Bovine Plasma Vitronectin
(BPV)
Cat. No. 8538

Introduction

Vitronectin is a glycoprotein found in plasma and extracellular matrix (ECM). It is a soluble, disulfide-linked dimer, composed of a75 kDa and a 65 kDa peptide chain. In blood and plasma, vitronectin is predominantly found as a single chain monomer. The N-terminal of vitronectin contains multiple binding sites for a variety of structures. Vitronectin is involved in a number of biological functions including cell adhesion, cell spreading and migration, cell proliferation, extracellular anchoring, fibrinolysis, hemostasis, and complement immune defense. Vitronectin can be used for coating tissue culture surfaces to promote cell adhesion, proliferation, and differentiation. Optimal conditions for cell attachment must be determined for each cell line and application.

ScienCell™ Bovine Plasma Vitronectin is purified from bovine plasma by affinity chromatography. It is supplied as a sterile solution in Dulbecco's Phosphate-Buffered Saline (DPBS).

Product Specification

Quantity: 0.1 mg
Concentration: 0.4 mg/ml
Storage buffer: DPBS, pH 7.4

Quality Control

Vitronectin quality is assessed by NuPAGE 4-12% Bis-Tris Gel stained with Coomassie brilliant blue. Under reducing conditions, vitronectin appears as a doublet with bands at 75 kDa and 65 kDa. Cell adhesion assays indicate that coating at as low at 0.1 µg/cm^2 of vitronectin promotes endothelial cell adhesion compared to non-coated controls.

Storage/Handling

It is recommended that the product be aliquoted and stored at -80˚C. Vitronectin should be thawed slowly at 2-8°C with no agitation. Any precipitate that is present can be removed by centrifugation. Avoid repeated freeze/thaw cycles.

Application

Bovine Plasma Vitronectin is recommended for use as a cell culture substratum at 0.1-0.5 µg/cm^2. Optimal concentration will vary depending on cell type and will need to be determined by user.

Coating Instructions

1. Dilute vitronectin in a serum-free, Ca^{2+}-free, Mg^{2+}-free culture medium or balanced neutral buffer. Coat the culture surface at 0.1-0.5 µg/cm^2 in minimal volume.
2. Incubate culture vessels at room temperature for 2 hours or at 2-8˚C overnight.
3. Aspirate remaining vitronectin solution and rinse twice with HBSS or DI H_2O. The culture vessels are now ready to use.

References

1. Vuento M, Korkolainen M, Kuusela P, Holtta E. (1985) "Isolation of a novel cell-attachment and spreading-promoting protein from human serum." *Biochem J.* 227: 421-7.
2. Hayman EG, Pierschbacher MD, Suzuki S, Ruoslahti E. (1985) "Vitronectin--a major cell attachment promoting protein in fetal bovine serum." *Exp Cell Res*. 160: 245-58.
3. Akiyama KS. (1999) "Purification of Vitronectin." *Current Protocols in Cell Biology*. 10.6.1-10.6.5