Rev. 1

Bovine Plasma Vitronectin (BPV)

Catalog #8538

Product Description

Vitronectin is a glycoprotein found in plasma and extracellular matrix (ECM). It is a soluble, disulfide-linked dimer, composed of a 75 kDa and a 65 kDa peptide chain. In plasma, vitronectin is predominantly found as a single chain monomer [1]. 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, spreading, migration, proliferation, extracellular anchoring, fibrinolysis, hemostasis, and complement immune defense [2, 3, 4]. Vitronectin can be used for coating tissue culture surfaces to promote cell adhesion, proliferation, and differentiation.

ScienCell™ Bovine Plasma Vitronectin is purified from bovine plasma by affinity chromatography [5]. It is supplied as a sterile solution in Dulbecco's Phosphate-Buffered Saline (DPBS). Optimal conditions for cell attachment must be determined for each cell line and application.

Product Specification

Quantity: 100 µg
Concentration: 0.4 mg/mL
Storage buffer: DPBS, pH 7.4

Quality Control

Vitronectin appears two bands in SDS-PAGE at 75 kDa and 65 kDa. Vitronectin is tested for the adherence of cells to the culture dish and promotion of cell growth. Vitronectin is negative for bacterial contamination.

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.

Caution: If handled improperly, some components of this product may present a health hazard. Take appropriate precautions when handling this product, including the wearing of protective clothing and eyewear. Dispose of properly.

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] Tschopp J, Masson D, Schafer S, Peitsch M, Preissner KT. (1988) “The heparin binding domain of S protein/vitronectin binds to complement components C7, C8, and C9 and perforin from cytolytic T cells and inhibits their lytic activities.” *Biochemistry*. 27:4103-9.
[4] Yatohgo T, Izumi M, Kashiwagi H, Hayashi M. (1988) “Novel purification of vitronectin from human plasma by heparin affinity chromatography.” *Cell Struct Funct*. 13:281-92.
[5] Akiyama KS. (1999) “Purification of Vitronectin.” *Current Protocols in Cell Biology*. 10.6.1-10.6.5