

PRODUCT INFORMATION



FGF1 (human, recombinant)

Item No. 33734

Overview and Properties

Synonyms: Acidic Fibroblast Growth Factor, Acidic FGF, AFGF, Endothelial Cell Growth Factor, FGFA, FGF- α , Fibroblast Growth Factor 1, HBGF-1, Heparin-binding Growth Factor 1

Source: Active recombinant human FGF1 expressed in *E. coli*

Amino Acids: 16-155

Uniprot No.: P05230

Molecular Weight: 16 kDa

Storage: -80°C (as supplied)

Stability: ≥ 1 year

Purity: $\geq 95\%$ estimated by SDS-PAGE

Supplied in: Lyophilized from sterile PBS, pH 7.4, with 22.5% Trehalose

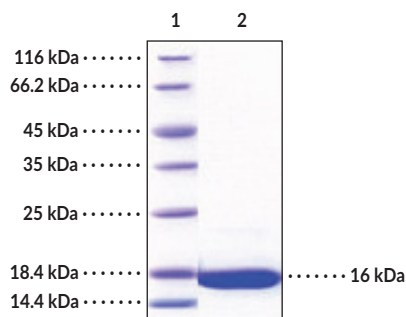
Endotoxin Testing: < 1.0 EU/ μ g, determined by the LAL endotoxin assay

Protein Concentration: *batch specific* mg/ml

Bioactivity: See figures for details

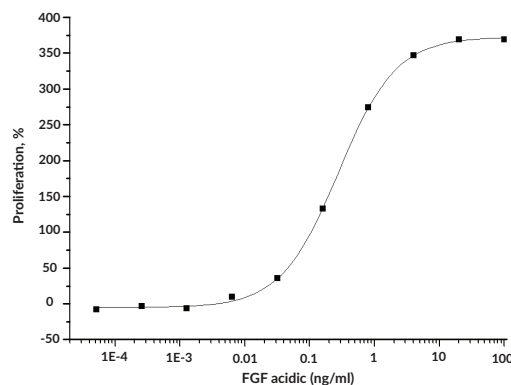
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: FGF1

SDS-PAGE Analysis of FGF1. This protein has a calculated molecular weight of 16 kDa.



FGF1 in a Cell Proliferation Assay. Measured using Balb/c 3T3 mouse embryonic fibroblasts. The EC_{50} value for this effect is typically 0.15-0.75 ng/ml.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Fibroblast growth factor 1 (FGF1), also known as acidic FGF (AFGF), is a signaling polypeptide and member of the FGF family with roles in cell growth, proliferation, development, and survival, as well as osteogenesis and adipogenesis.^{1,2} Unlike other FGFs, FGF1 lacks an N-terminal signaling peptide and is secreted via a non-canonical pathway as part of a multi-protein complex.¹ FGF1 binds to FGF receptors at the cell surface to stimulate intracellular signaling pathways such as PKC/PLC γ , PI3K/Akt/mTOR, and ERK/MAPK, but can also be translocated across the cell membrane to localize in both the cytosol and nucleus. FGF1 induces osteogenic differentiation of bone marrow mesenchymal stem cells and increases the number of osteoblasts in early stages of bone repair. Exogenous administration of FGF1 normalizes blood glucose levels in diabetic *ob/ob* and *db/db* mice and a mouse model of diet-induced obesity.³ Cayman's FGF1 (human, recombinant) protein can be used for cell-based assays. This protein consists of 141 amino acids and has a calculated molecular weight of 16 kDa.

References

1. Sluzalska, K.D., Slawski, J., Sochacka, M., *et al.* Intracellular partners of fibroblast growth factors 1 and 2 - implications for functions. *Cytokine Growth Factor Rev.* **57**, 93-111 (2021).
2. Wang, J., Liu, S., Li, J., *et al.* The role of the fibroblast growth factor family in bone-related diseases. *Chem. Biol. Drug Des.* **94(4)**, 1740-1749 (2019).
3. Gasser, E., Moutos, C.P., Downes, M., *et al.* FGF1 - a new weapon to control type 2 diabetes mellitus. *Nat. Rev. Endocrinol.* **13(10)**, 599-609 (2017).

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