



## PRODUCT DATA SHEET

**Product:** GDF-5 (Growth Differentiation Factor-5), (human recombinant)

**Cat. No.:** BP-024 (50 µg)

**Synonyms:**

Cartilage-derived morphogenetic protein-1, CDMP-1, LAP4, SYNS2, GDF-5.

**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:**

Human recombinant Growth Differentiation Factor-5 is produced in E. Coli and is a homodimer, non-glycosylated, polypeptide chain containing 2 x 117 amino acids. To enable bacterial expression of human recombinant GDF-5, the N-terminal sequence Ala-Pro-Leu-Thr was removed and Lys was added.

**Molecular Weight:**

26.8 kDa

**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.

**Format:**

White lyophilized powder without any additives. Human recombinant GDF-5 is purified by proprietary chromatographic techniques.

**Storage:**

Lyophilized human recombinant GDF-5 is stable for at least 3 weeks at room temperature. Long term storage should be below -18°C, desiccated. Upon reconstitution, human recombinant GDF-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). Aliquot to avoid freeze/thaw cycles.

**Reconstitution:**

It is recommended to reconstitute the lyophilized human recombinant GDF-5 in sterile 20 mM AcOH at not less than 100 µg/mL, which can then be further diluted to other aqueous solutions.

**Purity:**

>95.0% determined by RP-HPLC, and SDS-PAGE.

**Biological Activity:**

Induction of alkaline phosphatase activity in ATDC5 cells: EC<sub>50</sub> = 40 Nm.

**Limitations:**

For *in vitro* research use only. Not for use in diagnostics or in humans.

**Warranty:**

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.