

PRODUCT INFORMATION



FGF9 (human, recombinant)

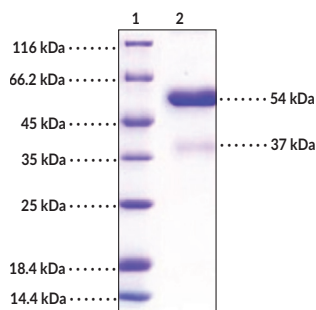
Item No. 42769

Overview and Properties

Synonyms:	FGF-9, Fibroblast Growth Factor 9, GAF, Glia-activating Factor, HBGF-9, Heparin-binding Growth Factor 9
Source:	Active recombinant human N-terminal IgG1 Fc-tagged FGF9 expressed in HEK293 cells
Amino Acids:	20-208
Uniprot No.:	P31371
Molecular Weight:	~23 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥85% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/μg, determined by the LAL endotoxin assay
Protein	
Concentration:	<i>batch specific</i> mg/ml
Activity:	<i>batch specific</i> U/ml
Specific Activity:	<i>batch specific</i> U/mg

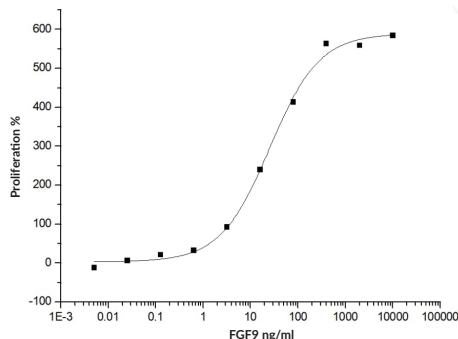
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: FGF9

SDS-PAGE Analysis of FGF9 (human, recombinant). This protein has a calculated molecular weight of approximately 23 kDa. The monomer migrates at approximately 37 and 54 kDa by SDS-PAGE under reducing conditions due to glycosylation.



Cell proliferation assay using BALB/c 3T3 mouse embryonic fibroblasts. The EC₅₀ value for this effect is typically 10-60 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
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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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Description

FGF9 is a signaling polypeptide and the prototypical member of the FGF9 subfamily.¹ It is composed of N- and C-terminal domains and a central β -trefoil core. It lacks a classical signaling sequence but is trafficked through the endoplasmic reticulum and Golgi to be secreted. FGF9 is widely expressed in epithelial and mesenchymal cells during embryonic development and in the CNS, kidneys, adrenal gland, and a variety of other organs in adults.^{1,2} After secretion, it binds to FGFR1c, FGFR2c, and FGFR3c on mesenchymal cells in conjunction with its co-receptor, heparan sulfate proteoglycan (HSPG), also known as CD44, to induce MAPK, PI3K, and PLC γ signaling.¹ It also binds to epithelium-expressed FGFR3b with HSPG to induce PI3K signaling. FGF9 is highly involved in embryonic development of the lungs, heart, gonads, skeletal system, and gastrointestinal system.^{1,3} Mice lacking *Fgf9* display respiratory failure, heart deformations, and partial or full male-to-female sex reversal.^{4,5} A serine-to-asparagine substitution at position 99 (FGF9^{S99N}) is associated with multiple synostoses syndrome 3 (SYNS3), which is characterized by multiple bone fusions and joint semi-dislocations.^{1,6} Cayman's FGF9 (human, recombinant) protein can be used for cell-based assays. This protein is a disulfide-linked homodimer. The reduced monomer, composed of FGF9 (amino acids 20-208) fused to human IgG1 Fc at its N-terminus, consists of 463 amino acids, has a calculated molecular weight of approximately 23 kDa, and a predicted N-terminus of Glu20 after signal peptide cleavage. As a result of glycosylation, the monomer migrates at approximately 37 and 54 kDa by SDS-PAGE under reducing conditions.

References

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6. Wu, X.-L., Gu, M.-M., Huang, L., et al. Multiple synostoses syndrome is due to a missense mutation in exon 2 of *FGF9* gene. *Am. J. Hum. Genet.* **85**(1), 53-63 (2009).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM