

## Recombinant murine Fibroblast Growth Factor-9

<b>Alternate names:</b>	FGF9
<b>Catalog No.:</b>	PA1019X
<b>Quantity:</b>	10 µg
<b>Concentration:</b>	1 mg/ml
<b>Background:</b>	<p>Rat and mouse FGF-9 show a very high homology to human FGF-9. The transcripts for FGF-9 have been found in brain and in kidney tissue. Fibroblast Growth Factor-9 is a member of the fibroblast growth factor (FGF) family. FGF family members possess broad mitogenic and cell survival activities, and are involved in a variety of biological processes, including embryonic development, cell growth, morphogenesis, tissue repair, tumor growth and invasion. FGF9 was isolated as a secreted factor that exhibits a growth-stimulating effect on cultured glial cells. In nervous system, this protein is produced mainly by neurons and may be important for glial cell development. Expression of the mouse homolog of this gene was found to be dependent on Sonic hedgehog (Shh) signaling. Mice lacking the homolog gene displayed a male-to-female sex reversal phenotype, which suggested a role in testicular embryogenesis. Fibroblast Growth Factor 9 may have a role in glial cell growth and differentiation during development, gliosis during repair and regeneration of brain tissue after damage, differentiation and survival of neuronal cells, and growth stimulation of glial tumors.</p>
<b>Species:</b>	Mouse
<b>Source:</b>	E. coli, E.coli.
<b>Format:</b>	<p><b>State:</b> Sterile Filtered White lyophilized (freeze-dried) powder. <b>Purity:</b> &gt;95% Greater than 95.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE. <b>Buffer System:</b> The protein was lyophilized from a concentrated sterile solution containing 20mM Tris pH=8 and 75mM NaCl. <b>Reconstitution:</b> It is recommended to reconstitute the lyophilized Fibroblast Growth Factor 9 in sterile 18MΩ-cm H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.</p>
<b>Description:</b>	<p>Fibroblast Growth Factor-9 Mouse Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 205 amino acids. The FGF-9 Mouse Recombinant is purified by proprietary chromatographic techniques.</p> <p><b>AA Sequence:</b> The sequence of the first five N-terminal amino acids was determined and was found to be Pro-Leu-Gly-Glu-Val.</p> <p><b>Biological Activity:</b> The ED50, calculated by the dose-dependant proliferation of BAF3 cells expressing FGF receptors (measured by 3H-thymidine uptake) is &lt;0.5 ng/ml, corresponding to a specific activity of 2 x 10<sup>6</sup> Units/mg.</p>

**Molecular weight:** 23 kDa 23308 Dalton.

**Add. Information:** Protein quantitation was carried out by two independent methods:  
1. UV spectroscopy at 280 nm using the absorbency value of 0.885 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).  
2. Analysis by RP-HPLC, using a calibrated solution of FGF-b as a Reference Standard.

**Storage:** Lyophilized Fibroblast Growth Factor-9 although stable at room temperature for 3 weeks, should be stored desiccated below -18 C. Upon reconstitution FGF9 Mouse Recombinant should be stored at 4 C between 2-7 days and for future use below -18 C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please avoid freeze-thaw cycles.

**General Readings:**

1. Drummond AE, Tellbach M, Dyson M, Findlay JK. Fibroblast growth factor-9, a local regulator of ovarian function. *Endocrinology*. 2007 Aug;148(8):3711-21. Epub 2007 May 10. PubMed PMID: 17494997.
2. Yu LY, Pei Y, Xia WB, Xing XP, Meng XW, Zhou XY. Effect of fibroblast growth factor 9 on Runx2 gene promoter activity in MC3T3-E1 and C2C12 cells. *Chin Med J (Engl)*. 2007 Mar 20;120(6):491-5. PubMed PMID: 17439743.
3. Chen TM, Kuo PL, Hsu CH, Tsai SJ, Chen MJ, Lin CW, et al. Microsatellite in the 3' untranslated region of human fibroblast growth factor 9 (FGF9) gene exhibits pleiotropic effect on modulating FGF9 protein expression. *Hum Mutat*. 2007 Jan;28(1):98. PubMed PMID: 17154280.
4. Chuang PC, Sun HS, Chen TM, Tsai SJ. Prostaglandin E2 induces fibroblast growth factor 9 via EP3-dependent protein kinase Cdelta and Elk-1 signaling. *Mol Cell Biol*. 2006 Nov;26(22):8281-92. Epub 2006 Sep 18. PubMed PMID: 16982695.
5. Chi L, Itäranta P, Zhang S, Vainio S. Sprouty2 is involved in male sex organogenesis by controlling fibroblast growth factor 9-induced mesonephric cell migration to the developing testis. *Endocrinology*. 2006 Aug;147(8):3777-88. Epub 2006 May 4. PubMed PMID: 16675530.
6. Hendrix ND, Wu R, Kuick R, Schwartz DR, Fearon ER, Cho KR. Fibroblast growth factor 9 has oncogenic activity and is a downstream target of Wnt signaling in ovarian endometrioid adenocarcinomas. *Cancer Res*. 2006 Feb 1;66(3):1354-62. PubMed PMID: 16452189.