

## Recombinant Human PDGF-BB Protein

**Catalog Number: GMP-TL644**

### Product Name

Generic Name	Recombinant Human PDGF-BB Protein
Synonym	PDGFBB (Platelet-Derived Growth Factor-BB), PDGFB, FLJ12858, PDGF2, SIS, SSV, c-sis, Glioma-derived growth factor (GDGF), Osteosarcoma-derived Growth Factor (ODGF).

### Product Information

Protein sequence	A DNA sequence encoding the human PDGF-BB (GenBank: CAA45383.1) was expressed with a polyhistidine tag at the C-terminus.
Expression Host	HEK293 cells
QC Testing Purity	> 90 % as determined by SDS-PAGE
Activity	Determined by the dose-dependent stimulation of the proliferation of Balb/c 3T3 cells. The expected ED <sub>50</sub> for this effect is $\leq$ 100 ng/mL.
Endotoxin Level	< 0.1 EU per $\mu$ g of the protein as determined by the LAL method.
Molecular Mass	The Recombinant Human PDGF-BB consists of 115 amino acids and predicts a molecular mass of 13.1 kD.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 6% mannitol are added as protectants before lyophilization. 24 months at 2 °C to 8 °C in lyophilized state. 6 months at -20 °C under sterile conditions after reconstitution.
Stability & Storage	12 months at -80 °C under sterile conditions after reconstitution. Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100 $\mu$ g/mL. Avoid repeated freeze-thaw cycles.

### Background

PDGFs are disulfide-linked dimers consisting of two 12.0-13.5 kDa polypeptide chains, designated PDGF-A and PDGF-B chains. The three naturally occurring PDGFs, PDGF-AA, PDGF-BB and PDGF-AB, are potent mitogens for a variety of cell types, including smooth muscle cells, connective tissue cells, bone and cartilage cells, and some blood cells. The PDGFs are stored in platelet  $\alpha$ -granules and are released upon platelet activation. The PDGFs are involved in a number of biological processes, including hyperplasia, chemotaxis, embryonic neuron development, and respiratory tubule epithelial cell development. Two distinct signaling receptors of PDGFs have been identified and named PDGFR- $\alpha$  and PDGFR- $\beta$ . PDGFR- $\alpha$  is a high-affinity receptor for each of the three PDGF forms. On the other hand, PDGFR- $\beta$  interacts only with PDGF-BB and PDGF-AB.

### References

1. Linking cell function with perfusion: insights from the transcatheter delivery of bone marrow-derived CD133+ cells in ischemic refractory cardiomyopathy trial (RECARDIO). Bassetti B, Carbuicchio C, Catto V, Gambini E, Rurali E, Bestetti A, Gaipa G, Belotti D, Celeste F, Parma M, Righetti S, Biava L, Arosio M, Bonomi A, Agostoni P, Scacciattella P, Achilli F, Pompilio G. *Stem Cell Res Ther.* 2018 Sep 14;9(1):235. doi: 10.1186/s13287-018-0969-z.

2. Validation of Matrix Metalloproteinase-9 (MMP-9) as a Novel Target for Treatment of Diabetic Foot Ulcers in Humans and Discovery of a Potent and Selective Small-Molecule MMP-9 Inhibitor that Accelerates Healing. Nguyen TT, Ding D, Wolter WR, Perez RL, Champion MM, Mahasenan KV, Hesk D, Lee M, Schroeder VA, Jones JJ, Lastochkin E, Rose MK, Peterson CE, Suckow MA, Mobashery S, Chang M.J Med Chem. 2018 Sep 13. doi: 10.1021/acs.jmedchem.8b01005.