



PDGF-BB (platelet-derived growth factor B-chain)

Catalog No. GB-40002

Quantity: 100 µg/tube

Protein species: Human

Bioactivity (ED₅₀): 50 ng/ml

Form: liquid protein

Applications tested: cell culture

Expression Host: *E. coli*

Type: purified recombinant protein

Target description

Platelet-derived growth factor (PDGF) is a family of disulfide-bonded homo- or heterodimers of four possible subunits (A, B, C, and D-chain) that act on cells via binding to the two known PDGF receptor proteins: PDGFR and PDGFRβ. PDGF-A chain plays an important role in the development of specific populations of mesenchymal cells. In adult animals, PDGF B-chain is highly expressed by megakaryocytes / platelets, endothelial cells (ECs), and macrophages. The roles of PDGF-C and PDGF-D are unknown. The PDGF has strongly been implicated to play roles in a large number of normal and pathologic settings, such as embryonic development, wound healing embryo, tumorigenesis, and atherosclerosis.

Potential applications

1. To promote connective tissue formation and vascularization: According to the studies, the PDGF is able to promote vascularization and repair the wound, and therefore prevents cardiovascular disease and aging.
2. To promote the synthesis of collagen: Collagen is most important building block in the entire animal world. Nature's most abundant protein polymer is collagen. More than a third of the body's protein is collagen. Collagen makes up 75% of our skin. According to the studies, the PDGF is able to promote the synthesis of collagen. The collagen comes from PDGF system is more efficient than EGF in preventing aging of skin.

Comments

PDGF-BB (Recombinant human Platelet Derived Growth Factor B subunit dimer): Molecular Mass: 24 kDa, composed of 220 aa. Human PDGF is recombinant DNA produced and >95% pure via SDS-PAGE and HPLC.

Antibiotic residue

No activity of ampicillin or other antibiotic residue be detected.

Bacterial endotoxin content

Bacterial endotoxin content is not higher than 0.1ng/ug (1EU/ug)

Storage

For short-term use store at 4 °C. For long-term storage keep at -20 °C.

Related Products

1. IGF-1 (insulin-like growth factor-1) (PG-40001)
2. bFGF (basic fibroblast growth factor) (PG-40003)
3. Fibronectin (PG-40004)

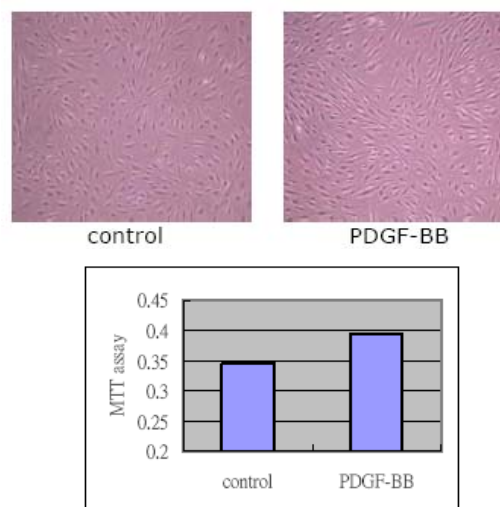
4. TNF (Tumor necrosis factor) (PG-40005)

Compare PDGF with EGF

	EGF	PDGF-BB
Wound repair	absence	presence
To promote epithelium growth	yes	no
To promote vascularization	no	yes
To promote collagen synthesis	no	yes
Clinical	China	USA, Europe

Biological Activity

- The ED₅₀ is defined as the effective concentration of growth factor (dose) that elicits a 50% increase in cell growth in a cell based bioassay.



- Relative Activity: For cell culture (in vitro application) ED₅₀ is 50 ng/ml

Skin fibroblasts were serum-deprived for 48 hours and growth factor at the concentration of 25 ng/ml was added. Photos were taken 24 hours after and then cells were processed for MTT assay.

References

1. Lisa, M. T. and Levon, M.K. Induction of platelet-derived growth factor B-chain expression by transforming growth factor- Involves transactivation by Smads. The journal of biological chemistry. 275:16709-16716, 2000.
2. Bernard, S. B. *et al.* Platelet-Derived Growth Factor B-chain of Hematopoietic origin is not necessary for Granulation tissue formation and its absence enhances vascularization. American Journal of Pathology. 159:1869-1876, 2001