Sterile

#8912

**Human Platelet-Derived Growth Factor BB (hPDGF-BB)**

**Source:** Recombinant human PDGF-BB (hPDGF-BB) Ser82-Thr190 (Accession #NP_002599) was produced in E. coli at Cell Signaling Technology.

**Molecular Characterization:** Recombinant hPDGF-BB does not have a Met on the amino terminus and has a calculated MW of 12,294. DTT-reduced protein migrates as a 14 kDa polypeptide and the non-reduced cystine-linked homodimer migrates as a 32 kDa protein. The expected amino-terminal SLGSL of recombinant hPDGF-BB was verified by amino acid sequencing.

**Endotoxin:** Less than 0.01 ng endotoxin/1 μg hPDGF-BB.

**Purity:** >98% as determined by SDS-PAGE of 6 μg reduced (+) and non-reduced (-) recombinant hPDGF-BB. All lots are greater than 98% pure.

**Formulation:**
- **With carrier:** Lyophilized from a 0.22 μm filtered solution of 20 mM citrate, pH 3.0 containing 100 mM NaCl and 20 μg BSA per 1 μg hPDGF-BB.
- **Carrier free:** Lyophilized from a 0.22 μm filtered solution of 20 mM citrate, pH 3.0 containing 100 mM NaCl.

**Reconstitution:**
- **With carrier:** Add sterile 20 mM citrate, pH 3.0 to a final hPDGF-BB concentration of greater than 50 μg/ml. Solubilize for 30 minutes at room temperature with occasional gentle vortexing.
- **Carrier free:** Add sterile 20 mM citrate, pH 3.0 or 20 mM citrate, pH 3.0 containing protein to minimize absorption of hPDGF-BB to surfaces. Solubilize for 30 minutes at room temperature with occasional gentle vortexing. Stock hPDGF-BB should be greater than 50 μg/ml.

**Storage:** Stable in lyophilized state at 4ºC for 1 year after receipt. Sterile stock solutions reconstituted with carrier protein are stable at 4ºC for 2 months and at -20ºC for 6 months. Avoid repeated freeze-thaw cycles.

**Applications:** Optimal concentration for the desired application should be determined by the user.

**Background:**
- PDGF-BB is a cystine-linked homodimer PDGF family member with key roles in development, cell proliferation, cell survival, and angiogenesis (1,2). PDGF-BB is expressed by vascular endothelium, megakaryocytes and Leydig cells (2). PDGF-BB targets pericytes, fibroblasts, monocytes and other cell types (1-3). PDGF induces fibroblast growth and migration (3) and is a chemoattractant for monocytes and granulocytes. Precursor PDGF-BB is cleaved intracellularly to generate a form that contains a carboxy-terminal stretch that serves to retain PDGF-BB in the extracellular matrix. In a second cleavage event, the carboxy-terminal stretch is removed extracellularly to generate mature PDGF-BB (1,2). PDGF-BB binds to PDGFRβ and induces receptor dimerization. Signaling is through the PI3K/Akt, JNK, and PLCγ pathways (1, 2). PDGF-BB may have a role in some cancer types (2).

**Background References:**

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