SANTA CRUZ BIOTECHNOLOGY, INC.

Fibronectin: sc-29011

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Fibronectin is an extracellular matrix glycoprotein present on most cell surfaces, in extracellular fluids and in plasma. A high molecular weight heterodimeric protein, it was originally discovered as a protein missing from the surfaces of virus-transformed cells, and it has been shown to be involved in various functions including cell adhesion, cell motility and wound healing. Alternative splicing and glycosylation give rise to several different forms of Fibronectin, some of which exhibit restricted tissue distribution or association with malignancies. It has been shown that myofibroblast phenotype formation correlates with the occurrence of glycosylated Fibronectin and Fibronectin splice variants in Dupuytren's disease.

REFERENCES

1. Akiyama, S.K., et al. 1981.The structure of Fibronectin and its role in cellular adhesion. J. Supermol. Struct. Cell. Biochem. 16: 345-348.
2. Ruoslahti, E., et al. and Hayman, E.G. 1982. Molecular and biological interactions of Fibronectin. J. Invest. Dermatol. 79 Suppl. 1: 65s-68s.
3. Nagai, T., et al. 1991. Monoclonal antibody characterization of two distant sites required for function of the central cell-binding domain of Fibronectin in cell adhesion, cell migration, and matrix assembly. J. Cell Biol. 114: 1295-1305.
4. Kosmehl, H., et al. 1995. Differential expression of Fibronectin splice variants, oncofetal glycosylated Fibronectin and Laminin isoforms in nodular palmar fibromatosis. Pathol. Res. Pract. 191: 1105-1113.
5. Garat, C., et al. 1996. Soluble and insoluble Fibronectin increases alveolar epithelial wound healing *in vitro*. Am. J. Physiol. 271: L844-L853.
6. Matsui, S., et al. 1997. Expression, localization and alternative splicing pattern of Fibronectin messenger RNA in fibrotic human liver and hepatocellular carcinoma. J. Hepatol. 27: 843-853

PRODUCT

Fibronectin is purified from human plasma (≥90%) by 4-12% SDS PAGE under reducing conditions; supplied as 1 mg, lyophilized, in 100 mM CAPS, 0.15M NaCl, 1 mM calcium chloride, pH 11.0.

The source plasma was tested and found nonreactive for hepatitis B surface antigen (HBsAg) and negative for antibody to human immunodeficiency virus (HIV). Nevertheless, **THIS PRODUCT SHOULD BE HANDLED USING THE SAME SAFETY PRECAUTIONS USED WHEN HANDLING POTENTIALLY INFECTIOUS MATERIAL**.

The contents of this vial have been tested and found negative for the presence of bacteria, fungi and mycoplasma. Product has been tested for its ability to promote attachment and spreading using BHK-21 cells.

Fibronectin is generally used in the concentration range of 1-5 µg/cm^2 of growth surface for attachment or at 5 µg/ml as a media additive. Coating protocols are provided as guidelines only; each laboratory should empirically determine the optimal conditions for their unique applications.

Molecular Weight of Fibronectin: 440 kDa dimeric glycoprotein, non-reduced form.

RECOMMENDED COATING PROTOCOL

- Dilute Fibronectin to desired concentration using serum-free culture Ca^{2+}, Mg^{2+}-free medium or buffer at pH 7-9. The final solution should be sufficiently dilute so that the volume added to the coating surface will coat it evenly (e.g. for a final coating concentration of 5µg/cm^2, dilute material to 50 µg/ml and add 1 ml/35 mm dish, 3 ml/60 mm dish, etc.).

  Note: Because of the CAPS component in the HFN preparation, buffers of media containing Ca^{2+} and/or Mg^{2+} added to the HFN may result in the formation of insoluble metal hydroxides. This will not occur if the buffering capacity of the diluent brings the pH to 8.0 or lower.
- Add appropriate amount of diluted Fibronectin to culture surface.
- Incubate at room temperature for one hour.
- Aspirate remaining material.
- Rinse plates carefully with dH_2O; avoid scraping bottom surface.
- Plates may be used immediately or may be stored at 2-8°C, damp or air dried, if sterility is maintained.

STORAGE AND RECONSTITUTION

Stable for a minimum of three months from the date of shipment when stored at 2-8°C.

To reconstitute product, equilibrate vial to room temperature. Resuspend in 1ml sterile distilled water. Allow 30 minutes for material to go into solution. **DO NOT AGITATE OR SWIRL**. If entire amount of material is not to be used immediately, transfer into appropriate aliquots and store at -20°C.

Stabilized product should be used within two weeks. **DO NOT STORE IN FROST-FREE FREEZER. AVOID MULTIPLE FREEZE-THAW CYCLES**.

RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.