

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Fibronectin.
Source	Monoclonal Mouse IgM Clone # P1F11
Purification	IgM-specific Affinity-purified from hybridoma culture supernatant
Immunogen	Human plasma-derived Fibronectin
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

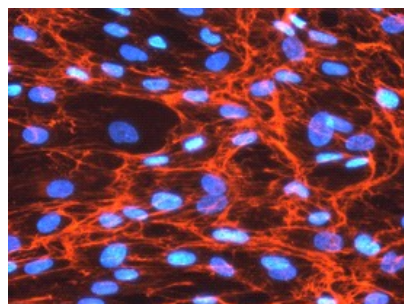
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Immunocytochemistry	8-25 µg/mL	See Below

DATA

Immunocytochemistry



Fibronectin in WS-1 Human Cell Line. Fibronectin was detected in immersion fixed WS-1 human fetal skin fibroblast cell line using 10 µg/mL Mouse Anti-Human Fibronectin Monoclonal Antibody (Catalog # MAB19181) for 3 hours at room temperature. Cells were stained with the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counter-stained with DAPI (blue). View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 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:

1. Mao, Y. and J.E. Schwarzbauer (2005) *Matrix Biol.* **24**:389.
2. Potts, J.R. and I.D. Campbell (1996) *Matrix Biol.* **15**:313.
3. Bernard, M.P. *et al.* (1985) *Biochemistry* **24**:2698.
4. Kornblihtt, A.R. *et al.* (1983) *Proc. Natl. Acad. Sci. USA* **80**:3218.
5. Kornblihtt, A.R. *et al.* (1985) *EMBO J.* **4**:1755.
6. Mould, A.P. *et al.* (1991) *J. Biol. Chem.* **266**:3579.
7. Abe, Y. *et al.* (2005) *Biochem. Biophys. Res. Commun.* **338**:1640.
8. Altfroth, H. *et al.* (2004) *J. Biol. Chem.* **279**:55995.