Product Data Sheet

Product Name: Recombinant Human Fibronectin ,rFN
Cat. No.: GC26210

Chemical Properties

Cas. No.	86088-83-7		
Formula		M.Wt	200~250 kDa
Solubility	H_2O : 8.33 mg/mL (ultrasonic and adjust pH to 7 with NaOH)	Storage	-20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Protocol

This protocol uses a cell culture coating experiment as an example and is intended for reference only. Actual application conditions may require optimization based on specific experimental needs [1].

1. Solution preparation:

Upon receipt, dissolve Recombinant Human Fibronectin ,rFN in sterile 1×PBS to prepare a stock solution at a concentration of 1mg/mL. Aliquot the stock solution into single-use volumes and store at

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–20°C to avoid repeated freeze-thaw cycles. Before use, thaw the required aliquot and dilute it with sterile 1×PBS (pH 7.2-7.4) to prepare the working solution. The recommended working concentration is 50-100μg/mL.

2. Plate coating (Example: 6-well plate)

Add approximately 800μL of the Recombinant Human Fibronectin ,rFN working solution to each well of a 6-well plate, ensuring that the entire bottom surface is evenly covered. Incubate the plate under one of the following conditions: overnight at 4°C, or for 1h at 37°C.

3. Working solution recovery

After incubation, collect the remaining Recombinant Human Fibronectin ,rFN working solution and store it at –20°C. It can be reused for coating other culture vessels within one week, provided sterility is maintained.

4. Cell Seeding

After coating, remove the residual solution if necessary. Add the appropriate volume of complete cell culture medium, and proceed with cell seeding directly. Recombinant Human Fibronectin ,rFN enhances cell adhesion, promotes cell spreading and migration, and supports optimal cell growth.

Notes:

1. If the Recombinant Human Fibronectin ,rFN working solution is not used immediately, it can be stored in a sealed container at –20°C. It is recommended to use it within one week to ensure optimal performance.

2. Adjust the volume of Recombinant Human Fibronectin ,rFN working solution according to the size and surface area of the culture plate or flask being used.

3. As a recombinant protein, Recombinant Human Fibronectin ,rFN should be handled gently. Avoid vigorous shaking during dissolution, and do not subject to repeated freeze-thaw cycles.

4. For laboratory safety, wear appropriate personal protective equipment such as a lab coat and disposable gloves during handling.

References:

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[1]. Rappa G, Kunke D, Holter J, et al. Efficient expansion and gene transduction of mouse neural stem/progenitor cells on recombinant fibronectin[J]. Neuroscience, 2004, 124(4): 823-830.

Background

Recombinant Human Fibronectin ,rFN is a recombinant human fibronectin extracted from rice endosperm cells and exists in monomeric form [1]. Recombinant Human Fibronectin ,rFN can be used as a cell culture matrix to replace Matrigel, rat tail collagen, blood-derived fibronectin, etc., to increase cell adhesion rate, enhance cell metabolism level and shorten cell growth cycle. Recombinant Human Fibronectin ,rFN can also be directly added to the culture medium to replace or reduce the amount of serum, promote cell adhesion, migration, suspension growth and maintain a good cell state [2].

Fibronectin (FN) is a soluble glycoprotein that exists in body fluids and can also be one of the insoluble components of the extracellular matrix. FN as one of the main cell adhesion molecules, FN plays a key role in important physiological processes such as embryonic development, wound healing, hemostasis and thrombosis [3]. FN can also bind to a variety of extracellular matrix proteins (such as collagen, fibrin and heparin sulfate proteoglycans), thereby participating in the construction and regulation of the extracellular environment [4].

References:
[1]. Dong Y, Zhu W, Lei X, et al. Treatment of acute wounds with recombinant human-like collagen and recombinant human-like fibronectin in C57BL/6 mice individually or in combination[J]. Frontiers in Bioengineering and Biotechnology, 2022, 10: 908585.
[2]. Patten, Jennifer, Karin Wang. "Fibronectin in development and wound healing." Advanced drug delivery reviews 170 (2021): 353-368.
[3]. Mathew-Steiner SS, Roy S, Sen CK. Collagen in wound healing. Bioengineering. 2021 May 11; 8(5): 63.
[4]. Pankov R, Yamada KM. Fibronectin at a glance. Journal of cell science. 2002 Oct 15; 115(20): 3861-3863.