

p-PDGFR- β (Tyr 1021)-R: sc-12909-R

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.

CHROMOSOMAL LOCATION

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

SOURCE

p-PDGFR- β (Tyr 1021)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 1021 phosphorylated PDGFR- β of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-12909 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-PDGFR- β (Tyr 1021)-R is recommended for detection of Tyr 1021 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 μ g per 100-500 μ g 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 1021)-R is also recommended for detection of correspondingly phosphorylated PDGFR- β in additional species, including equine, canine, bovine, 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.

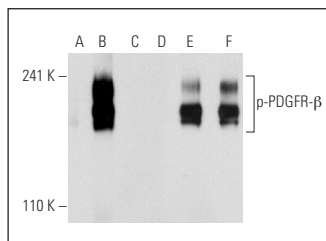
Molecular Weight of p-PDGFR- β : 190 kDa.

Positive Controls: CCD-1064Sk + PDGF cell lysate: sc-2264, Hep G2 + TGF β cell lysate: sc-24702 or NIH/3T3 whole cell lysate: sc-2210.

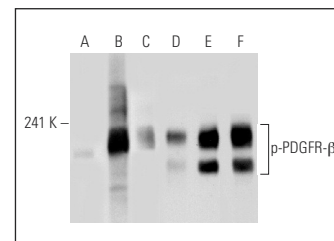
STORAGE

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

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 1021): sc-12909-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 1021)-R: sc-12909-R (A,B,C) and PDGFR- β (11H4): sc-80991 (D,E,F).

SELECT PRODUCT CITATIONS

1. Apte, S.M., et al. 2004. Targeting the platelet-derived growth factor receptor in antivasculature therapy for human ovarian carcinoma. Clin. Cancer Res. 10: 897-908.
2. Benny, O., et al. 2009. Local delivery of poly lactic-co-glycolic acid microspheres containing imatinib mesylate inhibits intracranial xenograft glioma growth. Clin. Cancer Res. 15: 1222-1231.
3. Mathew, P., et al. 2009. Neoadjuvant platelet derived growth factor receptor inhibitor therapy combined with docetaxel and androgen ablation for high risk localized prostate cancer. J. Urol. 181: 81-87.
4. Chamberlain, M.D., et al. 2010. Deregulation of Rab5 and Rab4 proteins in p85^{R274A}-expressing cells alters PDGFR trafficking. Cell. Signal. 22: 1562-1575.
5. Pahara, J., et al. 2010. Dimerization drives PDGF receptor endocytosis through a C-terminal hydrophobic motif shared by EGF receptor. Exp. Cell Res. 316: 2237-2250.
6. Ziino, A.J., et al. 2010. Effects of rho-kinase inhibition on pulmonary hypertension, lung growth, and structure in neonatal rats chronically exposed to hypoxia. Pediatr. Res. 67: 177-182.
7. Kumar, A., et al. 2010. Platelet-derived growth factor-DD targeting arrests pathological angiogenesis by modulating glycogen synthase kinase-3 β phosphorylation. J. Biol. Chem. 285: 15500-15510.
8. Ball, S.G., et al. 2010. Neuropilin-1 regulates platelet-derived growth factor receptor signalling in mesenchymal stem cells. Biochem. J. 427: 29-40.

RESEARCH USE

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