**DESCRIPTION**

**Source**
- E. coli-derived
- Leu25-Lys216
- Accession # O95750

**N-terminal Sequence Analysis**
- Leu25

**Predicted Molecular Mass**
- 21 kDa

**SPECIFICATIONS**

**Activity**
- Measured by its binding ability in a functional ELISA.
  When Recombinant Human FGF R4 Fc Chimera (Catalog # 685-FR) is immobilized at 5 µg/mL (100 µL/well), the concentration range of Recombinant Human FGF-19 that produces 50% of the optimal binding response is 20-120 ng/mL.

**Endotoxin Level**
- <0.10 EU per 1 µg of the protein by the LAL method.

**Purity**
- >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation**
- Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution**
- Reconstitute at 100 µg/mL in sterile PBS.

**Shipping**
- The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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

**BACKGROUND**

Fibroblast growth factor 19 (FGF-19) belongs to the large FGF family which has at least 23 members (1, 2). All FGF family members are heparin-binding growth factors with a core 120 amino acid (aa) FGF domain that allows for a common tertiary structure. FGFs are expressed during embryonic development and in restricted adult tissues. They act on cells of mesodermal and neuroectodermal origin to regulate diverse physiologic functions including angiogenesis, cell growth, pattern formation, embryonic development, metabolic regulation, cell migration, neurotrophic effects and tissue repair (3, 4). Signaling receptors for FGFs are type I transmembrane receptor tyrosine kinases belonging to the Ig superfamily. Four distinct but related classes of FGF receptors, FGF R1, 2, 3, and 4, exist. Through alternative splicing, multiple isoforms for FGF R1, 2 and 3, with distinct ligand recognition profiles, are also generated (4).

Human FGF-19 cDNA predicts a 251 aa precursor protein with a 22 aa signal peptide and a 229 aa secreted mature protein with no potential N-linked glycosylation sites (1, 2). Among FGF family members, human FGF-19 is most closely related to chicken FGF-19 and murine FGF-15, sharing approximately 61% and 51% aa sequence identity, respectively (1, 2, 5). Neither the human orthologue of mouse FGF-15, nor the mouse counterpart of human FGF-19 has been identified. With the exception of adult gall bladder epithelium, FGF-19 expression is restricted to fetal tissues (1, 2). Unlike most FGFs which bind to and activate more than one FGF receptor, FGF-19 is a specific ligand for FGF R4 (2). Similarly, another FGF family member, FGF-7 (KGF), only activates KGF R, the IIIb isoform of FGF R2 (4). During chick embryogenesis, FGF-19 has been shown to act synergistically with Wnt-8c to initiate inner ear development (5).

**References:**

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