

DA3503**Human FGF basic / FGF2 - Purified****Alternate names:**

BFGF, FGFB, Fibroblast growth factor 2 (basic), HBGF-2, HBGF2, Heparin-binding growth factor 2

Quantity:

10 µg

Background:

The FGF family is composed of at least 22 polypeptides that show a variety of biological activities towards cells of mesenchymal, neuronal and epithelial origin. All members are heparin-binding growth factors (HBGF). Until the structure of basic fibroblast growth factor (bFGF/FGF-2) was determined, a number of synonyms was used to describe this growth factor. As is often the case, the nomenclature reflected the observed activities reported by individual groups. Basic FGF has been reported as leukemia growth factor, macrophage growth factor, endothelial growth factor and tumor angiogenesis factor. The eventual isolation and characterization of bFGF was done from soluble brain extracts. bFGF was found to have a molecular mass of 16 kDa and to be 154 amino acids in length. Interestingly, bFGF contains no hydrophobic leader sequence previously thought to be required for cell secretion. Basic FGF bears 55% homology to acidic FGF and also seems to exist in three forms: the 154 amino-acid form and two other truncated versions of 146 and 131 amino acids lacking the N-terminal 9 and 24 residues. Acidic and basic FGF compete for the binding to 125 kDa and 145 kDa receptor species. However, acidic FGF has a higher affinity for the 125 kDa species, while basic FGF has a higher affinity for the 145 kDa species. FGF receptor activation leads to the activation of MAP kinase and protein kinase C. FGF's induce the proliferative response in cells derived from mesoderm and neuroectoderm. It seems that basic FGF reduces the average doubling time by shortening the G1 phase of the cell cycle. Furthermore, it has been reported to induce the release of plasminogen activator by endothelial cells. Perhaps one of the most potentially significant applications of bFGF is related to its reported ability to induce angiogenesis.

Uniprot ID:[P09038](#)**NCBI:**[NP_001997.5](#)**GeneID:**[2247](#)**Species:**

Human

Source:

E. coli

Format:**State:** Lyophilized purified protein**Purity:** >98% by SDS-PAGE and visualised by silver stain**Buffer System:** PBS**Stabilizers:** None**Endotoxin Level:** < 0.1 ng per µg of FGF-basic**Reconstitution:** Restore in water containing at least 0.1% Human or Bovine Serum Albumin to a concentration not lower than 10 µg/ml.

Description:

Recombinant Human Fibroblast Growth Factor-2 (basic).

Result by N-terminal sequencing: AGSITTL

AA Sequence:

AGSITTLPALPEDGGSGAFPPGHFKDPKRLYCKNGGFFLRIHPDGRVDGVREKSDPHIKLQLQAEERGVS
IKGVCA
NRYLAMKEDGRLLASKCVTDECFFFERLESNNYNTYRSRKYTSWYVALKRGQYKLGSKTGPQGKAILFLPMS
AKS

Biological Activity: The ED50 for stimulation of cell proliferation in Human umbilical vein endothelial cells by Human FGF-2 (basic) has been determined to be in the range of 0.1-2 ng/ml.

Molecular weight: 16.5 kDa (153 amino acids)

Storage:

Store lyophilized at 2-8°C for 6 months or at -20°C long term.

After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term.

Avoid repeated freezing and thawing.

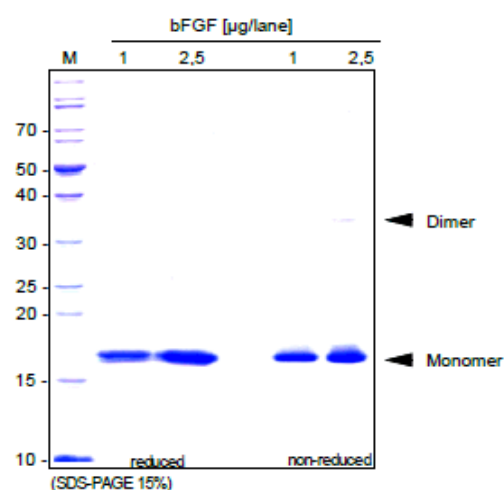
Shelf life: one year from despatch.

General Readings:

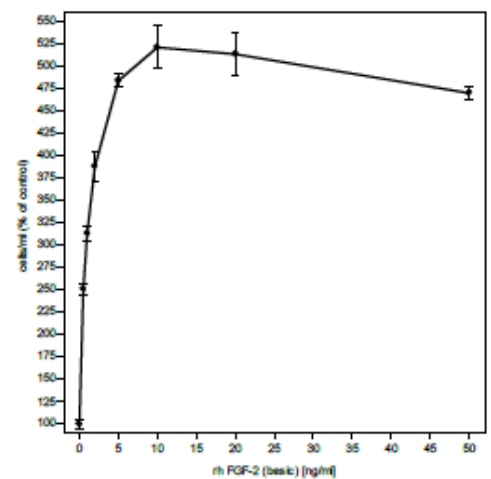
1. Quarto N et al, Gene 356:49, (2005).
2. Tsuneto M et al, Biochem Biophys Res Comm 335:1239 (2005).
3. Presta M et al, Cytokine Growth Factor Rev 16:159, (2005).
4. Claus P et al, J Biol Chem 278:479, (2003).
5. Coulier F et al, J Mol Evol 44:43, (1997).

Pictures:

SDS-PAGE analysis of recombinant mouse FGF-2 (basic). Samples were loaded in 15% SDS-polyacrylamide gel under reducing and nonreducing condition and stained with Coomassie blue.



FGF2-induced proliferation of NHDF cells. NHDF cells were stimulated with increasing amounts of human basic FGF.



FGF2-induced proliferation of HUVE cells. HUVECs were stimulated with increasing amounts of human basic FGF.

