receptor α (D1E1E) XP [®] Rabbit mAb	3174	20 μ l	190 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 μ l		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The PDGF Receptor α Antibody Sampler Kit provides an economical means of evaluating total PDGF receptor α protein (PDGFR α) levels as well as PDGFR α phosphorylated at specific sites. The kit contains enough primary and secondary antibody to perform two western blots with each antibody.

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.

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 (PDGFR α) and PDGF receptor β (PDGFR β). PDGFR α and PDGFR β 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 α homodimers bind all PDGF isoforms except those containing PDGF D. PDGFR β 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). PDGFR α and PDGFR β 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 γ , 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 β is the docking site for PI3 kinase (6). Phosphorylated pentapeptides derived from Tyr751 of PDGFR β (pTyr751-Val-Pro-Met-Leu) inhibit the association of the carboxy-terminal SH2 domain of the p85 subunit of PI3 kinase with PDGFR β (7). Tyr740 is also required for PDGFR β -mediated PI3 kinase activation (8).

Background References

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2. Bergsten, E. et al. (2001) *Nat. Cell Biol.* 3, 512-516.
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. Panayotou, G. et al. (1992) *EMBO J.* 11, 4261-4272.
7. Ramalingam, K. et al. (1995) *Bioorg. Med. Chem.* 3, 1263-1272.
8. Kashishian, A. et al. (1992) *EMBO J.* 11, 1373-1382.

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