



## Growth and Differentiation Factor-5, human recombinant (rHuGDF-5)

**Catalog No:** 87316  
**Lot No:** XXXXX  
**Source:** *E. coli*  
**Synonyms:** Cartilage-derived morphogenetic protein-1, CDMP-1, LAP4, SYNS2, GDF-5, Radotermin, CDMP1, GDF5, Growth differentiation factor 5, BMP-14

### Background

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.

### Description

GDF5 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 27.4 kDa. 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.

### Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

### Formulation

The protein was lyophilized without any additives.

### Solubility

It is recommended to reconstitute the lyophilized GDF5 in sterile 18 MΩ-cm H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

### 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.

### Purity

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

### Amino Acid Sequence

APSATRQGKR PSKNLKARCS RKALHVNFKD MGWDDWIIAP LEYEAFHCEG LCEFPLRSHL EPTNHAVIQT LMNSMDPEST  
PPTCCVPTL SPISILFIDS ANNVVYKQYE DMVVESCGCR

### Activity

GDF-5 activity as determined by the induction of alkaline phosphatase activity in ATDC5 cells is typically 10 - 20 ng/ml.

**CONTACT US TODAY**

BIOMOL GmbH • Kieler Straße 303a • 22525 Hamburg • Germany • info@biomol.de • www.biomol.de

Fon: +49 (0)40-853 260 0 • TOLL FREE IN GERMANY: Fon: 0800-246 66 51



### Usage

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BIOMOL GmbH • Kieler Straße 303a • 22525 Hamburg • Germany • [info@biomol.de](mailto:info@biomol.de) • [www.biomol.de](http://www.biomol.de)

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