

Datasheet for ABIN411272  
**Fibronectin 1 ELISA Kit**



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## Overview

Quantity:	96 tests
Target:	Fibronectin 1 (FN1)
Reactivity:	Rat
Method Type:	Sandwich ELISA
Detection Range:	156-10000 pg/mL
Minimum Detection Limit:	156 pg/mL
Application:	ELISA

## Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Rat Fibronectin
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA), Plasma (citrate)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	from plasma
Specificity:	Expression system for standard: from plasma
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.
Sensitivity:	<15pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the

## Product Details

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detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g NaCl

## Target Details

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Target: Fibronectin 1 (FN1)

Alternative Name: FN1 ([FN1 Products](#))

Background: Protein Function: Fibronectins bind cell surfaces and various compounds including collagen, fibrin, heparin, DNA, and actin. Fibronectins are involved in cell adhesion, cell motility, opsonization, wound healing, and maintenance of cell shape. Involved in osteoblast compaction through the fibronectin fibrillogenesis cell-mediated matrix assembly process, essential for osteoblast mineralization. Participates in the regulation of type I collagen deposition by osteoblasts (By similarity). .

Background: Fibronectin(FN) also known as LETS, is identified on the surfFN of fibroblasts by labeling with radioactive compounds or specific antibodies. Fibronectin is a 430,000-dalton dimeric glycoprotein that exists in 2 forms, termed cellular and plasma fibronectin. Cellular and plasma fibronectins are heterodimers consisting of similar but not identical polypeptides. These two forms of FN differ in biologic activity. Fibronectins bind cell surfFNs and various compounds including collagen, fibrin, heparin, DNA, and actin. Because fibronectin stimulates endocytosis in several systems and promotes the clearance of particulate material from the circulation, it could function in the clearance of C1q-coated material such as immune complexes or cellular debris. Fibronectins are involved in cell adhesion, cell motility, opsonization, wound healing, and maintenance of cell shape. LETS, encoded on chromosome 8, is responsible for the LETS protein expression in humans. Because LETS has been implicated in tumorigenicity and cellular transformation, it is of interest that rearrangement or modifications in the number of chromosome 8 have been associated with certain forms of cancer. The standard used in this kit is isolated from rat plasma with the molecular mass of 200-250KDa.

Synonyms: Fibronectin, FN, Anastellin, Fn1,

Full Gene Name: Fibronectin

Cellular Localisation: Secreted, extracellular space, extracellular matrix.

Gene ID: 25661

UniProt: [P04937](#)

Pathways: [Cellular Response to Molecule of Bacterial Origin, Carbohydrate Homeostasis, Autophagy](#)

## Application Details

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Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	Sequence similarities: Contains 12 fibronectin type-I domains. Tissue Specificity: Plasma FN (soluble dimeric form) is secreted by hepatocytes. Cellular FN (dimeric or cross-linked multimeric forms), made by fibroblasts, epithelial and other cell types, is deposited as fibrils in the extracellular matrix.
Plate:	Pre-coated
Protocol:	rat Fibronectin ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for Fibronectin has been precoated onto 96-well plates. Standards(from plasma) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for Fibronectin is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the rat Fibronectin amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 10000pg/mL, 5000pg/mL, 2500pg/mL, 1250pg/mL, 625pg/mL, 313pg/mL, 156pg/mL rat Fibronectin standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of rat cell culture supernates, serum or plasma(heparin, EDTA, citrate) to each empty well. See "Sample Dilution Guideline" above for details. We recommend that each rat Fibronectin standard solution and each sample is measured in duplicate.

Assay Precision:	<ul style="list-style-type: none"><li>• Sample 1: n=16, Mean(ng/ml): 1.19, Standard deviation: 0.044, CV(%): 3.7</li><li>• Sample 2: n=16, Mean(ng/ml): 2.25, Standard deviation: 0.117, CV(%): 5.2</li><li>• Sample 3: n=16, Mean(ng/ml): 5.13, Standard deviation: 0.231, CV(%): 4.5,</li><li>• Sample 1: n=24, Mean(ng/ml): 1.35, Standard deviation: 0.092, CV(%): 6.8</li><li>• Sample 2: n=24, Mean(ng/ml): 2.29, Standard deviation: 0.169, CV(%): 7.4</li><li>• Sample 3: n=24, Mean(ng/ml): 5.28, Standard deviation: 0.364, CV(%): 6.9</li></ul>
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Restrictions:	For Research Use only
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## Handling

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Handling Advice:	Avoid multiple freeze-thaw cycles.
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Storage:	-20 °C,4 °C
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## Handling

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Storage Comment: Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles

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Expiry Date: 12 months

## Publications

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Product cited in: Liu, Ma, Liu, Wang, Cao, Li, Zhang, Geng: "Effect of Wujia Shenghua capsule on uterine bleeding following medically-induced incomplete abortion in rats during early pregnancy." in: **Experimental and therapeutic medicine**, Vol. 10, Issue 2, pp. 635-640, (2015) ([PubMed](#)).

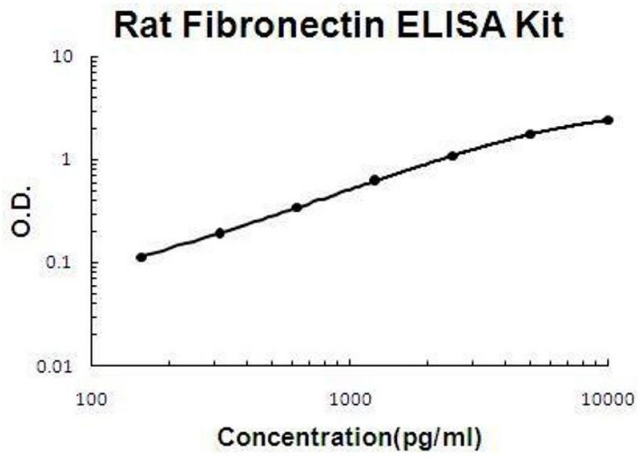
Lv, Wu, Zhou, Shao, Wang, Wang: "Alpha Lipoic Acid Modulated High Glucose-Induced Rat Mesangial Cell Dysfunction via mTOR/p70S6K/4E-BP1 Pathway." in: **International journal of endocrinology**, Vol. 2014, pp. 658589, (2014) ([PubMed](#)).

Xu, Guan, Zheng, Gao, Zeng, Qin, Xue: "Exendin-4 alleviates high glucose-induced rat mesangial cell dysfunction through the AMPK pathway." in: **Cellular physiology and biochemistry : international journal of experimental cellular physiology, biochemistry, and pharmacology**, Vol. 33, Issue 2, pp. 423-32, (2014) ([PubMed](#)).

Gao, Huang, Li: "NOX1 abet mesangial fibrogenesis via iNOS induction in diabetes." in: **Molecular and cellular biochemistry**, Vol. 382, Issue 1-2, pp. 185-91, (2013) ([PubMed](#)).

Bai, Zeng, Zhou, Liao, Zhang, Xu, Han, Pei, Liu, Liu, Yao, Xu: "Cdc42-interacting protein-4 promotes TGF- $\beta$ 1-induced epithelial-mesenchymal transition and extracellular matrix deposition in renal proximal tubular epithelial cells." in: **International journal of biological sciences**, Vol. 8, Issue 6, pp. 859-69, (2012) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)



#### ELISA

**Image 1.** Rat Fibronectin PicoKine ELISA Kit standard curve