

# PDGFR- $\alpha$ (C-9): sc-398206

## 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- $\alpha$  and - $\beta$ , which are endowed with protein tyrosine kinase domains. PDGFR- $\alpha$  can bind to both A and B subunits of PDGF, while PDGFR- $\beta$  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  $\alpha$  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  $\beta\beta$ . The genes encoding PDGFR- $\alpha$  and - $\beta$  map to human chromosome 4q12 and 5q33.1, respectively. Translocation of the PDGFR- $\beta$  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., 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: PDGFRA (human) mapping to 4q12; Pdgfra (mouse) mapping to 5 C3.3.

## SOURCE

PDGFR- $\alpha$  (C-9) is a mouse monoclonal antibody raised against amino acids 951-1089 of PDGFR- $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDGFR- $\alpha$  (C-9) is available conjugated to agarose (sc-398206 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398206 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398206 PE), fluorescein (sc-398206 FITC), Alexa Fluor<sup>®</sup> 488 (sc-398206 AF488), Alexa Fluor<sup>®</sup> 546 (sc-398206 AF546), Alexa Fluor<sup>®</sup> 594 (sc-398206 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-398206 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-398206 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-398206 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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

PDGFR- $\alpha$  (C-9) is recommended for detection of PDGFR- $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

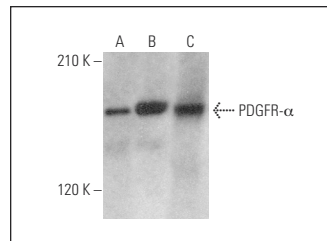
PDGFR- $\alpha$  (C-9) is also recommended for detection of PDGFR- $\alpha$  in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PDGFR- $\alpha$  siRNA (h): sc-29443, PDGFR- $\alpha$  siRNA (m): sc-29444, PDGFR- $\alpha$  shRNA Plasmid (h): sc-29443-SH, PDGFR- $\alpha$  shRNA Plasmid (m): sc-29444-SH, PDGFR- $\alpha$  shRNA (h) Lentiviral Particles: sc-29443-V and PDGFR- $\alpha$  shRNA (m) Lentiviral Particles: sc-29444-V.

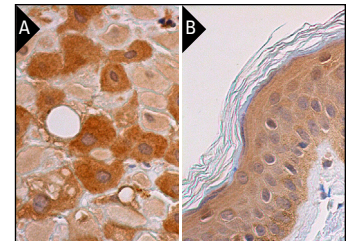
Molecular Weight of PDGFR- $\alpha$ : 170 kDa.

Positive Controls: U-2 OS cell lysate: sc-2295, HEK293 whole cell lysate: sc-45136 or NIH/3T3 whole cell lysate: sc-2210.

## DATA



PDGFR- $\alpha$  (C-9): sc-398206. Western blot analysis of PDGFR- $\alpha$  expression in U-2 OS (A), HEK293 (B) and NIH/3T3 (C) whole cell lysates.



PDGFR- $\alpha$  (C-9): sc-398206. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of decidual cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, fibroblasts and melanocytes (B).

## SELECT PRODUCT CITATIONS

- Rusu, M.C., et al. 2016. Subsets of telocytes: myocardial telocytes. *Ann. Anat.* 209: 37-44.
- Das, L., et al. 2019. Idiopathic gigantomastia: newer mechanistic insights implicating the paracrine milieu. *Endocrine* 66: 166-177.
- Santini, M.P., et al. 2020. Tissue-resident PDGFR $\alpha$ <sup>+</sup> progenitor cells contribute to fibrosis versus healing in a context- and spatiotemporally dependent manner. *Cell Rep.* 30: 555-570.e7.
- Liu, H., et al. 2021. Increased expression of IFN- $\gamma$  in preeclampsia impairs human trophoblast invasion via a SOCS1/JAK/STAT1 feedback loop. *Exp. Ther. Med.* 21: 112.

## RESEARCH USE

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