SANTA CRUZ BIOTECHNOLOGY, INC.

# PDGFR-β (M-20): sc-1627

## 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. 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.

## CHROMOSOMAL LOCATION

Genetic locus: PDGFRB (human) mapping to 5q32; Pdgfrb (mouse) mapping to 18 E1.

## SOURCE

PDGFR-β (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PDGFR-β of mouse origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1627 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PDGFR-β (M-20) is recommended for detection of PDGFR-β of mouse, rat and, to a lesser extent, 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).

Suitable for use as control antibody for PDGFR-β siRNA (h): sc-29442, PDGFR-β siRNA (m): sc-36200, PDGFR-β shRNA Plasmid (h): sc-29442-SH, PDGFR-β shRNA Plasmid (m): sc-36200-SH, PDGFR-β shRNA (h) Lentiviral Particles: sc-29442-V and PDGFR-β shRNA (m) Lentiviral Particles: sc-36200-V.

Molecular Weight of PDGFR-β: 180-190 kDa.

Positive Controls: 3611-RF whole cell lysate: sc-2215 or NIH/3T3 nuclear extract: sc-2138.

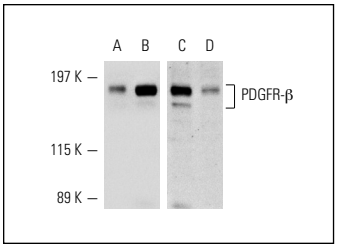
## STORAGE

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

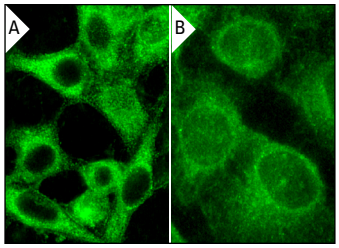
## RESEARCH USE

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

## DATA




Western blot analysis of PDGFR-β expression in rodent 3611-RF (**A**,**C**) and human CCD-1064Sk (**B**,**D**) fibroblast cell lines. Antibodies tested include PDGFR-β (P-20)-G: sc-339-G (**A**,**B**) and PDGFR-β (M-20): sc-1627 (**C**,**D**).




PDGFR-β (M-20): sc-1627. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**) and HeLa cells showing membrane and cytoplasmic localization (**B**).

## SELECT PRODUCT CITATIONS


1. Erlandsson, A., et al. 2001. Immature neurons from CNS stem cells proliferate in response to platelet-derived growth factor. J. Neurosci. 21: 3483-3491.
2. Song, Y.H., et al. 2005. Ribozymes against TGFβ1 reverse character of activated hepatic stellate cells *in vitro* and inhibit liver fibrosis in rats. J. Gene Med. 7: 965-976.
3. Raafat, A., et al. 2007. Kit and PDGFR-α activities are necessary for Notch-4/Int3-induced tumorigenesis. Oncogene 26: 662-672.
4. Fujigaki, Y., et al. 2007. Immunohistochemical study on caveolin-1α in regenerating process of tubular cells in gentamicin-induced acute tubular injury in rats. Virchows Arch. 450: 671-681.
5. Fernandez, M., et al. 2007. Reversal of portal hypertension and hyperdynamic splanchnic circulation by combined vascular endothelial growth factor and platelet-derived growth factor blockade in rats. Hepatology 46: 1208-1217.
6. Fürst, R., et al. 2010. The *Crataegus* extract WS 1442 inhibits balloon catheter-induced intimal hyperplasia in the rat carotid artery by directly influencing PDGFR-β. Atherosclerosis 211: 409-417.
7. Cambien, B., et al. 2011. CCL5 neutralization restricts cancer growth and potentiates the targeting of PDGFRβ in colorectal carcinoma. PLoS ONE 6: e28842.
8. Andrianifahanana, M., et al. 2013. Profibrotic TGFβ responses require the cooperative action of PDGF and ErbB receptor tyrosine kinases. FASEB J. 27: 4444-4454.