Mouse PDGF Rα
Alexa Fluor® 488-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: FAB1062G
100 TESTS

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse PDGF Rα in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) PDGF Rα, rhPDGF Rβ, and recombinant mouse PDGF Rβ is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse PDGF Rα Leu25-Glu524 (Asp65Glu, Gly439Ala, Thr440Ala) Accession # P26618
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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.

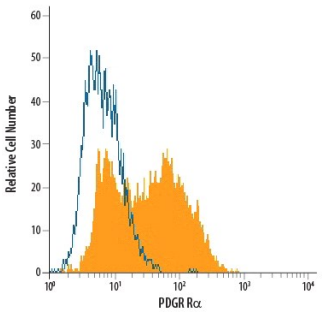
APPLICATIONS

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.*

	Recommended Concentration	Sample
Flow Cytometry	5 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of PDGF Rα in NIH-3T3 Mouse Cell Line by Flow Cytometry. NIH-3T3 mouse embryonic fibroblast cell line was stained with Goat Anti-Mouse PDGF Rα Alexa Fluor® 488-conjugated Antigen Affinity-purified Polyclonal Antibody (Catalog # FAB1062G, filled histogram) or isotype control antibody (Catalog # IC108G, open histogram). View our protocol for Staining Membrane-associated Proteins.

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 hetero-dimerization of two receptors (PDGF Rα and Rβ). Whereas α/α homo-dimerization is induced by PDGF-AA, -BB, -CC, and -AB, α/β hetero-dimerization is induced by PDGF-AB, -BB, -CC, and -DD, and β/β homo-dimerization is induced only by PDGF-BB and -DD (1-4). Both PDGF Rα and Rβ 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 α and β receptors. Others have only the α receptors (oligodendrocyte progenitor cells, mesothelial cells, liver sinusoidal endothelial cells, astrocytes, platelets, and megakaryocytes) or only the β receptors (myoblasts, capillary endothelial cells, pericytes, T cells, myeloid hematopoietic cells, and macrophages) (1, 2). Recombinant mouse and human soluble PDGF Rβ 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.

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