Biotinylated Recombinant Human PDGF-BB

Catalog Number: BT220/CF

DESCRIPTION

Source	*E. coli*-derived Ser82-Thr190 Accession # Q6FHE7
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	12 kDa

SPECIFICATIONS

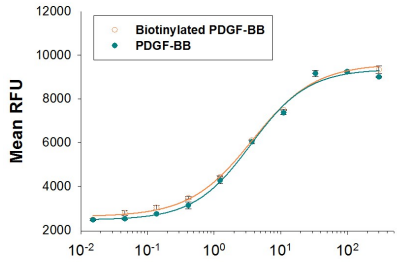
SDS-PAGE	12 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using NR6R-3T3 mouse fibroblast cells. Raines, E.W. *et al.* (1985) Methods Enzymol. **109**:749. The ED_{50} for this effect is typically 1.5-6 ng/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE with silver staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in HCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in 4 mM HCl.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity



Both Biotinylated Recombinant Human PDGF-BB (Catalog # BT220/CF) and unlabeled Recombinant Human PDGF-BB (Catalog # 220-BB/CF) stimulate NR6R-3T3 mouse fibroblast cell proliferation. The ED_{50} for this effect is typically 1.5-6 ng/mL. The similarity in activity highlights that the biotinylated protein is fully functional.

BACKGROUND

Platelet-Derived Growth Factor (PDGF)-BB is synthesized as a 35 kDa, 241 amino acid (aa) prepro-precurser. It contains a signal peptide, an N-terminal prodomain, a mature region, and a C-terminal prodomain (1-4). The propercursor is initially dimerized and then intracellulary processed twice. The N-terminal prodomain is cleaved first, followed by cleavage of the C-terminal prodomain. The resulting mature region is 16-17 kDa in size (or 29-32 kDa as a homodimer) (4). Mature human PDGF-B shares 89% aa sequence identity with mouse mature PDGF-B. PDGF-BB is expressed by hepatocytes and nonresorbing osteoclasts, generating osteoblasts and bone formation (4, 5). It is also produced by platelets, macrophages, and mast cells. At sites of injury, it promotes neutrophil and macrophage infiltration for debridement, fibroblast secretion of new extracellular matrix, and IGF-I-mediated re-epithelialization (6, 7). The traditional receptor for PDGF is either a homodimer or heterodimer created from two type I transmembrane RTKs, PDGF Rα and PDGF Rβ (8, 9). PDGF-BB has been shown to bind the αα homodimer, αβ heterodimer, and the ββ homodimer *in vitro*, and act through the ββ homodimer *in vivo* (8, 10).

References:

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