Recombinant Human Fibronectin

Catalog Number: 4305-FN

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Gln32-Pro1908, with a C-terminal 6-His tag Accession # CAE45932
N-terminal Sequence Analysis	No results obtained: Gln32 predicted
Predicted Molecular Mass	206.6 kDa

SPECIFICATIONS

SDS-PAGE	190-210 kDa, reducing conditions
Activity	Measured by its ability to support cell attachment and spreading when used as a substratum for cell culture. In this application, the recommended concentration for this effect is typically 1-5 µg/cm^2. Fibronectin can also be added to the media to support cell spreading at a concentration of 0.5-50 µg/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS and Tween® 20. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Fibronectin (FN) is a large, modular glycoprotein that generates a polymeric fibrillar network in the extracellular matrix (ECM), and forms soluble, disulfide-linked dimeric protomers in plasma and other body fluids (1, 2). Fibronectin is a ligand for many molecules, including fibrin, heparin, chondroitin sulfate, collagen/gelatin, and integrins. It is involved in multiple cellular processes such as cell adhesion/migration, blood clotting, morphogenesis, tissue repair, and cell signaling. Fibronectin functions are mediated by the insoluble polymeric fibrillar network. Conversion of soluble Fibronectin to Fibronectin fibrils in the ECM is initiated by binding to cell surface integrins, resulting in exposure of cryptic epitopes necessary for polymerization (1). Fibronectin is made up of three types of homologous structural motifs termed FN type I, type II, and type III repeats (3-5). Alternative splicing generates multiple isoforms of Fibronectin which may have insertions of extra type III domains (EDA and EDB) or alteration of the type III connecting segment (IIICS) (5). Differential splicing within the IIICS domain determines the presence of CS1 and CS2 sequences, and its sensitivity to proteases (6, 7). The tilt angle between type III domains #9 and #10 (which contains an RGD motif) determines integrin binding affinity, suggesting how structural differences between fibrillar and soluble Fibronectin may influence their function (8). From the N-terminus to the furin cleavage site at amino acid 1908, human Fibronectin shares 92% amino acid sequence identity with mouse and rat Fibronectin.

References:

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