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# Product Information

**Anti-Fibroblast Growth Factor-9 antibody, Mouse monoclonal**
clone FG9-77, purified from hybridoma cell culture

Product Number **F1672**

**Synonym:** FGF-9

**Product Description**
Anti-Fibroblast Growth Factor-9 antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the FG9-77 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. A recombinant FGF-9 of murine origin was used as the immunogen. The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2.

Monoclonal Anti- Fibroblast Growth Factor-9 may be used for the localization of FGF-9 using various immunochemical assays such as ELISA, dot-blot and immunoblotting.

Fibroblast growth factors (FGFs) are members of a family of polypeptides that are potent regulators of cell proliferation, differentiation and function.[1-3] FGFs play crucial roles in normal development, maintenance of tissues and wound healing and repair. Also, they are implicated in a wide range of pathological conditions, including tumorigenesis and metastasis. FGFs exert their mitogenic influence via saturable high-affinity receptors on a wide variety of cell types of mesodermal and neuroectodermal origin, including endothelial cells, smooth muscle cells, fibroblasts, gliomas, chondrocytes, hepatocytes, epithelial cells and myoblasts. The FGF family consists of at least nine members (FGF-1 to FGF-9), with a 30-50% sequence identity at the amino acid level. All besides FGF-8 contain two conserved positions of two cysteine residues. FGF-9, also known as glia activating factor (GAF), was initially identified in the culture supernatant of a human glioma cell line as having the capability to promote glial cell proliferation.[4, 5] FGF-9 is a heparin binding molecule, which is a glycosylated single polypeptide of 208 amino acids (23-30 kD, depending on rate of glycosylation), with a 30% sequence similarity with other members of the FGF family.[6] The molecule is conserved across species (rat FGF-9 is 94% identical to the human molecule). FGF-9 has a unique spectrum of activity on cells, and it acts on thecentral nervous system. Although it has a mitogenic effect on fibroblasts like other FGFs, FGF-9 has no effect on human umbilical vein endothelial cells. FGF-9 stimulates the proliferation of oligodendrocyte type 2 astrocyte progenitor cells, Balb/c 3T3 fibroblasts and rat pheochromacytoma cell line PC-12. Human FGF-9 is oncogenic when transfected into murine fibroblasts. Studies have identified FGF-9 expression in brain and kidney.[5] FGF-9 binds specifically to FGF receptors 2 and 3, but not to FGF receptors 1 and 4.[7] Like all other FGF ligands, FGF-9 requires heparin sulfate for high affinity receptor binding and biological activities.[7] Since FGF-9 plays major roles in biological responses and pathological states, an in vitro assay for FGF-9 detection is desirable. Monoclonal antibodies reacting specifically with FGF-9 may be used in diverse cellular and molecular approaches to the study of fibroblast growth factors and their properties, and to correlate their expression pattern with physiological functions or pathological conditions.

Monoclonal Anti-FGF-9 reacts specifically with recombinant FGF-9 (fibroblast growth factor 9). It does not cross-react with human FGF-Acidic and FGF-Basic. The product may be used for ELISA, dot-blot and immunoblotting (25 kD). Reactivity has been observed with human and mouse FGF-9.

**Reagent**
Supplied as Protein A purified and 0.2 µm-filtered antibody in 0.01 M phosphate buffered saline, pH 7.4.

Antibody Concentration: 2 mg/ml

**Storage/Stability**
For continuous use, store sterile at 2-8 °C for up to one month. For extended storage freeze in sterile working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

**Product Profile**
Dot-blot assay: a working concentration of at least 5 µg/ml is determined using a recombinant FGF-9 preparation of human origin.

**Note**: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

**References**

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4. Naruo, K., et al., *J. Biol. Chem*., **268**, 2857 (1993).
5. Miyamoto, M., et al., *Mol. Cell. Biol*., **13**, 4251 (1993).
6. Seo, M., et al., *FEBS Lett*., **370**, 231 ( 1995).
7. Hecht, D., et al., *Growth Factors*, **12**, 223 (1995).


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