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ProductInformation

MONOCLONAL ANTI-HUMAN FIBROBLAST GROWTH FACTOR - ACIDIC CLONE FA-88
Purified Mouse Immunoglobulin

Product Number **F 9666**

Product Description

Monoclonal Anti-Human Fibroblast Growth Factor-Acidic (mouse IgG2a isotype) is derived from the FA-88 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from immunized BALB/c mice. Recombinant, human FGF-acidic was used as the immunogen. The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Human Fibroblast Growth Factor-Acidic recognizes an epitope at or near the putative receptor binding site of human fibroblast growth factor - acidic (aFGF). The product reacts specifically with aFGF of natural and recombinant origin. The antibody does not cross-react with human fibroblast growth factor-basic (bFGF). Cross-reactivity has been observed with bovine aFGF. In immunoblotting, the product stains the aFGF band (18 kDa). The antibody may also be used in ELISA and dot blot immunoassay

Fibroblast growth factors (FGFs) are members of a family of polypeptides that are potent regulators of cell proliferation, differentiation and function.[1-3] The FGF family consists of several members with 30-50% sequence identity at the amino acid level and with conservation of the positions of two cysteine residues.

The names FGF acidic and FGF basic are used for FGF-1 and FGF-2, respectively. Acidic and basic fibroblast growth factor (aFGF and bFGF, respectively) are members of a small family of heparin binding growth factors (HBGF). Comparisons of the primary structure have shown that aFGF and bFGF are very closely related mitogens with a 55% absolute homology. When isolated from natural sources, aFGF usually has an apparent mass of approximately 18 kDa, but several forms varying in size from 16-18 kDa are generated by proteolysis during purification. Human and bovine aFGF are nearly identical in sequence; the largest (154 aa) form of both human and bovine aFGF share all but 12 amino acids. FGFs play crucial roles in normal development, in the maintenance of tissues and in wound healing and repair, and they have been implicated in a wide range of pathological conditions, including tumorigenesis and metastasis. Both aFGF and bFGF exert their mitogenic influence via saturable high-affinity receptors on a variety of cell types of mesodermal and neuroectodermal origin, including endothelial cells, smooth muscle cells, fibroblasts, gliomas, chondrocytes, hepatocytes, epithelial cells, and myoblasts. As expected from the sequence homology between the acidic and basic forms of FGF and from their ability to support the proliferation *in vitro* of the same spectrum of target cell, both aFGF and bFGF interact with the same cell-surface receptor. Since these molecules play major roles in biological responses and can contribute to pathological states, an *in vitro* assay for their detection and quantification is desirable. A monoclonal antibody[4] reacting specifically with aFGF may be used for the determination and quantification of the molecule in many *in vitro* systems and *in vivo* animal or human models.

Monoclonal Anti-Human Fibroblast Growth Factor-Acidic may be used for the localization of aFGF using various immunochemical assays including ELISA, immunoblot, and dot blot.

Reagents

The product is provided as Protein A purified and 0.2 µm-filtered antibody in 0.01 M phosphate buffered saline, pH 7.4.

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 is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

A working concentration of at least 5 µg/ml was determined by dot blot immunoassay using recombinant, human aFGF.

In order to obtain best results, it is recommended that each individual user determine their working dilution by titration assay.

References

1. Baird, A., et al., Recent Prog. Horm. Res., **42**, 143 (1986).
2. Gospodarowicz, D., Meth. Enzymol., **147**, 106 (1987).
3. Burgess, W., and Maciag, T., Ann . Rev. Biochem., **58**, 575 (1989).
4. Seno, M., et al., Hybridoma, **8**, 209 (1989).

MWM/daa 10/2002