Kit Includes	Quantity	Applications	Reactivity	MW (kDa)	Isotype
Phospho-PDGF Receptor β (Tyr740) (32A9) Rabbit mAb #3168	40 µl	W	M (H)	190	Rabbit IgG
Phospho-PDGF Receptor β (Tyr751) (C63G6) Rabbit mAb #4549	40 µl	W	H M (R)	190	Rabbit IgG
Phospho-PDGF Receptor β (Tyr771) (76D6) Rabbit mAb #3173	40 µl	W	M (H)	190	Rabbit IgG
Phospho-PDGF Receptor β (Tyr1009) (42F9) Rabbit mAb #3124	40 µl	W IP	H M	190	Rabbit IgG
Phospho-PDGF Receptor β (Tyr1021) (6F10) Rabbit mAb #2227	40 µl	W	H M R	190	Rabbit IgG
PDGF Receptor β (28E1) Rabbit mAb #3169	40 µl	W IP IHC-P IHC-F IF-IC	H M R	190	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody #7074	100 µl				Goat

Applications Key: W=Western Blotting IP=Immunoprecipitation IHC-P=Immunohistochemistry (Paraffin) IHC-F=Immunohistochemistry (Frozen) IF-IC=Immunofluorescence (Immunocytochemistry)

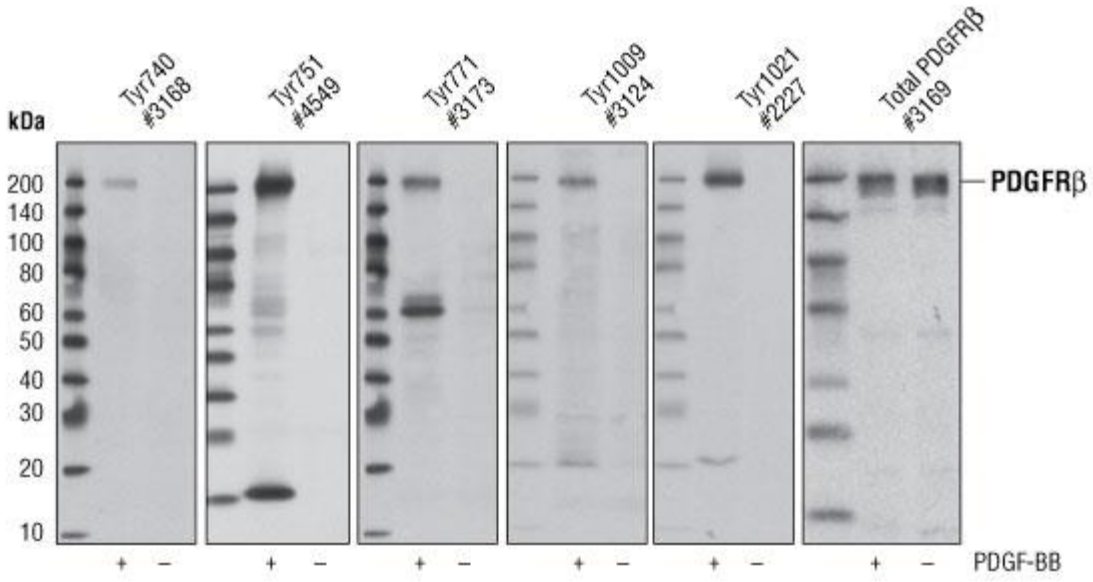
Reactivity Key: H=Human M=Mouse R=Rat

Species enclosed in parentheses are predicted to react based on 100% sequence homology.

Specificity / Sensitivity

All Phospho-PDGF Receptor β Rabbit mAbs detect PDGF Receptor β when phosphorylated at the specified sites. PDGF Receptor β (28E1) Rabbit mAb detects endogenous levels of total PDGF receptor β protein. Some PDGFR antibodies may cross-react with PDGF receptor α or other receptor tyrosine kinases when highly overexpressed. Please consult individual product web pages for more details.

Western Blotting



Western blot analysis of NIH/3T3 cells, untreated or treated with PDGF-BB (100ng/ml for 5 minutes), using Phospho-PDGF Receptor β (Tyr740) (32A9) Rabbit mAb #3168, Phospho-PDGF Receptor β (Tyr751) (C63G6) Rabbit mAb #4549, Phospho-PDGF Receptor β (Tyr771) (76D6) Rabbit mAb #3173, Phospho-PDGF Receptor β (Tyr1009) (42F9) Rabbit mAb #3124, Phospho-PDGF Receptor β (Tyr1021) (6F10) Rabbit mAb #2227 and PDGF Receptor β (28E1) Rabbit mAb #3169.

Description

The PDGF Receptor β Antibody Sampler Kit provides a fast and economical means of evaluating levels of PDGF Receptor protein phosphorylated at the specified sites, as well as total PDGF receptor levels. The kit contains enough primary and secondary antibody to perform four Western blot experiments per antibody.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a fusion protein containing a carboxy-terminal fragment of human PDGF receptor β; and by immunizing animals with a synthetic phosphopeptides corresponding to residues surrounding Tyr740, Tyr751, Tyr771, Tyr1009 or Tyr1021 of human PDGF receptor β.

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 (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).

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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.
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