

**DESCRIPTION**

<b>Source</b>	<i>E. coli</i> -derived Ser82-Thr190 Accession # Q6FHE7
<b>N-terminal Sequence Analysis</b>	Ser82
<b>Structure / Form</b>	Disulfide-linked homodimer
<b>Predicted Molecular Mass</b>	12.3 kDa (monomer)

**SPECIFICATIONS**

<b>SDS-PAGE</b>	12 kDa, reducing conditions
<b>Activity</b>	Measured in a cell proliferation assay using NR6R-3T3 mouse fibroblast cells. Raines, E.W. <i>et al.</i> (1985) <i>Methods Enzymol.</i> <b>109</b> :749. The ED <sub>50</sub> for this effect is typically 1.5-6 ng/mL. The specific activity of Recombinant Human PDGF-BB is approximately 5.8 x 10 <sup>3</sup> IU/μg, which is calibrated against recombinant human PDGF-BB WHO International Standard (NIBSC code: 94/728).
<b>Endotoxin Level</b>	<1.0 EU per 1 μg of the protein by the LAL method.
<b>Purity</b>	>97%, by SDS-PAGE under reducing conditions and visualized by silver stain.
<b>Formulation</b>	Lyophilized from a 0.2 μm filtered solution in Acetonitrile and TFA. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

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

**DATA**

**SDS-PAGE**

1 μg/lane of Recombinant Human PDGF-BB was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing single bands at 13 kDa and 28 kDa, respectively.

**Bioactivity**

Recombinant Human PDGF-BB (Catalog # 220-BB) stimulates cell proliferation in the NR6R-3T3 mouse fibroblast cell line in a dose-dependent manner. The ED<sub>50</sub> for this effect is typically 1.5-6 ng/mL.

**BACKGROUND**

Platelet-derived growth factor (PDGF) was discovered as a major mitogenic factor present in serum but absent from plasma. It was found to be secreted from the α-granules of platelets activated during the coagulation of blood to form serum. Subsequent studies have demonstrated that PDGF is not one molecule but three, each a dimeric combination of two distinct but structurally related peptide chains designated A and B. The dimeric isoforms PDGF-AA, AB and BB are differentially expressed in various cell types and their effects are mediated through two distinct receptors, termed α and β. Differences exist in isoform binding to each receptor. In general, PDGF isoforms are potent mitogens for connective tissue cells, including dermal fibroblasts, glial cells, arterial smooth muscle cells and some epithelial and endothelial cells. In addition to its activity as a mitogen, PDGF is chemotactic for fibroblasts, smooth muscle cells, neutrophils and mononuclear cells. Other reported activities for PDGF include stimulation of granule release by neutrophils and monocytes, facilitation of steroid synthesis by Leydig cells, stimulation of neutrophil phagocytosis, inhibition of natural killer (NK) cell activity, stimulation of collagen 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, temporary effects that may allow clonal expansion of antigen-activated B and T helper lymphocytes prior to differentiation. PDGF also appears to be ubiquitous in neurons throughout the CNS, where it is suggested to play an important role in neuron survival and regeneration, and in mediation of glial cell proliferation and differentiation.