SANTA CRUZ BIOTECHNOLOGY, INC.

PDGF-A (A-1): sc-390392

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, PDGF AB, and PDGF 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 α 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. The fact that receptors for DGF-A are expressed in oligodendrocyte progenitor cells whereas receptors for PDGF-B are expressed on neurons suggests that the different isoforms of PDGF may regulate growth and differentiation of different cell types in the developing central nervous system by paracrine and autocrine routes.

REFERENCES

1. Rorsman, F., et al. 1988. Structural characterization of the human platelet-derived growth factor A-chain cDNA and gene: alternative exon usage predicts two different precursor proteins. Mol. Cell. Biol. 8: 571-577.
2. Bonthron, D.T., et al. 1988. Platelet-derived growth factor A chain: gene structure, chromosomal location, and basis for alternative mRNA splicing. Proc. Natl. Acad. Sci. USA 85: 1492-1496.
3. Andersson, M., et al. 1992. Assignment of interchain disulfide bonds in platelet-derived growth factor (PDGF) and evidence for agonist activity of monomeric PDGF. J. Biol. Chem. 267: 11260-11266.
4. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 173430. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Perros, F., et al. 2008. Platelet-derived growth factor expression and function in idiopathic pulmonary arterial hypertension. Am. J. Respir. Crit. Care Med. 178: 81-88.
6. Soroceanu, L., et al. 2008. Platelet-derived growth factor-α receptor activation is required for human cytomegalovirus infection. Nature 455: 391-395.

CHROMOSOMAL LOCATION

Genetic locus: PDGFA (human) mapping to 7p22.3; Pdgfa (mouse) mapping to 5 G2.

SOURCE

PDGF-A (A-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 182-211 at the C-terminus of PDGF-A 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.

Blocking peptide available for competition studies, sc-390392 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PDGF-A (A-1) is recommended for detection of precursor and mature PDGF-A of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PDGF-A siRNA (h): sc-39703, PDGF-A shRNA Plasmid (h): sc-39703-SH and PDGF-A shRNA (h) Lentiviral Particles: sc-39703-V.

Molecular Weight of PDGF-A dimer: 31 kDa.

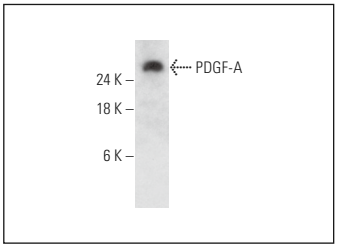
Molecular Weight of PDGF-A monomeric A chain: 17 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226.

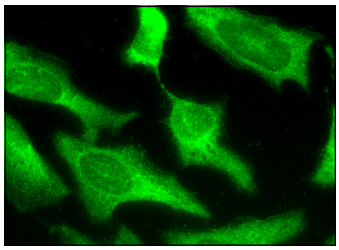
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



PDGF-A (A-1): sc-390392. Western blot analysis of PDGF-A expression in COLO 320DM whole cell lysate.



PDGF-A (A-1): sc-390392. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. Zhou, P., et al. 2014. MicroRNA-363-mediated downregulation of S1PR1 suppresses the proliferation of hepatocellular carcinoma cells. Cell. Signal. 26: 1347-1354.

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.