

Datasheet for ABIN921056
Fibronectin 1 ELISA Kit



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Overview

Quantity:	96 tests
Target:	Fibronectin 1 (FN1)
Reactivity:	Mouse
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 Mouse 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

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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

Target:	Fibronectin 1 (FN1)
Alternative Name:	FN1 (FN1 Products)
Background:	<p>Protein Function: Integrins alpha-1/beta-1, alpha-2/beta-1, alpha-10/beta- 1 and alpha-11/beta-1 are receptors for collagen. Integrins alpha- 1/beta-1 and alpha-2/beta-2 recognize the proline-hydroxylated sequence G-F-P-G-E-R in collagen. Integrins alpha-2/beta-1, alpha- 3/beta-1, alpha-4/beta-1, alpha-5/beta-1, alpha-8/beta-1, alpha- 10/beta-1, alpha-11/beta-1 and alpha-V/beta-1 are receptors for fibronectin. Alpha-4/beta-1 recognizes one or more domains within the alternatively spliced CS-1 and CS-5 regions of fibronectin. Integrin alpha-5/beta-1 is a receptor for fibrinogen. Integrin alpha-1/beta-1, alpha-2/beta-1, alpha-6/beta-1 and alpha-7/beta-1 are receptors for lamimin. Integrin alpha-4/beta-1 is a receptor for VCAM1 and recognizes the sequence Q-I-D-S in VCAM1. Integrin alpha-9/beta-1 is a receptor for VCAM1, cytotactin and osteopontin. It recognizes the sequence A-E-I-D-G-I-E-L in cytotactin. Integrin alpha-3/beta-1 is a receptor for epiligrin, thrombospondin and CSPG4. Integrin alpha-3/beta-1 provides a docking site for FAP (seprase) at invadopodia plasma membranes in a collagen-dependent manner and hence may participate in the adhesion, formation of invadopodia and matrix degradation processes, promoting cell invasion. Alpha-3/beta-1 may mediate with LGALS3 the stimulation by CSPG4 of endothelial cells migration. Integrin alpha-V/beta-1 is a receptor for vitronectin. Beta-1 integrins recognize the sequence R-G-D in a wide array of ligands. When associated with alpha-7/beta-1 integrin, regulates cell adhesion and laminin matrix deposition. Involved in promoting endothelial cell motility and angiogenesis. Involved in osteoblast compaction through the fibronectin fibrillogenesis cell-mediated matrix assembly process and the formation of mineralized bone nodules. May be involved in up-regulation of the activity of kinases such as PKC via binding to KRT1. Together with KRT1 and GNB2L1, serves as a platform for SRC activation or inactivation. Plays a mechanistic adhesive role during telophase, required for the successful completion of cytokinesis. .</p> <p>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</p>

Target Details

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.

Synonyms: Integrin beta-1,Fibronectin receptor subunit beta,VLA-4 subunit beta,CD29,Itgb1,
Full Gene Name: Integrin beta-1

Cellular Localisation: Cell membrane, Single-pass type I membrane protein . Cell projection, invadopodium membrane, Single-pass type I membrane protein . Cell projection, ruffle membrane, Single-pass type I membrane protein . Recycling endosome . Melanosome . Cell projection, lamellipodium . Cell projection, ruffle . Colocalizes with ITGB1BP1 and metastatic suppressor protein NME2 at the edge or peripheral ruffles and lamellipodia during the early stages of cell spreading on fibronectin or collagen. Translocates from peripheral focal adhesions to fibrillar adhesions in an ITGB1BP1-dependent manner. Enriched preferentially at invadopodia, cell membrane protrusions that correspond to sites of cell invasion, in a collagen-dependent manner. Localized at plasma and ruffle membranes in a collagen-independent manner..

Gene ID:	16412
UniProt:	P09055
Pathways:	Cellular Response to Molecule of Bacterial Origin , Carbohydrate Homeostasis , Autophagy

Application Details

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: Belongs to the integrin beta chain family. Tissue Specificity: Isoform 2 is expressed in skeletal and cardiac muscles only (at protein level). Isoform 1 is very weakly expressed in striated muscles and not detected in adult skeletal muscle fibers and cardiomyocytes. .
Plate:	Pre-coated
Protocol:	mouse Fibronectin ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from rat specific for Fibronectin has been precoated

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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 mouse 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, 312pg/mL, 156pg/mL mouse 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 mouse cell culture supernates, serum or plasma(heparin, EDTA, citrate) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each mouse Fibronectin standard solution and each sample be measured in duplicate.

Assay Precision:

- Sample 1: n=16, Mean(ng/ml): 1.56, Standard deviation: 0.064, CV(%): 4.1
- Sample 2: n=16, Mean(ng/ml): 3.24, Standard deviation: 0.136, CV(%): 4.2
- Sample 3: n=16, Mean(ng/ml): 5.13, Standard deviation: 0.267, CV(%): 5.2,
- Sample 1: n=24, Mean(ng/ml): 1.34, Standard deviation: 0.091, CV(%): 6.8
- Sample 2: n=24, Mean(ng/ml): 3.29, Standard deviation: 0.243, CV(%): 7.4
- Sample 3: n=24, Mean(ng/ml): 5.28, Standard deviation: 0.396, CV(%): 7.5

Restrictions: For Research Use only

Handling

Handling Advice: Avoid multiple freeze-thaw cycles.

Storage: -20 °C, 4 °C

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

Expiry Date: 12 months

Publications

Product cited in: Zhao, Xu, Sun, Ma, Wu, Xu, Kuang: "Tuning the interactions between chiral plasmonic films and living cells." in: **Nature communications**, Vol. 8, Issue 1, pp. 2007, (2018) ([PubMed](#)).

Bai, Li, Zhao, Li, Li, Feng, Qin, Tian, Zhou: "A Chinese Herbal Formula Ameliorates Pulmonary

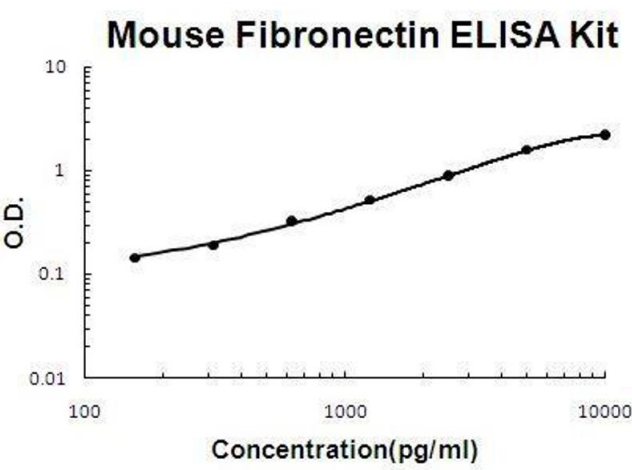
Fibrosis by Inhibiting Oxidative Stress via Upregulating Nrf2." in: **Frontiers in pharmacology**, Vol. 9, pp. 628, (2018) ([PubMed](#)).

Rani, Nicholson, Zhang, Schwacha: "Damage-associated molecular patterns (DAMPs) released after burn are associated with inflammation and monocyte activation." in: **Burns : journal of the International Society for Burn Injuries**, Vol. 43, Issue 2, pp. 297-303, (2017) ([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](#)).

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ELISA

Image 1. Mouse Fibronectin PicoKine ELISA Kit standard curve