

DESCRIPTION

Source	<i>E. coli</i> -derived rat PDGF-AB protein
	<div style="border: 1px solid black; padding: 5px; margin: 5px;"> Rat PDGF-A (Ser87 - Arg196) Accession # AAB59693.1 </div> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> Rat PDGF-B (Ser74 - Thr182) Accession # Q05028.1 </div>
	N-terminus C-terminus

N-terminal Sequence Analysis Ser87 (A chain) & Ser74 (B chain)

Structure / Form Disulfide-linked heterodimer

Predicted Molecular Mass 24.8 kDa

SPECIFICATIONS

Activity	Measured in a cell proliferation assay using NR6R-3T3 mouse fibroblast cells. Raines, E.W. <i>et al.</i> (1985) <i>Methods Enzymol.</i> 109 :749. The ED ₅₀ for this effect is 1-3 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>97%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in Acetonitrile and Na ₂ HPO ₄ . See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile 4 mM HCl.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Platelet-derived growth factor (PDGF) family of mesenchymal mitogenic factors consists of four homodimers (PDGF-AA, PDGF-BB, PDGF-CC and PDGF-DD) and one heterodimer (PDGF-AB). These proteins are expressed by a number of different cells and tissues including endothelial cells, epithelial cells, hematopoietic cells, connective tissue, nervous tissue, brain, muscle, kidney and liver. PDGF expression is highly regulated with PDGF levels increasing following injury and/or disease. An analysis of PDGF purified from human platelets suggest that approximately 70% of sera-derived PDGF is PDGF-AB (1).

PDGF isoforms exert their cellular effect by binding to the structurally similar receptor tyrosine kinases PDGF receptor-α and PDGF receptor-β. PDGF-AB binding induces receptor dimerization resulting in αα receptor homodimers and αβ receptor heterodimers. Binding of PDGF receptors has been reported to result in stimulation of mitogenicity and chemotaxis of fibroblasts, stimulation of granule release by neutrophils and monocytes, facilitation of steroid synthesis by Leydig cells, stimulation of neutrophil phagocytosis, stimulation of collagen, fibronectin, proteoglycan, and hyaluronic acid synthesis, modulation of thrombospondin expression and secretion, stimulation of collagenase activity and secretion, induction of contraction of rat aorta strips *in vitro*, and transient induction of T cell IL-2 secretion accompanied by a down-regulation of IL-4 and IFN-γ production (2).

References:

1. Raines, E.W. (2001) in *Cytokine Reference*, J.J. Oppenheim and M. Feldmann, chief editors, Academic Press, San Diego, California, pp. 755.
2. Heldin, C-H, Eriksson, U. and Ostman, A. (2002) *Arch. Biochem. Biophys.* **398**:284.