

**PDGF Receptor  $\beta$  (C82A3) Rabbit mAb**

**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

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

**Product Usage Information****Application**

Western Blotting  
Immunohistochemistry (Paraffin)

**Dilution**

1:1000  
1:200 - 1:800

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at  $-20^{\circ}\text{C}$ . Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #48392.

**Specificity/Sensitivity**

PDGF Receptor  $\beta$  (C82A3) Rabbit mAb detects endogenous levels of total PDGF receptor  $\beta$  protein. The antibody does not cross-react with other PDGF receptor family members.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a GST fusion protein containing a carboxyl-terminal fragment of human PDGF receptor  $\beta$ .

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

**Background References**

1. Deuel, T.F. et al. (1988) *Biofactors* 1, 213-217.
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.

**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  $4^{\circ}\text{C}$  with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IHC-P:** Immunohistochemistry (Paraffin)

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat

## Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

U.S. Patent No. 7,429,487, foreign equivalents, and child patents deriving therefrom.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

## Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.