



PDGFR- α (16A1): sc-21789

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, 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 to 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.

CHROMOSOMAL LOCATION

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

SOURCE

PDGFR- α (16A1) is a mouse monoclonal antibody raised against NIH/3T3 cells transfected with PDGFR- α of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDGFR- α (16A1) is available conjugated to agarose (sc-21789 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-21789 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-21789 PE), fluorescein (sc-21789 FITC), Alexa Fluor[®] 488 (sc-21789 AF488), Alexa Fluor[®] 546 (sc-21789 AF546), Alexa Fluor[®] 594 (sc-21789 AF594) or Alexa Fluor[®] 647 (sc-21789 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-21789 AF680) or Alexa Fluor[®] 790 (sc-21789 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PDGFR- α (16A1) recommended for detection of PDGFR- α of mouse, rat and human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ cells).

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.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 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.

SELECT PRODUCT CITATIONS

- Chojnacki, A. and Weiss, S. 2004. Isolation of a novel platelet-derived growth factor-responsive precursor from the embryonic ventral forebrain. *J. Neurosci.* 24: 10888-10899.
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- Ntokou, A., et al. 2017. A novel mouse Cre-driver line targeting Perilipin 2-expressing cells in the neonatal lung. *Genesis*. E-published.
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- Cho, A.N., et al. 2019. Aligned brain extracellular matrix promotes differentiation and myelination of human induced pluripotent stem cell-derived oligodendrocytes. *ACS Appl. Mater. Interfaces* 11: 15344-15353.
- Bordignon, P., et al. 2019. Dualism of FGF and TGF- β signaling in heterogeneous cancer-associated fibroblast activation with ETV1 as a critical determinant. *Cell Rep.* 28: 2358-2372.
- Kellett, M.P., et al. 2022. Arsenic exposure impairs intestinal stromal cells. *Toxicol. Lett.* 361: 54-63.
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- Chang, J., et al. 2023. Vitamin E stabilizes iron and mitochondrial metabolism in pulmonary fibrosis. *Front. Pharmacol.* 14: 1240829.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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