SANTA CRUZ BIOTECHNOLOGY, INC.

PDGFR-α (C-9): sc-398206

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 PGDF-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 αα and αβ and PDGF-BB induces the formation of three types of dimers, αα, αβ and ββ. The genes encoding PDGFR-α and -β map to human chromosome 4q12 and 5q33.1, respectively. 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

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.

CHROMOSOMAL LOCATION

Genetic locus: PDGFRA (human) mapping to 4q12; Pdgfra (mouse) mapping to 5 C3.3.

SOURCE

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

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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

STORAGE

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

APPLICATIONS

PDGFR-α (C-9) is recommended for detection of PDGFR-α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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).

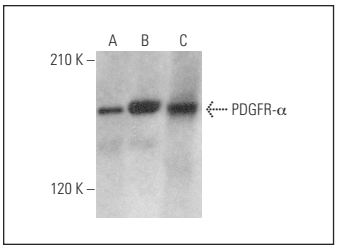
PDGFR-α (C-9) is also recommended for detection of PDGFR-α in additional species, including equine, canine, bovine and porcine.

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

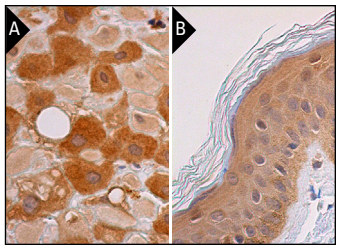
Molecular Weight of PDGFR-α: 170 kDa.

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



PDGFR-α (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

1. Rusu, M.C., et al. 2016. Subsets of telocytes: myocardial telocytes. Ann. Anat. 209: 37-44.
2. Akama, T. and Chun, T.H. 2018. Transcription factor 21 (TCF21) promotes proinflammatory interleukin 6 expression and extracellular matrix remodeling in visceral adipose stem cells. J. Biol. Chem. 293: 6603-6610.
3. Das, L., et al. 2019. Idiopathic gigantomastia: newer mechanistic insights implicating the paracrine milieu. Endocrine 66: 166-177.
4. Santini, M.P., et al. 2020. Tissue-resident PDGFRα+ progenitor cells contribute to fibrosis versus healing in a context- and spatiotemporally dependent manner. Cell Rep. 30: 555-570.

RESEARCH USE

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