

## Recombinant Human Fibronectin Protein(CHO, His Tag)

### Product description

Human fibronectin is a glycoprotein that plays a critical role in cell adhesion, growth, migration, and wound healing processes. It exists in the extracellular matrix and participates in various cellular functions such as cell differentiation and embryogenesis. Fibronectin is also important in mediating interactions between cells and their surrounding environment.

Recombinant human fibronectin (rFN) can be used as a cell culture matrix to replace Matrigel, rat tail collagen, plasma-derived fibronectin, etc., improving cell attachment efficiency, enhancing cellular metabolic activity, and shortening the cell growth cycle. It can also be directly added into culture medium to replace or reduce serum usage, promoting cell adhesion, migration, motility, and maintaining optimal cell status.

This product is derived from CHO cells and supplied as a lyophilized powder. It is cell culture grade with low batch-to-batch variation and no risk of potential viral contamination.

Yeasen Biotech offers two recombinant human fibronectin products: 92619ES and 40113ES, with equivalent performance. The differences between the two products are listed below:

Product Code	92619ES	40113ES
Product Name	Recombinant Human Fibronectin (CHO, His Tag)	Recombinant Human Fibronectin
Expression System	CHO Cells	Rice Seeds
Endotoxin	<0.5 EU/μg	<0.5 EU/μg
Tag	His	None

### Components

Name	92619ES03	92619ES08	92619ES10	92619ES60	92619ES80
Recombinant Human Fibronectin Protein(CHO, His Tag)	1 mg	5 mg	10 mg	100 mg	1 g

### Parameters

Molecular Aliases	Fibronectin, FN1, CIG, ED-B, FINC, FN, FNZ, GFND, GFND2, LETS, MSF
Expression System	CHO cells-derived human Fibronectin protein, with N-terminal His tag
Molecular Weight	The protein has a predicted MW of 97 kDa. It migrates at 100–130 kDa under reducing conditions (SDS-PAGE) due to glycosylation
Purity	>90% as determined by SDS-PAGE
Biological Activity	The ED <sub>50</sub> , as determined by a cell adhesion assay using B16-F1 mouse melanoma cells, is less than 1.1 μg/mL, corresponding to a specific activity of >1.17 × 10 <sup>7</sup> IU/mg. Fully biologically active when compared to standard.
Endotoxin	<0.5 EU per 1 μg of protein, as determined by the LAL method.

Formulation	Lyophilized from a 0.2 $\mu\text{m}$ -filtered concentrated solution in PBS.
-------------	--

## Storage

This product should be stored at  $-25^{\circ}\text{C}$ ~ $-15^{\circ}\text{C}$  for 1 year.

After reconstitution:

Store at  $2^{\circ}\text{C}$ ~ $8^{\circ}\text{C}$  for 2~7 days (validity).

Store at  $-25^{\circ}\text{C}$  to  $-15^{\circ}\text{C}$  for up to 3 months (validity).

## Reconstitution Method

Before opening, centrifuge briefly to ensure all contents are at the bottom of the vial. Reconstitute with sterile 1 $\times$  PBS. After reconstitution, aliquot into single-use volumes and store at  $-20^{\circ}\text{C}$  to avoid repeated freeze-thaw cycles.

## Notes

1. For your safety and health, wear a lab coat and disposable gloves while handling this product.
2. This product is intended for research use only.

## Product Data

### SDS-PAGE

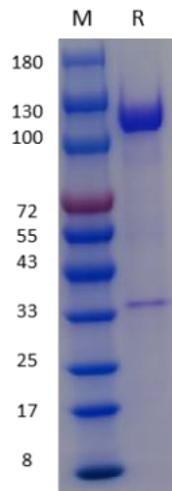


Figure 1. Human Fibronectin on SDS-PAGE under reduced condition. The purity is greater than 90%.

### Bioactivity – Cell-Based Assay

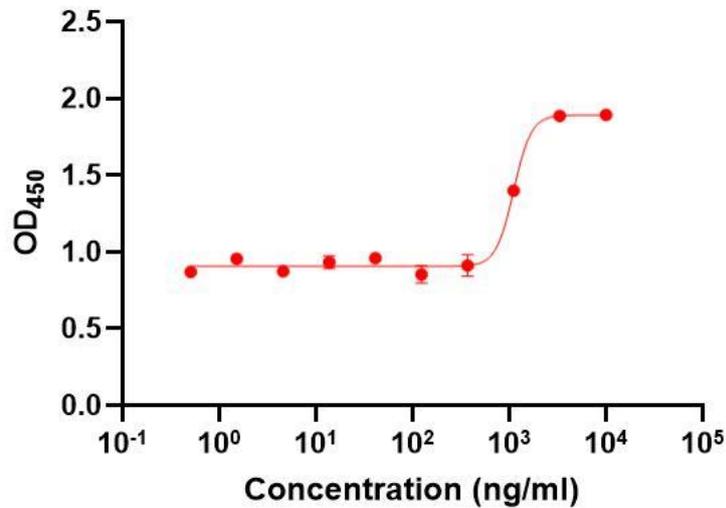


Figure 2. The ED50 as determined by a cell adhesion assay using B16-F1 mouse melanoma cells is less than 1.1 µg/mL, corresponding to a specific activity of > 1.17 X 10<sup>7</sup> IU/mg. Fully biologically active when compared to standard.

## Protocol (Example using 6-well plate; adjust volumes for other plates according to Table 1)

### 1. Coating / Plating Experiment

- 1) Take an appropriate amount of recombinant human fibronectin (rFN), dilute with sterile 1× PBS (pH 7.2–7.4) to the desired working concentration. Recommended final concentration range: 50–100 µg/mL. Mix well and add 800 µL per well to a 6-well plate, ensuring complete coverage of the bottom surface.
- 2) Incubate the 6-well plate at 4°C overnight or at 37°C for 1 hour to allow coating.
- 3) Collect the rFN working solution from the plate and store at 4°C; it can be reused for coating other culture dishes/plates within one week.
- 4) After coating, remove the solution and add normal cell culture medium. Cells can then be seeded directly. rFN enhances cell attachment, growth, and overall performance.
- 5) If not used immediately, store the coated plate sealed at 4°C and use within one week.

**[Note]:** The volume of rFN working solution should be adjusted according to the size of the culture dish or plate. Refer to Table 1 below.

**Table 1. Recommended rFN Working Solution Volumes for Different Culture Dishes/Plates**

Culture Dish/Plate	Bottom Surface Area (cm <sup>2</sup> )	Recommended rFN Working Solution Volume
96-well plate	0.32	50 µL
24-well plate	2	200 µL
12-well plate	4.5	400 µL
6-well plate	9.6	800 µL
35 mm dish	8	600 µL
60 mm dish	21	1.6 mL

Culture Dish/Plate	Bottom Surface Area (cm <sup>2</sup> )	Recommended rFN Working Solution Volume
25 cm <sup>2</sup> flask	25–28	2.0 mL

## 2. Cell Culture Application

During cell culture, rFN can be directly added to the culture medium to promote cell attachment, migration, motility, and maintain cell morphology and health. The recommended final concentration range is 5–50 µg/mL.