

## DESCRIPTION

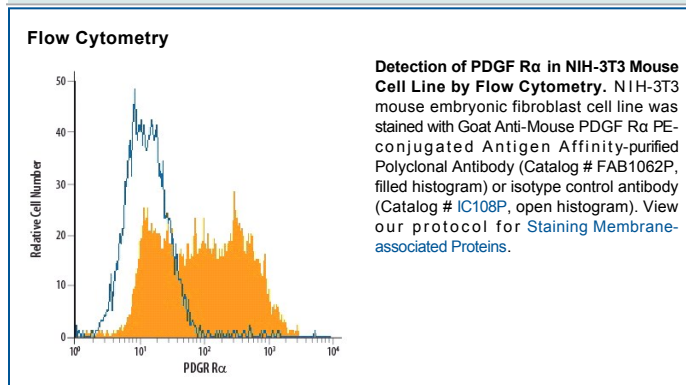
|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Mouse  |
| <b>Specificity</b>        | Detects mouse PDGF R $\alpha$ in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) PDGF R $\alpha$ , rhPDGF R $\beta$ , and recombinant mouse PDGF R $\beta$ is observed.   |
| <b>Source</b>             | Polyclonal Goat IgG  |
| <b>Purification</b>       | Antigen Affinity-purified  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant mouse PDGF R $\alpha$ Leu25-Glu524 (Asp65Glu, Gly439Ala, Thr440Ala)<br>Accession # P26618  |
| <b>Conjugate</b>          | Phycoerythrin<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 565-605 nm  |
| <b>Formulation</b>        | Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.<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.

|                       | <b>Recommended Concentration</b> | <b>Sample</b> |
|-----------------------|----------------------------------|---------------|
| <b>Flow Cytometry</b> | 10 $\mu$ L/10 <sup>6</sup> cells | See Below     |

## DATA



## 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 disulfide-linked homodimers (PDGF-AA, -BB, -CC, and -DD) and a heterodimer (PDGF-AB) (1, 2). These proteins regulate diverse cellular functions by binding to and inducing the homo- or heterodimerization 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 also includes the receptors for M-CSF, SCF, and Flt-3 ligand. All class III RTKs are characterized by the presence of 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, and cell migration. Many cell types, including fibroblasts and smooth muscle cells, express both the  $\alpha$  and  $\beta$  receptors. Others have only the  $\alpha$  receptors (oligodendrocyte progenitor cells, mesothelial cells, liver sinusoidal endothelial cells, astrocytes, platelets, and megakaryocytes) or only the  $\beta$  receptors (myoblasts, capillary endothelial cells, pericytes, T cells, myeloid hematopoietic cells, and macrophages) (1, 2). Recombinant mouse and human soluble PDGF R $\beta$  bind PDGF with high affinity and are potent PDGF antagonists.

## References:

1. Betsholtz, C. *et al.* (2001) *BioEssays* **23**:494.
2. Ostman, A. and A.H. Heldin (2001) *Advances in Cancer Research* **80**:1.
3. Gilbertson, D. *et al.* (2001) *J. Biol. Chem.* **276**:27406.
4. LaRochells, W.J. *et al.* (2001) *Nature Cell Biol.* **3**:517.