

PDGFR- β (11H4): sc-80991

BACKGROUND

Platelet-derived growth factor (PDGF) is a mitogen for mesenchyme- and gliaderived 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, PDGFR- α and - β , which are endowed with protein tyrosine kinase domains. PDGFR- α can bind to both A and B subunits of PDGF, while PDGFR- β can only bind the B subunit. Ligand binding promotes either homo- or heterodimerization of the PDGF receptors in a specific manner. PDGF-AA induces the dimerization of two α receptors, PDGF-AB induces dimerization of $\alpha\alpha$ and $\alpha\beta$, and PDGF-BB induces the formation of three types of dimers, $\alpha\alpha$, $\alpha\beta$ and $\beta\beta$. Translocation of the PDGFR- β gene with the TEL gene is linked with chronic myelomonocytic leukemia (CMML), a myelodysplastic syndrome, and demonstrates the oncogenic potential of the PDGF receptors.

REFERENCES

- Ross, R., et al. 1986. The biology of platelet-derived growth factor. *Cell* 46: 155-169.
- Hart, C.E., et al. 1988. Two classes of PDGF receptor recognize different isoforms of PDGF. *Science* 240: 1529-1531.
- Heldin, C.H., et al. 1989. Dimerization of B-type platelet-derived growth factor receptors occurs after ligand binding and is closely associated with receptor kinase activation. *J. Biol. Chem.* 264: 8905-8912.

CHROMOSOMAL LOCATION

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

SOURCE

PDGFR- β (11H4) is a mouse monoclonal antibody raised against the cytoplasmic domain of PDGFR- β of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PDGFR- β (11H4) is recommended for detection of PDGFR- β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)]; non cross-reactive with other PDGF family members.

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.

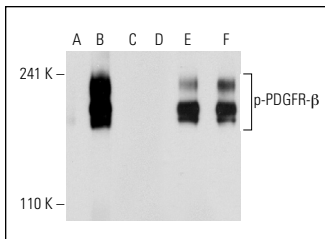
Molecular Weight of PDGFR- β : 180-190 kDa.

Positive Controls: PDGFR- β (h2): 293T Lysate: sc-159386, A-10 cell lysate: sc-3806 or Sol8 cell lysate: sc-2249.

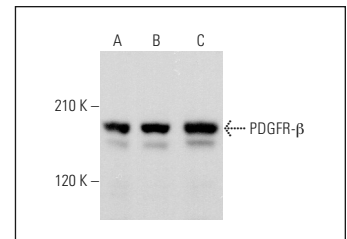
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

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).



PDGFR- β (11H4): sc-80991. Western blot analysis of PDGFR- β expression in A-10 (A), Sol8 (B) and C2C12 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Nalluri, S., et al. 2015. EGFR signaling defines Mcl-1 survival dependency in neuroblastoma. *Cancer Biol. Ther.* 16: 276-286.
- Madarampalli, B., et al. 2019. Interactions between cadherin-11 and platelet-derived growth factor receptor- α signaling link cell adhesion and proliferation. *Biochim. Biophys. Acta Mol. Basis Dis.* 1865: 1516-1524.
- Bourn, J., et al. 2019. Detection of tyrosine kinase inhibitors-induced COX-2 expression in bladder cancer by fluorocoxib A. *Oncotarget* 10: 5168-5180.

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.



See **PDGFR- β (D-6): sc-374573** for PDGFR- β antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.