

Recombinant Human Fibroblast Growth Factor basic (FGF-2)

Alternate names:

FGF2

Catalog No.:

PA1016

Quantity:

10 µg

Background:

Basic fibroblast growth factor is a member of the fibroblast growth factor (FGF) family. FGF family members possess broad mitogenic and cell survival activities, and are involved in a variety of biological processes, including embryonic development, cell growth, morphogenesis, tissue repair, tumor growth and invasion. This protein functions as a modifier of endothelial cell migration and proliferation, as well as an angiogenic factor. It acts as a mitogen for a variety of mesoderm- and neuroectoderm-derived cells in vitro, thus is thought to be involved in organogenesis. Three alternatively spliced variants encoding different isoforms have been described. The heparin-binding growth factors are angiogenic agents in vivo and are potent mitogens for a variety of cell types in vitro. There are differences in the tissue distribution and concentration of these 2 growth factors.

Species:

Human

Source:

E. coli

Format:
State: White lyophilized (sterile filtered) powder

Purity: >96% pure as determined by:

(a) Analysis by RP-HPLC.

(b) Analysis by SDS-PAGE.

Buffer System: PBS, pH 7.4 without additives

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

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.

AA Sequence:

MAAGSITTLP ALPEDGGSGA FPPGHFKDPK RLYCKNGGFF LRIHPDGRVD GVREKSDPHI KLQLQAEERG
VVSIGVCAN RYLAMKEDGR LLASKCVTDE CFFERLESN NYNTYRSRKY TSWYVALKRT GQYKLGSKTG
PGQKAILFLP MSAKS.

Biological Activity: The ED₅₀, calculated by the dose-dependant proliferation of BAF3 cells expressing FGF receptors (measured by 3H-thymidine uptake) is < 0.5 ng/ml.

Specific Activity: 2 x 10⁶ Units/mg

Molecular weight: 17 kDa

Add. Information:

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% (1 mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).

2. Analysis by RP-HPLC, using a standard solution of FGF-2 as a reference standard.

Storage:

Lyophilized FGF-2 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C.

Upon reconstitution FGF-2 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).

Shelf life: one year from despatch.

General Readings:

1. Exogenously added FGF-2 to NIH3T3 cells interacts with nuclear RSK2 in a cell cycle dependent manner. J Biol Chem 2005 May 6.
2. Transendocardial and trans-epicardial intramyocardial FGF-2 administration: Myocardial and Tissue Distribution. Drug Metab Dispos 2005 May 6.
3. Delatte M, Von den Hoff JW, Kuijpers-Jagtman AM. Regulatory effects of FGF-2 on the growth of mandibular condyles and femoral heads from newborn rats. Arch Oral Biol. 2005 Nov;50(11):959-69. PubMed PMID: 15878765.
4. Naim R, Chang RC, Sadick H, Hormann K. Influence of hepatocyte growth factor/scatter factor (HGF/SF) on fibroblast growth factor-2 (FGF-2) levels in external auditory canal cholesteatoma (EACC) cell culture. In Vivo. 2005 May-Jun;19(3):599-603. PubMed PMID: 15875782.
5. Gomide V, Chadi G. Glial bFGF and S100 immunoreactivities increase in ascending dopamine pathways following striatal 6-OHDA-induced partial lesion of the nigrostriatal system: a stereological analysis. Int J Neurosci. 2005 Apr;115(4):537-55. PubMed PMID: 15809219.