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FGF-acidic

Catalog # PVGS1283

Product Information

Primary Accession	P61148
Species	Mouse
Sequence	Phe16-Asp155
Purity	> 95% as analyzed by SDS-PAGE > 95% as analyzed by HPLC
Endotoxin Level	
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 up to 100 □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.

Additional Information

Gene ID	14164
Other Names	Fibroblast growth factor 1, FGF-1, Acidic fibroblast growth factor, aFGF, Heparin-binding growth factor 1, HBGF-1, Fgf1, Fgf-1, Fgfa
Target Background	Fibroblast Growth Factor- acidic (FGF-acidic) is a mitogen targeting at the endothelial cells, and belongs to the heparin binding FGF family, which contains 22 members. FGF-acidic binds to the receptor family FGFR1-4 in vivo with the assistance of heparin. However, along with FGF -basic, FGF-acidic lacks the signal peptide segment, and thus is not secreted via endoplasmic reticulum (ER) and Golgi bodies. Studies have shown that FGF-acidic is highly regulated, and it is a direct angiogenesis factor. If unregulated, angiogenesis could contribute to several diseases including arthritis, diabetes, ocular neovascularization, and especially tumors. Therefore, FGF-acidic is treated as a potential oncogene, and its overexpression is correlated tightly with several cancers.

Protein Information

Name	Fgf1
Synonyms	Fgf-1, Fgfa
Function	Plays an important role in the regulation of cell survival, cell division, angiogenesis, cell differentiation and cell migration. Functions as a potent mitogen in vitro. Acts as a ligand for FGFR1 and integrins. Binds to FGFR1 in the presence of heparin leading to FGFR1 dimerization and activation via sequential autophosphorylation on tyrosine residues which act as docking sites for interacting proteins, leading to the activation of several signaling cascades. Binds to integrin ITGAV:ITGB3. Its binding to integrin, subsequent ternary complex formation with integrin and FGFR1, and the recruitment of PTPN11 to the complex are essential for FGF1 signaling. Induces the phosphorylation and activation of FGFR1, FRS2, MAPK3/ERK1, MAPK1/ERK2 and AKT1. Can induce angiogenesis.
Cellular Location	Secreted. Cytoplasm. Cytoplasm, cell cortex. Cytoplasm, cytosol. Nucleus. Note=Lacks a cleavable signal sequence. Within the cytoplasm, it is transported to the cell membrane and then secreted by a non-classical pathway that requires Cu(2+) ions and S100A13. Secreted in a complex with SYT1. Binding of exogenous FGF1 to FGFR facilitates endocytosis followed by translocation of FGF1 across endosomal membrane into the cytosol. Nuclear import from the cytosol requires the classical nuclear import machinery, involving proteins KPNA1 and KPNB1, as well as LRRC59 (By similarity).

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