

Product Information

Platelet-Derived Growth Factor-AB human Recombinant, expressed in *Escherichia coli*

Catalog Number **P3326**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Product Description

Platelet Derived Growth Factor (PDGF) is the principle mitogen present in serum for cells of mesenchymal origin.¹ PDGF from human platelets exists as a mixture of four glycoproteins with a molecular mass range of 27–31 kDa and a pI range of 9.5–10.4.^{2,3} Each PDGF molecule is comprised of two covalently linked subunits designated as chains A (16 kDa) and B (14 kDa). In platelets, ~70% of the PDGF is present as the AB dimer with most of the remainder as the BB dimer.⁴ Chains A and B are 40% homologous in amino acid sequence and each chain contains 8 cysteine residues, which are involved in disulfide bonds.⁵

Cellular actions of PDGF include chemoattraction and activation of neutrophils, monocytes, and fibroblasts.^{3,6} PDGF appears to play a crucial role in the cellular response to tissue injury⁷ and is critically involved in the pathological progression of atherosclerosis.⁸ Also, abnormal cellular expression of PDGF is associated with certain malignant transformations.^{9,10} Natural human PDGF activates two distinct receptors, designated α (which binds to either the A or B chain) and β (which binds only to the B chain).¹¹ Binding of either PDGF receptor to its ligand induces receptor autophosphorylation at a tyrosine residue, which then becomes detectable by immunoreaction to Mouse Monoclonal Anti-Phosphotyrosine (Catalog Number P3300).

Recombinant, human PDGF-AB is the heterodimer of the A and B chains of human PDGF expressed in *Escherichia coli* and the protein is refolded, dimerized, and purified by sequential chromatography.

This product is lyophilized from a 0.2 μm filtered solution of 40% acetonitrile and 0.1% trifluoroacetic acid.

Purity: $\geq 97\%$ (SDS-PAGE and N-terminal analysis)

The biological activity of PDGF-AB was tested in culture by measuring its ability to stimulate ^3H -thymidine incorporation in NR6R-3T3 fibroblasts.¹² The EC_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Preparation Instructions

Reconstitute the contents of the vial using 0.2 μm filtered 4 mM HCl containing 0.1% BSA or HSA to prepare a working stock solution. If aseptic technique is used, additional filtration should not be necessary and should be avoided due to possible adsorption onto the filter membrane.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store the product at $-20\text{ }^{\circ}\text{C}$.

After reconstitution, store at $2\text{--}8\text{ }^{\circ}\text{C}$ for no more than 3 months. For extended storage, freeze in working aliquots at $-20\text{ }^{\circ}\text{C}$. Because of its extreme hydrophobic nature, reconstituted PDGF-AB should not be stored in a glass container. Prolonged storage and repeated freezing and thawing is **not** recommended.

References

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