

Recombinant Human Fibroblast Growth Factor-basic (FGF-2)

Certificate of Analysis and Data Sheet

➤ Source: E.Coli	➤ Catalog No. CTK-218
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➤ **Background :**

bFGF is a single-chain polypeptide growth factor that plays a significant role in the process of wound healing and is a potent inducer of angiogenesis. Several different forms of the human protein exist ranging from 18-24 kDa in size due to the use of alternative start sites within the fgf-2 gene. It has a 55 percent amino acid residue identity to FGF-1 and has potent heparin-binding activity. The growth factor is an extremely potent inducer of DNA synthesis in a variety of cell types from mesoderm and neuroectoderm lineages. It was originally named basic fibroblast growth factor based upon its chemical properties and to distinguish it from acidic fibroblast growth factor .

Other homologous FGF belonging to the same family are int-2 (FGF-3), FGF-5 , FGF-6 , K-FGF and KGF (keratinocyte growth factor =FGF-7). All factors are products of different genes, some of which are Oncogene products (FGF-3 , FGF-4 , FGF-5).

➤ **Description :**

Recombinant Human FGF-basic (FGF-2) produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 155 amino acids and having a molecular mass of 17353 Dalton

Recombinant FGF-2 is purified by proprietary chromatographic techniques.

➤ **Physical Appearance:**

Sterile Filtered White lyophilized (freeze-dried) powder.

➤ **Formulation:**

Recombinant bFGF was lyophilized from a concentrated (1mg/ml) sterile solution containing 5mM Tris pH=7.5 and 150mM NaCl.

➤ **Solubility:**

It is recommended to reconstitute the lyophilized bFGF in sterile 18MΩ-cm H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

➤ **Stability:**

Lyophilized bFGF although stable at room temperature for 3 weeks, should be stored desiccated below -18 C. Upon reconstitution bFGF 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 avoid freeze-thaw cycles.

➤ **Purity:**

Greater than 98.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Anion-exchange FPLC.
- (c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

➤ **Amino acid sequence:**

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Ala-Glu-Gly-Glu.

➤ **Dimers and aggregates:**

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

➤ **Biological Activity:**

This FGF-2 is fully biologically active when compared to standards. The ED50, calculated by the dose-dependant proliferation of BAF3 cells expressing FGF receptors (measured by ³H-thymidine uptake) is <0.5 ng/ml, corresponding to a specific activity of (2 x10⁶) Units/mg.

➤ **Endotoxin:**

Less than 0.1 ng/μg (IEU/μg) of Recombinant Human Fibroblast Growth Factor-basic.

➤ **Protein content:**

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 0.8511 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein
2. Analysis by RP-HPLC, using a standard solution of FGF-2 as a Reference Standard.

➤ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.