

**Background**

Platelet-derived growth factor subunit B is a protein that in humans is encoded by the *PDGFB* gene (1,2). The protein is a member of the platelet-derived growth factor family. The four members of this family are mitogenic factors for cells of mesenchymal origin and are characterized by a motif of eight cysteines. This gene product can exist either as a homodimer (PDGF-BB) or as a heterodimer with the platelet-derived growth factor alpha polypeptide (PDGF-AB), where the dimers are connected by disulfide bonds. Mutations in this gene are associated with meningioma. Reciprocal translocations between chromosomes 22 and 17, at sites where this gene and that for *COL1A1* are located, are associated with a particular type of skin tumor called dermatofibrosarcoma protuberans resulting from unregulated expression of growth factor. Two splice variants have been identified for this gene.

Though it is synthesized, stored and released by platelets upon activation, it is produced by a plethora of cells including smooth muscle cells, activated macrophages, and endothelial cells. PDGFs are mitogenic during early developmental stages, driving the proliferation of undifferentiated mesenchyme and some progenitor populations. During later maturation stages, PDGF signalling has been implicated in tissue remodelling and cellular differentiation, and in inductive events involved in patterning and morphogenesis. In addition to driving mesenchymal proliferation, PDGFs have been shown to direct the migration, differentiation and function of a variety of specialised mesenchymal and migratory cell types, both during development and in the adult animal (3).

**Reference**

1. Ratner L, et al. (Sep 1985). *Nucleic Acids Res* **13** (14): 5007–18.
2. Clements JM, et al. (Jan 1992). *EMBO J* **10** (13): 4113–20.
3. Hoch RV, Soriano P (2003). *Development* **130** (20): 4769–4784.



## Recombinant Porcine PDGF-BB Protein DataSheet

Catalog Number: GR104253

### Description

**Source:** E. coli derived

**Component:** aa82 –aa190

**N-terminal Sequence Analysis:** Ser82

**Structure/Form:** Disulfide-linked homodimer

**Predicted Molecular Mass:** 12.3 kDa (monomer)

### Specifications

**SDS-PAGE:** 13 kDa, reducing conditions

**Activity** Measured in a cell proliferation assay using NR6R-3T3 mouse fibroblast cells. Raines, E.W. et al. (1985) Methods Enzymol 109:749. The ED50 for this effect is typically 1-5 ng/mL.

**Endotoxin Level:** <1.0 EU per 1 µg of the protein by the LAL method.

**Purity:** >97%, by SDSPAGE under reducing conditions and visualized by silver stain.

**Formulation:** Lyophilized from a 0.2 µm filtered solution in Acetonitrile and TFA with BSA as a carrier protein.

### Preparation and Storage

**Reconstitution:** Reconstitute at 50-100 µg/mL in sterile PBS.

**Shipping:** The product is shipped at ambient temperature or with wet ice. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage:** Use a manual defrost freezer and avoid repeated freeze thaw cycles.

- 6 months from date of receipt, -20 to -70°C as supplied.
- 2 months, -20 to -70°C under sterile conditions after reconstitution.

### DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

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