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CULTREX® Product Data

For Research Use Only. Not For Use In Diagnostic Procedures

Bovine Fibronectin, NZHD*

Catalog #: 3416-001-01 **Size:** 1 mg

Description: Fibronectin is an extracellular, soluble, disulfide-linked dimer composed of two 220 kDa independent globular peptide chains with a total molecular weight of 440 kDa. Fibronectin is an extracellular matrix protein that is found abundantly in blood, connective tissues, and provisional matrices associated with malignant transformation[1] of migratory cells, and has demonstrated functions in both cell-cell[2,3] and cell-matrix interactions[4,5]. Fibronectin functions either as a general cell adhesion molecule or as a modulator in binding between cell surfaces and the extracellular matrix by means of a central cell-binding domain, RGD (Arg-Gly-Asp). Fibronectin can be used for coating tissue culture surfaces to promote cell adhesion or as a medium additive; provided 0.2 µm sterile filtered.

Specifications:

Concentration:	1 mg/ml
Source:	Bovine plasma.
Storage Buffer:	100 mM CAPS, 150 mM NaCl, 1mM $CaCl_2$, pH 11.5
Storage/Stability:	Product is stable for a minimum of 3 months from date of shipment when stored at -20°C. For optimal stability store at -80°C. Repeated freeze-thaws will destroy product integrity.
Purity:	>90% by SDS-PAGE.

Materials Qualification:

Functional Assay:

- Tested for ability to promote attachment of HT-1080 cells.

Sterility Testing:

- No bacterial or fungal growth detected after incubation at 37°C for 14 days following USP sterility testing guidelines.
- No mycoplasma contamination detected by PCR.
- Endotoxin concentration 20 EU/ml by LAL assay.

*NZHD = New Zealand Herd Derived.

Coating Procedure:

The recommended working concentration is 0.2-2 µg/cm^2 (1-10 µg/ml) of growth surface depending on cell type. Only dilute as much Fibronectin as needed and use immediately. Note that Fibronectin is not stable for extended periods of time when diluted. Store concentrated material in aliquots to reduce the number of freeze-thaw cycles.

A. Dilute the Fibronectin stock solution appropriately with cold sterile water. Mix and transfer to the wells of tissue culture plates. Spread the solution to completely cover the bottom of the wells.

B. The following is a guide for the suggested volumes required per well:

Plate Type	Volume Fibronectin per Well
6 wells (or 35 mm dish)	2 ml
24 wells	400 µl
48 wells	100 µl
96 wells	50 µl

C. Coat wells with Fibronectin solution and incubate at 37°C overnight.
D. Aspirate solution and rinse the wells once with sterile water.
E. Block wells with 2% BSA, PBS for one hour at 37°C.
F. Aspirate blocking solution and add cells to wells (optimize concentration for each cell line and experimental condition).
G. Culture and analyze cells as needed (optimize for each cell line and experimental condition).

References:

1. Vaheri A, Mosher DF. (1978) High molecular weight, cell surface-associated glycoprotein (fibronectin) lost in malignant transformation. *Biochim Biophys Acta.* 516(1):1-25.
2. Edelman GM. (1983) Cell adhesion molecules. *Science* 219(4584):450-7.
3. Yoshida C, Takeichi M. (1982) Teratocarcinoma cell adhesion: identification of a cell-surface protein involved in calcium-dependent cell aggregation. *Cell* 28(2): 217-24.
4. Grinnell F. (1978) Cellular adhesiveness and extracellular substrata. *Int Rev Cytol.* 53:65-144.
5. Kleinman HK, Klebe RJ, Martin GR. (1981) Role of collagenous matrices in the adhesion and growth of cells. *J Cell Biol.* 88(3):473-85.

Cultrex®

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Storage: -80°C