

PDGF Receptor β (28E1) Rabbit mAb

✓ 100 μ l
(10 western blots)

Orders ■ 877-616-CELL (2355)
orders@cellsignal.com
Support ■ 877-678-TECH (8324)
info@cellsignal.com
Web ■ www.cellsignal.com

rev. 04/19/11

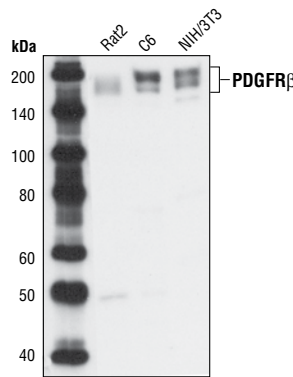
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IHC-P, IHC-F, IF-IC Endogenous	H, M, R	190 kDa	Rabbit IgG**

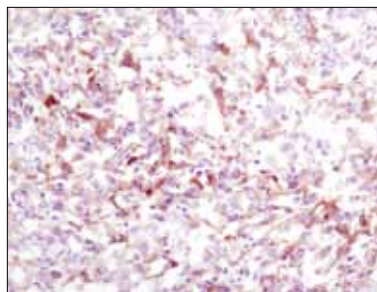
Background: The proteins of the platelet derived growth factor (PDGF) family exist as several disulphide-bonded, dimeric isoforms (PDGF AA, PDGF AB, PDGF BB, PDGF CC and PDGF DD) that bind in a specific pattern to two closely related receptor tyrosine kinases, PDGF receptor α (PDGFR α) and PDGF receptor 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). PDGF Receptor α homodimers bind all PDGF isoforms except those containing PDGF D. PDGF Receptor β homodimers bind PDGF BB and DD isoforms, as well as the PDGF AB heterodimer. The heteromeric PDGF α / β receptor 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).

Specificity/Sensitivity: PDGF Receptor β (28E1) Rabbit mAb detects endogenous levels of PDGF receptor β protein. The antibody may cross-react with PDGF receptor α when highly overexpressed.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a GST fusion protein containing a carboxy-terminal fragment of human PDGF receptor β .



Western blot analysis of extracts from various cell lines, using PDGF Receptor β (28E1) Rabbit mAb.



Immunohistochemical analysis of frozen U-87MG xenograft using PDGF Receptor β (28E1) Rabbit mAb.

Entrez-Gene ID #5159
Swiss-Prot Acc. #P09619

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.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:100†
Unmasking buffer:	EDTA
Antibody diluent:	SignalStain® Antibody Diluent #8112
Detection reagent:	SignalStain® Boost (HRP, Rabbit) #8114

†Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.

Immunohistochemistry (Frozen)	1:100
Fixative:	3% Formaldehyde
Immunofluorescence (IF-IC)	1:100

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

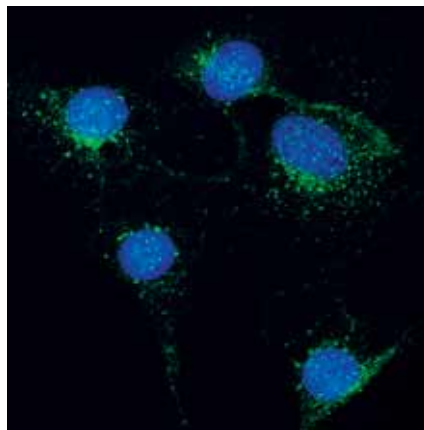
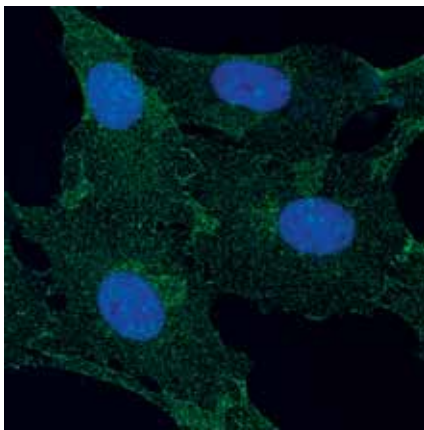
Background References:

- (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.

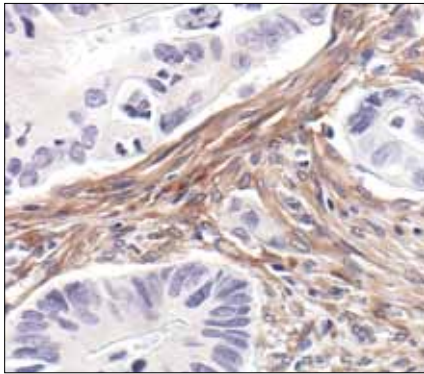
DRAQ5® is a registered trademark of Biostatus Limited.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

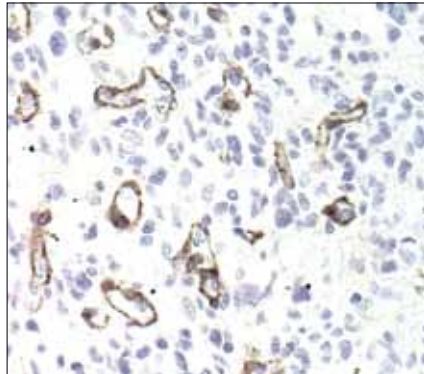
Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



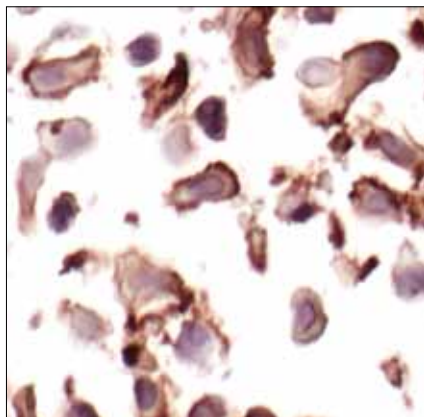
Confocal immunofluorescent analysis of NIH/3T3 cells, serum-starved (left) or PDGF-treated (right), using PDGF Receptor β (28E1) Rabbit mAb (green). Blue pseudocolor = DRAQ5[®] #4084 (fluorescent DNA dye).



Immunohistochemical analysis of paraffin-embedded human colon carcinoma using PDGF Receptor β (28E1) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human glioblastoma using PDGF Receptor β (28E1) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded U-87MG cells, showing membrane localization, using PDGF Receptor β (28E1) Rabbit mAb.