**DESCRIPTION**

**Source**  
E. coli-derived  
Glu23-Gly268 (Lys238Asn and Pro245Ser), with an N-terminal Met & Leu26-Gly268 (Lys238Asn and Pro245Ser)  
Accession # Q8NF90

**N-terminal Sequence Analysis**  
Met & Leu26

**Predicted Molecular Mass**  
27 kDa

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Measured in a cell proliferation assay using NR6R 3T3 mouse fibroblast cells. Rizzino, A. et al. (1988) Cancer Res. 48:4266; Thomas, K. et al. (1987) Methods Enzymol. 147:120. The ED_{50} for this effect is 2-10 ng/mL in the presence of 1 µg/mL of heparin.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endotoxin Level</td>
<td>&lt;0.10 EU per 1 µg of the protein by the LAL method.</td>
</tr>
<tr>
<td>Purity</td>
<td>&gt;97%, by SDS-PAGE under reducing conditions and visualized by silver stain.</td>
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<tr>
<td>Formulation</td>
<td>Supplied as a 0.2 µm filtered solution in MOPS, Na_{2}SO_{4}, EDTA and DTT. See Certificate of Analysis for details.</td>
</tr>
</tbody>
</table>

**PREPARATION AND STORAGE**

**Shipping**  
The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**  
- Use a manual defrost freezer and avoid repeated freeze-thaw cycles.  
- 6 months from date of receipt, -20 to -70 °C as supplied.  
- 1 month, 2 to 8 °C under sterile conditions after opening.

**BACKGROUND**

The FGF family is comprised of at least seven polypeptides that are potent regulators of cell proliferation, differentiation and function. All FGFs have two conserved cysteine residues and share 30 - 50% sequence homology at the amino acid level. FGF-5 was originally identified as a transforming gene by the NIH 3T3 focus formation assay using DNA derived from human tumors. FGF-5 cDNA encodes a 267 amino acid residue protein with a putative 22 amino acid residue signal peptide. The murine homologue of FGF-5 was cloned and found to be 84% homologous to the human protein at the amino acid sequence level. Human and murine FGF-5 exhibit cross species activity.

In vitro, rhFGF-5 is a mitogen for Balb/3T3 fibroblasts and bovine heart endothelial cells. FGF-5 was also reported to be a major muscle-derived survival factor for cultured spinal motoneurons. In vivo, FGF-5 is suggested to play important roles in both embryology and neurobiology. Developmentally, FGF-5 mRNA is initially found in the embryoblast followed by the lateral somatic mesoderm, where it may play a role in angiogenesis, plus the myotomes cranial to the tail region, where it may delay terminal myoblast differentiation during cell migration. FGF-5 continues to impact muscle post-natally where it is believed to function as a target-derived neurotrophic factor of skeletal muscle. In the nervous system, FGF-5 has been most often identified in neurons associated with the limbic system, notably in neurons of the olfactory bulb and pyramidal cells of the hippocampus. Hippocampal FGF-5 is suggested to serve as a neurotrophic and differentiative factor for cholinergic and serotonergic neurons projecting to this region.