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1. Description

Products	Human PDGF-BB IS, research grade. Recombinant human platelet derived growth factor BB IS (improved sequence).						
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10	130-108-165						
25	130-108-164						
Biological activity	The ED ₅₀ is ≤2 ng/mL corresponding to an activity of ≥5×10 ⁵ IU/mg. Note: The ED ₅₀ is determined by dose-dependent stimulation of the proliferation of BALB/c 3T3 cells. The proliferation assay was calibrated with the international standard for human PDGF-BB (NIBSC code 94/728) provided by the WHO/National Institute for Biological Standards and Control.						
Primary structure	Two identical covalently-linked glycosylated polypeptide chains (109 amino acid residues each) with an Arg-Ser and Arg-Pro substitution at amino acid position 28 and 32, respectively.						
Molecular mass	24.3 kDa (dimer).						
Source	Produced in <i>Pichia pastoris</i> .						
Product format	Lyophilized from a filtered (0.2 µm) buffer solution.						
Stabilizer	Mannitol and trehalose.						
Purity	>95% as determined by SDS-PAGE analysis.						
Endotoxin level	Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.						
Storage	Lyophilized Human PDGF-BB IS, research grade should be stored at -20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at -20 °C or below. Avoid repeated freeze-thaw cycles.						
Reconstitution	It is recommended to reconstitute lyophilized Human PDGF-BB IS, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.						

1.1 Background information

Platelet-derived growth factor-BB (PDGF-BB) is a dimeric protein composed by two identical B subunits, it belongs to the PDGF family together with the two receptors PDGFRα and PDGFRβ. PDGF-BB binds PDGFRβ with the highest affinity. It regulates mesenchymal cell growth, morphogenesis, and migration, especially during angiogenesis and glial cell proliferation. A dysregulation of PDGF was shown in diseases such as diabetes, and in deficit of bone formation and reparation. Human PDGF-BB IS is an engineered PDGF-BB variant retaining the same biological properties as natural occurring PDGF-BB.

1.2 Applications

Human PDGF-BB IS can be used for a variety of applications, including:

- MSC culture and investigation of MSC development.
- Studies of angiogenesis.

Optimal concentration for a specific application should be determined by a dose-response experiment.

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