Fibroblast Growth Factor-9, human recombinant (rHuFGF-9)

Catalog No: 87415
Lot No: XXXXX
Source: *E. coli*
Synonyms: GAF (Glia-activating factor), HBGF-9, MGC119914, MGC119915, FGF-9

Background

The human FGF-9 cDNA encodes a 208 amino acid residue protein that contains a single, potential N-linked glycosylation site. The native protein is glycosylated and is efficiently secreted after synthesis, although FGF -9 lacks a typical secretion signal. Rat and mouse FGF-9 show a very high homology to human FGF-9. The transcripts for FGF-9 have been found in brain and in kidney tissue. Fibroblast Growth Factor-9 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. FGF9 was isolated as a secreted factor that exhibits a growth-stimulating effect on cultured glial cells. In nervous system, this protein is produced mainly by neurons and may be important for glial cell development. Expression of the mouse homolog of this gene was found to be dependent on Sonic hedgehog (Shh) signaling. Mice lacking the homolog gene displayed a male-to-female sex reversal phenotype, which suggested a role in testicular embryogenesis Fibroblast Growth Factor 9 may have a role in glial cell growth and differentiation during development, gliosis during repair and regeneration of brain tissue after damage, differentiation and survival of neuronal cells, and growth stimulation of glial tumors.

Description

Fibroblast Growth Factor-9 human recombinant produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 207 amino acids and having a molecular mass of 23.4 kDa. FGF-9 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized powder.

Formulation

The sterile protein powder is lyophilized from 1 mg/ml solution containing 1x PBS.

Solubility

It is recommended to reconstitute the lyophilized FGF-9 in sterile 18 MΩ-cm H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized Fibroblast Growth Factor 9, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution FGF-9 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 prevent freeze-thaw cycles.

Purity

Greater than 95.0% as determined by RP-HPLC and SDS-PAGE.

Amino Acid Sequence

APLGEVGNYF GVQDAVPFGN VPVLPVDSPV LLSDHLGQSE AGGLPRGPAV TDLDHLKGIL RRRQLYCRTG FHLEIFPNGT IQGTRKDHSR FGILEFISIA VGLVSIRGVD SGLYLGMNEK GELYGSEKLT QECVFREQFE ENWYNTYSSN LYKHVDTGRR YYVALNKDGT PREGTRTKRH QKFTHFLPRP VDPDKVPELY KDILSQS

Activity

The ED50 as determined by the dose-dependent stimulation of thymidine uptake by BaF3 cells expressing FGF receptors is <0.5 ng/ml, corresponding to a specific activity of 2,000,000 IU/mg.

Usage

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