

## GDF5 Human

**Description:** Growth Differentiation Factor 5 Human Recombinant produced in E.Coli is a homodimer, non-glycosylated polypeptide chain containing 2 x 120 amino acids and having a total molecular mass of 27.4kDa. To enable bacterial expression the N-terminal sequence of Ala-Pro-Leu-Thr was replaced with a Lys. GDF5 is purified by proprietary chromatographic techniques.

**Synonyms:** Cartilage-derived morphogenetic protein-1, CDMP-1, LAP4, SYNS2, GDF-5, Radotermin, CDMP1, GDF5, Growth differentiation factor 5, BMP-14.

**Source:** Escherichia Coli.

**Physical Appearance:** Sterile Filtered White lyophilized (freeze-dried) powder.

**Amino Acid Sequence:** APSATRQGKR PSKNLKARCS RKALHVNFKD MGWDDWIIAP  
LEYEAFHCEG LCEFPLRSHL EPTNHAIVQT LMNSMDPEST PPTCCVPTRL SPISILFIDS  
ANNVVKQYE DMVVEGCGCR.

**Purity:** Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.

**Formulation:**

The protein was lyophilized without any additives.

**Stability:**

Lyophilized Growth Differentiation Factor 5 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Growth Differentiation Factor-5 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

**Usage:**

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

**Solubility:**

It is recommended to reconstitute the lyophilized Growth Differentiation Factor-5 in sterile 18M-cm H<sub>2</sub>O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

**Introduction:**

GDF-5 is a member of the bone morphogenetic protein (BMP) family and the TGF-beta superfamily. This group of proteins is characterized by a polybasic proteolytic processing site which is cleaved to produce a mature protein containing seven conserved cysteine residues. The members of this family are regulators of cell growth and differentiation in both embryonic and adult tissues. Mutations in this gene are associated with acromesomelic dysplasia, Hunter-Thompson type; brachydactyly, type C; and chondrodysplasia, Grebe type. These associations confirm that the gene product plays a role in skeletal development.

**Biological Activity:**

GDF-5 activity as determined by the induction of alkaline phosphatase activity in ATDC5 cells is

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**References:**

Title:Growth/differentiation Factor-5 Induces Osteogenic Differentiation of Human Ligamentum  
Flavum Cells through Activation of ERK1/2 and p38 MAPK.Publication:Cell Physiol Biochem  
2010;26:179-186 (DOI:  
10.1159/000320526)Link:<http://content.karger.com/produktedb/produkte.aspdoi=320526>

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