

# p-PDGFR- $\alpha$ (Tyr 720): sc-12910

## 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,  $\alpha$  and  $\beta$ , which are endowed with protein tyrosine kinase domains and undergo either homo- or hetero-dimerization as a consequence of ligand binding. Following binding of PDGF, the PDGFR- $\alpha$  becomes phosphorylated in its kinase insert domain at Tyr 720. Phosphorylation of PDGFR- $\alpha$  at Tyr 720 is required for the association of SHP-2 and GRB2. In the PDGFR- $\alpha/\beta$  heterodimer, the  $\alpha$ -receptor is phosphorylated at Tyr 754. Phosphorylation of Tyr 754 permits the binding of specific signal transduction molecules, thereby initiating signal-transduction pathways from the PDGFR- $\alpha/\beta$  heterodimer.

## 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.
- 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.
- Rupp, E., et al. 1994. A unique autophosphorylation site in the platelet-derived growth factor  $\alpha$  receptor from a heterodimeric receptor complex. *Eur. J. Biochem.* 225: 29-41.
- Bazenet, C.E., et al. 1996. Phosphorylation of tyrosine 720 in the platelet-derived growth factor  $\alpha$  receptor is required for binding of GRB2 and SHP-2 but not for activation of Ras or cell proliferation. *Mol. Cell Biol.* 16: 6926-6936.

## CHROMOSOMAL LOCATION

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

## SOURCE

p-PDGFR- $\alpha$  (Tyr 720) is available as either goat (sc-12910) or rabbit (sc-12910-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing phosphorylated Tyr 720 of PDGFR- $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12910 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

p-PDGFR- $\alpha$  (Tyr 720) is recommended for detection of Tyr 720 phosphorylated PDGFR- $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2  $\mu$ g per 100–500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PDGFR- $\alpha$  siRNA (h): sc-29443 and PDGFR- $\alpha$  siRNA (h): sc-29443.

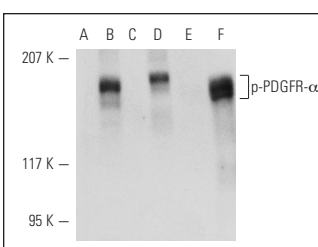
Molecular Weight of p-PDGFR- $\alpha$ : 185 kDa.

Positive Controls: A-431-EGF whole cell lysate: sc-2202, CCD-1064Sk-PDGF cell lysate: sc-2264 or NIH/3T3 whole cell lysate: sc-2210.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-12910): use donkey anti-goat IgG-HRP: sc-2020 (range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (range: 1:2000-1:5000), for rabbit primary antibody (sc-12910-R): use goat anti-rabbit IgG-HRP: sc-2004 (range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (range: 1:2000-1:5000); Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) 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: for goat primary antibody (sc-12910): use donkey anti-goat IgG-FITC: sc-2024 (range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (range: 1:100-1:400), for rabbit primary antibody (sc-12910-R): use goat anti-rabbit IgG-FITC: sc-2012 (range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



p-PDGFR- $\alpha$  (Tyr 720)-R: sc-12910-R. Western blot analysis of PDGFR- $\alpha$  phosphorylation in untreated (A,C) and PDGF treated (B,D) CCD-1064Sk (A,B) and NIH/3T3 (C,D); and untreated (E) and EGF treated (F) A-431 whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.