

Recombinant Human bFGF Protein

Size / Cat.No.: 50µg / GMP-TL901-0050

Product Name

Generic Name	Recombinant Human bFGF Protein
Synonym	FGF2, FGFB, FGF basic, HBGF-2

Product Information

Protein sequence	A DNA sequence encoding the human FGF2 (P09038) was expressed with no tag.
Expression Host	E.coli
QC Testing Purity	> 90 % as determined by SDS-PAGE.
Activity	Measured in a cell proliferation assay using Balb/c 3T3 cells. The ED ₅₀ for this effect is ≤ 0.1ng/mL, corresponding to a specific activity of ≥ 1 x 10 ⁷ IU/mg.
Endotoxin	< 0.1EU per 1 µg of the protein by the LAL method.
Molecular Mass	Predicts a molecular mass of 17.1 kD.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 6 % mannitol are added as protectants before lyophilization.
Stability & Storage	24 months at 2°C to 8°C in lyophilized state. 6 months at -20°C under sterile conditions after reconstitution. 12 months at -80°C under sterile conditions after reconstitution. Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100µg/mL. Avoid repeated freeze-thaw cycles.

Background

Basic fibroblast growth factor (bFGF), also known as FGF2, is a member of the fibroblast growth factor (FGF) family. It is a highly specific chemotactic and mitogenic factor for many cell types, appears to be involved in remodeling damaged tissue, such as ulcer healing, vascular repair, traumatic brain injury (TBI). Proteins of this family play a central role during prenatal development, postnatal growth and regeneration of a variety of tissues, by promoting cellular proliferation and differentiation. FGF-basic is a non-glycosylated, heparin-binding growth factor that is expressed in the brain, pituitary, kidney, retina, bone, testis, adrenal gland, liver, monocytes, epithelial cells and endothelial cells. bFGF is a critical component of human embryonic stem cell culture medium. In addition, bFGF protein is a heparin-binding cationic protein involved in a variety of pathological conditions including angiogenesis and solid tumor growth. Thus, bFGF is regarded as a target for cancers chemopreventive and therapeutic strategies.

References

1. Tavakoli S, Short JD, Downs K, et al. Differential Regulation of Macrophage Glucose Metabolism by Macrophage Colony-stimulating Factor and Granulocyte-Macrophage Colony-stimulating Factor: Implications for 18F FDG PET Imaging of Vessel Wall Inflammation. *Radiology*. 2017 Apr;283(1):87-97. doi: 10.1148/radiol.2016160839. Epub 2016 Nov 16. PMID: 27849433; PMCID: PMC5375627. Kingdom. 20 December 2020.
2. Zur Y, Rosenfeld L, Keshelman CA, et al. A dual-specific macrophage colony-stimulating factor antagonist of c-FMS and $\alpha\beta3$ integrin for osteoporosis therapy. *PLoS Biol*. 2018 Aug 24;16(8):e2002979. doi: 10.1371/journal.pbio.2002979. PMID: 30142160; PMCID: PMC6126843.
3. Kono H, Fujii H, Furuya S, et al. Macrophage colony-stimulating factor expressed in non-cancer tissues provides predictive powers for recurrence in hepatocellular carcinoma. *World J Gastroenterol*. 2016 Oct 21;22(39):8779-8789. doi: 10.3748/wjg.v22.i39.8779. PMID: 27818593; PMCID: PMC5075552.