SANTA CRUZ BIOTECHNOLOGY, INC.

PDGFR-α (V-17): sc-31178

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 4q11-q13 and 5q31-32, 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.H., et al. 1989. Dimerization of B-type platelet-derived growth factor receptors occurs after ligand binding and is closely associated with receptor kinase activation. J. Biol. Chem. 264: 8905-8912.
4. Thornton, D.E., et al. 1991. Characterization of the 5q- breakpoint in an acute nonlymphocytic leukemia patient using pulsed-field gel electrophoresis. Am. J. Med. Genet. 41: 557-565.
5. Kaji, K. 1992. Function, molecular structure and gene expression regulation of Platelet-derived growth factor. Nippon Rinsho 50: 1902-1909.
6. Craven, R.J., et al. 1995. Receptor tyrosine kinases expressed in metastatic colon cancer. Int. J. Cancer 60: 791-797.

CHROMOSOMAL LOCATION

Genetic locus: PDGFRA (human) mapping to 4q11-q13; Pdgfra (mouse) mapping to 5 C3.3.

SOURCE

PDGFR-α (V-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of PDGFR-α precursor of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31178 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PDGFR-α (V-17) is recommended for detection of PDGFR-α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

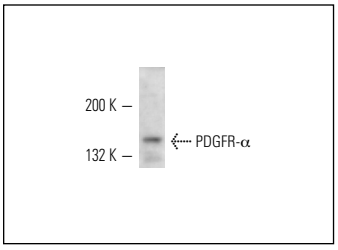
PDGFR-α (V-17) is also recommended for detection of PDGFR-α in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PDGFR-α siRNA (h): sc-29443, PDGFR-α siRNA (m): sc-29444, PDGFR-α siRNA (canine): sc-156092, PDGFR-α shRNA Plasmid (h): sc-29443-SH, PDGFR-α shRNA Plasmid (m): sc-29444-SH, PDGFR-α shRNA Plasmid (canine): sc-156092-SH, PDGFR-α shRNA (h) Lentiviral Particles: sc-29443-V, PDGFR-α shRNA (m) Lentiviral Particles: sc-29444-V and PDGFR-α shRNA (canine) Lentiviral Particles: sc-156092-V.

Molecular Weight of PDGFR-α: 170 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or NIH/3T3 whole cell lysate: sc-2210.

DATA



PDGFR-α (V-17): sc-31178. Western blot analysis of PDGFR-α expression in HeLa whole cell lysate.

STORAGE

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

PROTOCOLS

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