11 Park Drive, Suite 12
Boston, MA 02215

Human Growth Differentiation Factor-5 (GDF-5)

ORDERING INFORMATION

Catalog No: rAP-0059;
Size: 10 µg; 50 µg
Storage: <- 20° C

Synonyms:

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

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.

Description:

Growth Differentiation Factor 5 Human Recombinant produced in E.Coli is a homodimer, non-glycosylated, polypeptide chain containing 2 x 117 amino acids and having a total molecular mass of 26.8 Dalton.
To enable bacterial expression of GDF-5 we removed the N-terminal sequence Ala-Pro-Leu-Thr and added the Lys.
GDF5 is purified by proprietary chromatographic techniques.

Source:

Escherichia Coli.

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 Growth Differentiation Factor 5 in sterile 20mM AcOH not less than 100µg/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 95.0% as determined by:
Analysis by RP-HPLC.
Analysis by SDS-PAGE.

Contact & Ordering Information: Angio-Proteomie, 11 Park Drive, Suite 12, Boston, MA 02215, USA. Fax: (480) 247-4337, angioproteomie@gmail.com

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Amino acid sequence:
The sequence of the first five N-terminal amino acids was determined and was found to be Met-Lys-Arg-Gln-Gly.

Biological Activity:
Induction of alkaline phosphatase acrtivity in ATDC5 cells: EC_{50} = 40Nm.

Protein content:
Protein quantitation was carried out by two independent methods:

UV spectroscopy at 280 nm using the absorbency value of 1.15 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).

Analysis by RP-HPLC, using a standard solution of GDF 5 as a Reference Standard.

Usage:
Angio-Proteomie'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.