

PDGF-B (F-3): sc-365805

BACKGROUND

PDGF is a mitogen for mesenchyme- and glia-derived cells. It consists of two disulfide-bonded polypeptide chains, A and B, and occurs as three isoforms; PDGF AA, AB and BB. The three isoforms bind, with different affinities, to two receptor types, α and β , which are structurally related and endowed with protein-tyrosine kinase domains. Ligand binding induces activation of the receptor kinases by formation of receptor dimers; the A subunit of PDGF binds only to receptors with high affinity, whereas the B subunit can bind to both α and β receptors. Evidence suggests that PDGF may function as a neurotrophic factor. Receptors for PDGF-A are expressed in oligodendrocyte progenitor cells whereas receptors for PDGF-B are expressed on neurons. These facts suggest that the different isoforms of PDGF may regulate growth and differentiation of different cell types in the developing central nervous system through paracrine and autocrine routes.

REFERENCES

- Ross, R., et al. 1986. The biology of platelet-derived growth factor. *Cell* 46: 155-169.
- Heldin, C.H., et al. 1988. Binding of different dimeric forms of PDGF to human fibroblasts: evidence for two separate receptor types. *EMBO J.* 7: 1387-1393.

CHROMOSOMAL LOCATION

Genetic locus: PDGFB (human) mapping to 22q13.1, Pdgfb (mouse) mapping to 15 E1.

SOURCE

PDGF-B (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 154-190 at the C-terminus of PDGF-B 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.

PDGF-B (F-3) is available conjugated to agarose (sc-365805 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365805 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365805 PE), fluorescein (sc-365805 FITC), Alexa Fluor® 488 (sc-365805 AF488), Alexa Fluor® 546 (sc-365805 AF546), Alexa Fluor® 594 (sc-365805 AF594) or Alexa Fluor® 647 (sc-365805 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365805 AF680) or Alexa Fluor® 790 (sc-365805 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365805 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

PDGF-B (F-3) is recommended for detection of precursor and mature PDGF-B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

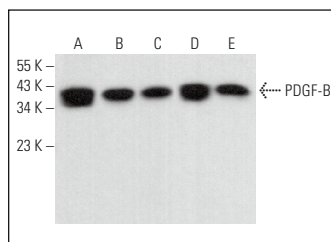
Suitable for use as control antibody for PDGF-B siRNA (h): sc-39705, PDGF-B siRNA (m): sc-39706, PDGF-B shRNA Plasmid (h): sc-39705-SH, PDGF-B shRNA Plasmid (m): sc-39706-SH, PDGF-B shRNA (h) Lentiviral Particles: sc-39705-V and PDGF-B shRNA (m) Lentiviral Particles: sc-39706-V.

Molecular Weight of PDGF-B monomeric B chain: 14 kDa.

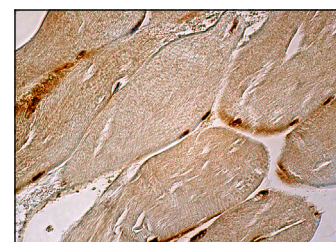
Molecular Weight of PDGF-B dimer: 31-35 kDa.

Positive Controls: A-673 cell lysate: sc-2414, C6 whole cell lysate: sc-364373 or A-10 cell lysate: sc-3806.

DATA



PDGF-B (F-3): sc-365805. Western blot analysis of PDGF-B expression in A-673 (A), C6 (B), A-10 (C), HUV-EC-C (D) and C2C12 (E) whole cell lysates.



PDGF-B (F-3): sc-365805. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic and nuclear staining of myocytes.

SELECT PRODUCT CITATIONS

- Zhou, P., et al. 2014. MicroRNA-363-mediated downregulation of S1PR1 suppresses the proliferation of hepatocellular carcinoma cells. *Cell. Signal.* 26: 1347-1354.
- Dai, M., et al. 2015. Identification and functional characterization of glycosylation of recombinant human platelet-derived growth factor-BB in *Pichia pastoris*. *PLoS ONE* 10: e0145419.
- Naipauer, J., et al. 2019. PDGFRA defines the mesenchymal stem cell Kaposi's sarcoma progenitors by enabling KSHV oncogenesis in an angiogenic environment. *PLoS Pathog.* 15: e1008221.
- Stratman, A.N., et al. 2020. Chemokine mediated signalling within arteries promotes vascular smooth muscle cell recruitment. *Commun. Biol.* 3: 734.
- Liu, Y., et al. 2021. CD226 is required to maintain megakaryocytes/platelets homeostasis in the treatment of knee osteoarthritis with platelet-rich plasma in mice. *Front. Pharmacol.* 12: 732453.

RESEARCH USE

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