Human PDGF Antibody

Polyclonal Rabbit IgG
Catalog Number: AB-20-NA

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human PDGF in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant human (rh) PDGF–AA, 60% cross-reactivity with rhPDGF-AB, and nearly 100% cross-reactivity with rhPDGF-BB is observed.
Source	Polyclonal Rabbit IgG
Purification	Protein A or G purified
Immunogen	Human platelet-derived PDGF
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

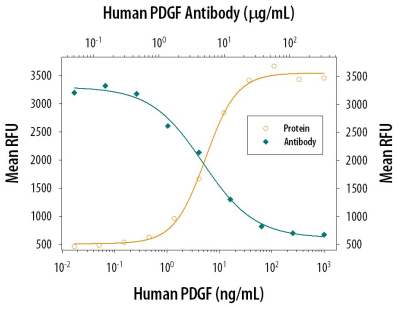
APPLICATIONS

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
Western Blot	1 µg/mL	Human PDGF (Catalog # 120-HD) under non-reducing conditions only
Neutralization	Measured by its ability to neutralize PDGF-induced proliferation in the NR6R-3T3 mouse fibroblast cell line [Rizzino, A. *et al.* (1988) Cancer Res. **48**:4266]. The Neutralization Dose (ND_{50}) is typically 5-10 µg/mL in the presence of 10 ng/mL Human PDGF.	

DATA

Neutralization



Cell Proliferation Induced by PDGF and Neutralization by Human PDGF Antibody. Human PDGF (Catalog # 120-HD) stimulates proliferation in the NR6R-3T3 mouse fibroblast cell line in a dose-dependent manner (orange line). Proliferation elicited by Human PDGF (10 ng/mL) is neutralized (green line) by increasing concentrations of Rabbit Anti-Human PDGF Polyclonal Antibody (Catalog # AB-20-NA). The ND_{50} is typically 5-10 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

PDGF was originally discovered as a major mitogenic factor in serum but not in plasma. PDGF is stored in platelet α granules and released upon platelet activation. Besides megakaryocytes, other cell types, including endothelial cells, monocyte/macrophages, vascular smooth muscle cells, fibroblasts, cytotrophoblasts and a variety of transformed or neoplastic cells, have been shown to produce PDGF. PDGFs are disulfide-linked dimers. The subunits of the PDGF dimers are homologous polypeptides designated PDGF-A and PDGF-B chains. Natural PDGFs can exist either as homodimers (PDGF-AA, PDGF-BB) or heterodimers (PDGF-AB). Although all three isoforms of PDGF exist in human platelets, R&D Systems hPDGF consists predominantly of hPDGF-AB heterodimers.

Two distinct PDGF receptors, the α-receptor and the β-receptor, have been identified. The two receptors are structurally related, with an extracellular portion containing five immunoglobulin-like domains, a single transmembrane region, and an intracellular portion with a protein-tyrosine kinase domain. The α-receptor binds both the A and B chains with high affinity whereas the β-receptor binds only the B-chain with high affinity. Receptor dimerization is induced upon ligand binding.

In addition to being a potent mitogen for cells of mesenchymal origin, PDGF has also been shown to be a potent chemoattractant for mesenchymal cells, mononuclear cells and neutrophils and has been reported to be important in the modification of cellular matrix constituents.