

#### **FGF-basic**

Catalog # PVGS1447

# **Specification**

# **FGF-basic - Product Information**

Primary Accession Species Human P09038

**Sequence** 

Ala144-Ser288

**Purity** 

> 95% as analyzed by SDS-PAGE

**Endotoxin Level** 

< 0.2 EU/  $\mu g$  of protein by gel clotting method

**Biological Activity** 

ED<sub>50</sub> < 0.25 ng/ml, measured by the cell proliferation assay using 3T3 cells, corresponding to a specific activity of >  $4.0 \times 10$ <sup>6</sup> units/mg

**Expression System** 

E. coli

Formulation

Lyophilized after extensive dialysis against PBS.

#### Reconstitution

It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in  $ddH_2O$  or PBS up to  $100 \mu g/ml$ .

#### Storage & Stability

Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

# **FGF-basic - Additional Information**

**Gene ID 2247** 

## **Other Names**

Fibroblast growth factor 2, FGF-2, Basic fibroblast growth factor, bFGF, Heparin-binding growth factor 2, HBGF-2, FGFB

#### **Target Background**

Fibroblast Growth Factor-basic (FGF-basic), also known as FGF-2, is a pleiotropic cytokine and one of the prototypic members of the heparin-binding FGF family. Like other FGF family members, FGF-basic has the  $\beta$  trefoil structure. In vivo, FGF-basic is produced by a variety of cells, including



cardiomycotes, fibroblasts, and vascular cells. FGF-basic regulates a variety of processes including cell proliferation, differentiation, survival, adhesion, motility, apoptosis, limb formation and wound healing. FGF-basic can be tumorigenic due to its role in angiogenesis and blood vessel remodeling. The angiogenic effects of FGF-basic can produce beneficial cardioprotection during acute heart injury.

## **FGF-basic - Protein Information**

Name FGF2

**Synonyms** FGFB

## **Function**

Acts as a ligand for FGFR1, FGFR2, FGFR3 and FGFR4 (PubMed: <a href="http://www.uniprot.org/citations/8663044" target=" blank">8663044</a>). Also acts as an integrin ligand which is required for FGF2 signaling (PubMed:<a href="http://www.uniprot.org/citations/28302677" target=" blank">28302677</a>). Binds to integrin ITGAV:ITGB3 (PubMed: <a href="http://www.uniprot.org/citations/28302677" target=" blank">28302677</a>). Plays an important role in the regulation of cell survival, cell division, cell differentiation and cell migration (PubMed:<a href="http://www.uniprot.org/citations/28302677" target="\_blank">28302677</a>, PubMed:<a href="http://www.uniprot.org/citations/8663044" target=" blank">8663044</a>). Functions as a potent mitogen in vitro (PubMed:<a href="http://www.uniprot.org/citations/1721615" target=" blank">1721615</a>, PubMed:<a href="http://www.uniprot.org/citations/3732516" target=" blank">3732516</a>, PubMed:<a href="http://www.uniprot.org/citations/3964259" target="blank">3964259</a>). Can induce angiogenesis (PubMed:<a href="http://www.uniprot.org/citations/23469107" target="\_blank">23469107</a>, PubMed:<a href="http://www.uniprot.org/citations/28302677" target="blank">28302677</a>). Mediates phosphorylation of ERK1/2 and thereby promotes retinal lens fiber differentiation (PubMed:<a href="http://www.uniprot.org/citations/29501879" target=" blank">29501879</a>).

# **Cellular Location**

Secreted. Nucleus. Note=Exported from cells by an endoplasmic reticulum (ER)/Golgi-independent mechanism. Unconventional secretion of FGF2 occurs by direct translocation across the plasma membrane (PubMed:20230531). Binding of exogenous FGF2 to FGFR facilitates endocytosis followed by translocation of FGF2 across endosomal membrane into the cytosol (PubMed:22321063). Nuclear import from the cytosol requires the classical nuclear import machinery, involving proteins KPNA1 and KPNB1, as well as CEP57 (PubMed:22321063)

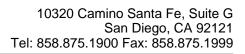
## **Tissue Location**

Expressed in granulosa and cumulus cells. Expressed in hepatocellular carcinoma cells, but not in non-cancerous liver tissue.

# **FGF-basic - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation





• Flow Cytomety
• Cell Culture
FGF-basic - Images