

Product Information

Fibronectin cellular, from human foreskin fibroblasts

Catalog Number **F2518**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN 86088-83-7
Synonyms: CIG; cold insoluble globulin

Product Description

Cellular fibronectin is an adhesion glycoprotein of the extracellular matrix, which exists as a dimer with a molecular mass of $\sim 550\text{ kDa}$. It contains two heterodimers, the A chain and the B chain containing the type III connecting segment (IIIcs) region. Cellular fibronectin differs from plasma fibronectin, a 200–250 kDa monomer, by the presence of additional polypeptide segments and in altering morphology of transformed cells and hemagglutination.

Different forms of fibronectin appear to be generated from tissue specific splicing of fibronectin mRNA, transcribed from a single gene. Multiple domains of fibronectin show binding affinities for collagen, fibrin, heparin, and specific cell membrane receptors. The most notable domain, Arg-Gly-Asp (RGD), is recognized by integrins and mediates cell adhesion. Fibronectin is involved in widespread interactions and functions, such as the attachment and migration of many cell types, cytoskeletal assembly, tyrosine phosphorylation, and metastasis.

Cellular fibronectin is isolated from human foreskin fibroblasts maintained in serum-free medium and is lyophilized from CAPS buffered saline. The product has been tested as a cell attachment factor, which may be useful for attachment of epithelial, mesenchymal, neuronal, neural crest, and endothelial cells, along with fibroblasts.

Starting material is tested and found negative for HIV and HBsAg.

Precautions and Disclaimer

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

Preparation Instructions

The product is soluble in sterile water (0.5 mg/ml), yielding a clear, colorless solution.

Storage/Stability

Store the product at $-20\text{ }^{\circ}\text{C}$. The product remains active for at least 3 years.

Reconstituted solutions should be stored in working aliquots at $-20\text{ }^{\circ}\text{C}$ or lower. Vortexing, excessive agitation, and repeated freezing and thawing of reconstituted fibronectin solutions are not recommended.

Procedure

Fibronectin and fibronectin solutions should be handled under aseptic conditions. This product is recommended for use as a cell culture substratum at $1\text{--}5\text{ }\mu\text{g}/\text{cm}^2$ or $0.5\text{--}50\text{ }\mu\text{g}/\text{ml}$. Optimal concentration depends on cell type as well as the application or research objectives.

1. Reconstitute the product with 0.5 ml of sterile water. Do not agitate. Allow the solution to stand 30 minutes to solubilize. A small amount of undissolved material may remain. This will not affect product performance.
2. Dilute the fibronectin solution with a sterile, balanced salt solution and coat the culture surface with a minimal volume.
3. Allow to air dry for at least 45 minutes at room temperature. Excess fibronectin may be removed by aspiration, but is not necessary.

References

1. Hayashi, M., and Yamada, K.M., J. Biol. Chem., **256**, 11292-11300 (1981).
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3. Chiquet, M.E. et al., Ann. N.Y. Acad. Sci., **312**, 420-422 (1978).
4. Fibronectin and fibronectin fragments in Extracellular Matrix: A Practical Approach, Akiyama, S. et al., eds., (New York, NY: 1995) p. 183.
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