SANTA CRUZ BIOTECHNOLOGY, INC.

# p-PDGFR-β (Tyr 740): sc-17173

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

## BACKGROUND

Platelet derived growth factor (PDGF) is a mitogen for mesenchyme- and glia-derived cells. PDGF consists of two chains, A and B, which dimerize to form functionally distinct isoforms, PDGF-AA, PDGF-AB, and PDGF-BB. These three isoforms bind with different affinities to two receptor types, α and β, which are endowed with protein tyrosine kinase domains and undergo either homo- or heterodimerization as a consequence of ligand binding. Ligand stimulation of PDGFR-β leads to autophosphorylation at Tyr 857, which is the major autophosphorylation site, and Tyr 751, which is the major *in vitro* phosphorylation site. Autophosphorylation of Tyr 751, which lies in the kinase insert region, is required for binding of phosphatidylinositol-3 kinase to the receptor. These autophosphorylation events largely contribute to signal transduction through the PDGF receptor.

## REFERENCES


1. Ross, R., et al. 1986. The biology of platelet-derived growth factor. Cell 46: 155-169.
2. Hart, C.E., et al. 1988. Two classes of PDGF receptor recognize different isoforms of PDGF. Science 240: 1529-1531.
3. Heldin, C., et al. 1988. Binding of different dimeric forms of PDGF to human fibroblasts: evidence for two separate receptor types. EMBO J. 7: 1387-1393.
4. Kazlauskas, A., et al. 1989. Autophosphorylation of the PDGF receptor in the kinase insert region regulates interactions with cell proteins. Cell 58: 1121-1133.


## CHROMOSOMAL LOCATION

Genetic locus: PDGFRB (human) mapping to 5q32; Pdgfrb (mouse) mapping to 18 E1.

## SOURCE

p-PDGFR-β (Tyr 740) is available as either goat (sc-17173) or rabbit (sc-17173-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Tyr 740 phosphorylated PDGFR-β of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17173 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

p-PDGFR-β (Tyr 740) is recommended for detection of Tyr 740 phosphorylated PDGFR-β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

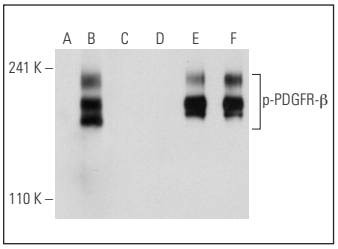
p-PDGFR-β (Tyr 740) is also recommended for detection of correspondingly phosphorylated PDGFR-β in additional species, including equine, porcine and avian.

Suitable for use as control antibody for PDGFR-β siRNA (h): sc-29442, PDGFR-β siRNA (m): sc-36200, PDGFR-β shRNA Plasmid (h): sc-29442-SH, PDGFR-β shRNA Plasmid (m): sc-36200-SH, PDGFR-β shRNA (h) Lentiviral Particles: sc-29442-V and PDGFR-β shRNA (m) Lentiviral Particles: sc-36200-V.

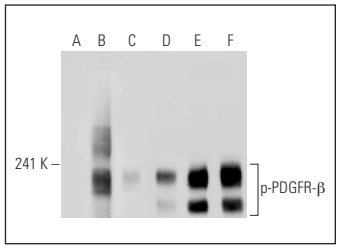
Molecular Weight of p-PDGFR-β: 190 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or CCD-1064Sk + PDGF cell lysate: sc-2264.

## DATA




Western blot analysis of PDGFR-β phosphorylation in non-transfected: sc-117752 (**A**,**D**), untreated human PDGFR-β transfected: sc-159386 (**B**,**E**) and lambda protein phosphatase (sc-200312A) treated human PDGFR-β transfected: sc-159386 (**C**,**F**) 293T whole cell lysates. Antibodies tested include p-PDGFR-β (Tyr 740)-R: sc-17173-R (**A**,**B**,**C**) and PDGFR-β (11H4): sc-80991 (**D**,**E**,**F**).




Western blot analysis of PDGFR-β phosphorylation in untreated (**A**,**D**), PDGF treated (**B**,**E**) and PDGF and lambda protein phosphatase treated (**C**,**F**) NIH/3T3 whole cell lysates. Antibodies tested include p-PDGFR-β (Tyr 740)-R: sc-17173-R (**A**,**B**,**C**) and PDGFR-β (11H4): sc-80991 (**D**,**E**,**F**).

## SELECT PRODUCT CITATIONS


1. Mahon, E.S., et al. 2005. A-Raf associates with and regulates platelet-derived growth factor receptor signalling. Cell. Signal. 17: 857-868.
2. Akiba, S., et al. 2006. Acceleration of matrix metalloproteinase-1 production and activation of platelet-derived growth factor receptor β in human coronary smooth muscle cells by oxidized LDL and 4-hydroxynonenal. Biochim. Biophys. Acta 1763: 797-804.
3. Siegbahn, A., et al. 2008. TF/FVIIa transactivate PDGFRβ to regulate PDGF-BB-induced chemotaxis in different cell types: involvement of Src and PLC. Arterioscler. Thromb. Vasc. Biol. 28: 135-141.
4. Kumar, A., et al. 2010. Platelet-derived growth factor-DD targeting arrests pathological angiogenesis by modulating glycogen synthase kinase-3β phosphorylation. J. Biol. Chem. 285: 15500-15510.