

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Rat                                                                                                                                                                                                                                                                         |
| <b>Specificity</b>        | Detects rat PDGF-AA in direct ELISAs and Western blots. In direct ELISAs, 5-35% cross-reactivity with recombinant rat (rr) PDGF-AB, recombinant human (rh) PDGF-AA, and rhPDGF-AB is observed and no cross-reactivity with rrPDGF-BB, rhPDGF-BB.                            |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2B</sub> Clone # 184805                                                                                                                                                                                                                           |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant rat PDGF-AA<br>Ser87-Arg196<br>Accession # AAB59693                                                                                                                                                                                     |
| <b>Conjugate</b>          | Alexa Fluor 700<br>Excitation Wavelength: 675-700 nm<br>Emission Wavelength: 723 nm                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

## BACKGROUND

The platelet-derived growth factor (PDGF) family consists of proteins derived from four genes (PDGF-A, -B, -C, and -D) that form four disulfide-linked homodimers (PDGF-AA, -BB, -CC, and -DD) and one heterodimer (PDGF-AB) (1, 2). These proteins regulate diverse cellular functions by binding to and inducing the homo- or hetero-dimerization of two receptors (PDGF R $\alpha$  and R $\beta$ ). Whereas  $\alpha/\alpha$  homo-dimerization is induced by PDGF-AA, -BB, -CC, and -AB,  $\alpha/\beta$  hetero-dimerization is induced by PDGF-AB, -BB, -CC, and -DD, and  $\beta/\beta$  homo-dimerization is induced only by PDGF-BB, and -DD (1-4). Both PDGF R $\alpha$  and R $\beta$  are members of the class III subfamily of receptor tyrosine kinases (RTK) that have five immunoglobulin-like domains in their extracellular region and a split kinase domain in their intracellular region. Ligand-induced receptor dimerization results in autophosphorylation in trans resulting in the activation of several intracellular signaling pathways that can lead to cell proliferation, cell survival, cytoskeletal rearrangement, cell migration and extracellular matrix production. Rat PDGF-A chain cDNA encodes a 204 amino acid (aa) residue precursor protein with a 20 aa signal peptide, a 65 aa propeptide that is removed by proteolysis, and a 119 aa mature protein. By alternative splicing, a short form lacking 8 C-terminal aa residues also exists. The long form contains the 8 aa basic insert which promotes intracellular cell retention and association with cell matrix. PDGF-A is expressed in multiple cell types and tissues. Based on PDGF-A knockout studies, PDGF-A appears to be important for the development of oligodendrocytes, testicular Leydig cells, alveolar smooth muscle cells, hair follicles and intestinal villus (1).

## PRODUCT SPECIFIC NOTICES

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