3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

# Product Information

**Anti-Fibronectin**
produced in rabbit, affinity isolated antibody

Catalog Number **F3648**

## Product Description

Antiserum is produced in rabbit using purified human fibronectin as the immunogen. Affinity isolated antibody is obtained from antiserum by immunospecific purification which removes essentially all rabbit serum proteins, including immunoglobulins, which do not specifically bind to human fibronectin.

The antiserum is determined to be immunospecific for human fibronectin by immunofluorescent labeling of human fibroblast cell cultures, ELISA and immunoblotting. In immunoblotting, a specific band of fibronectin at 220 kDa is observed (another band at 94 kDa may be also be present) using human fibronectin.

When used in immunoelectrophoresis, the antibody shows 1-2 arcs of precipitation versus normal human plasma.

This product may be used for immunohistochemical localization of fibronectin in normal, inflamed and neoplastic tissues, for detection of fibronectin on cultured cells and structure and function studies of fibronectins in human and animal body fluids, tissues and cells.

Affinity isolated antibody to human fibronectin can be used for immunofluorescent and immunoperoxidase staining of cultured cells, frozen sections and formalin-fixed, paraffin-embedded tissues. Other fixatives, e.g. methacarn and ethanol, may also be used.

Fibronectin (FN) is a multifunctional, extracellular matrix glycoprotein composed of two nearly identical disulfide-bound polypeptides of molecular weight 220 kDa. Cellular fibronectin is structurally and antigenically similar to cold insoluble globulin from plasma, therefore polyclonal antibodies to either form usually crossreact.

Careful analysis of the fibronectin molecule indicates that it contains several functionally and structurally distinct domains which may bind to cell surfaces, collagen, fibrinogen or fibrin, complement, glycosaminoglycans, proteoglycans and heparin.

Numerous studies have shown that fibronectin may enhance cell adhesion and spreading and affect the routes of cell migration both *in vivo* and in culture. Moreover, it has been shown that upon malignant transformation many cells lose most of their surface bound fibronectin. Fibronectin has been shown to also play a role in cellular morphology, cytoskeletal organization, phagocytosis, hemostasis, embryonic differentiation and wound repair. Fibronectin is produced by a wide variety of epithelial and mesenchymal cells *in vitro* including: fibroblasts, chondrocytes, myoblasts, Schwann cells, macrophages, hepatocytes and intestinal epithelial cells. Cellular fibronectin is present in many tissues including spleen, lymph node, tonsil, blood vessel walls, liver, kidney, muscle, skin, brain and peripheral nerves. It is found in basement membranes and in loose connective tissue stroma. It is also present in platelet $\alpha$-granules and is expressed on the platelet surface after activation.

## Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 15 mM sodium azide as a preservative.

## Precautions

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

## Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, the solution may be frozen in 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**
IgG concentration 0.5-0.7mg/ml
Determined by $E^{1\%}_{280}$ = 14 prior to addition of BSA.

Indirect Immunoblotting: a minimum working dilution of 1:1,000 was determined using human plasma fibronectin and Anti-Rabbit IgG (whole molecule)–Peroxidase, Catalog Number A0545, as second antibody.

Indirect ELISA: a minimum working dilution of 1:10,000 was determined using 5 µg/ml human plasma fibronectin for coating of microtiter plates, Anti-Rabbit IgG (whole molecule)–Peroxidase, Catalog Number A0545, as second antibody and OPD as substrate.

Indirect Immunofluorescence: a minimum working dilution of 1:400 was determined using human foreskin cultured fibroblasts and Anti-Rabbit IgG (whole molecule)-FITC, Catalog Number F9887, as second antibody.

**Note**: In order to obtain best results and assay sensitivities of different techniques and preparations, we recommend determining optimal working dilutions by titration test.

DS,PHC 03/14-1