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ProductInformation

MONOCLONAL ANTI-VITRONECTIN
CLONE VIT-2
Mouse Ascites Fluid

Product Number **V7881**

Product Description

Monoclonal Anti-Vitronectin (mouse IgM isotype) is derived from the VIT-2 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with purified human plasma vitronectin. The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Vitronectin recognizes both the 75 kDa and 65 kDa bands of human purified and plasma vitronectin in an immunoblotting assay. It does not cross-react with other extracellular matrix components such as fibronectin, laminin, merosin, collagen IV or chondroitin sulfate A, B and C in dot blot assays. The antibody is also useful for detection of vitronectin by ELISA. The antibody stains methanol-acetone-fixed human cultured fibroblasts by indirect immunofluorescence assay.

The extracellular matrix in animals is composed of a fibrillar network of proteoglycans and glycoproteins such as fibronectin, vitronectin, collagen, elastin, and laminin. Vitronectin[1], (also known as serum-spreading factor, S-protein of complement or epibolin) is one of the major multifunctional cell-adhesive glycoproteins in mammalian plasma and serum. It is a monomeric acidic glycoprotein detected as a mixture of 75 kDa and 65 kDa polypeptides; the latter seems to be an endogenously proteolytically-nicked product of the former with the release of 10 kDa fragment from the C-terminal end. There appears to be a genetic polymorphism to the ratio of the two chains in individual sera. Vitronectin binds to heparin,[2] collagen, streptococci and variety of cultured cells. It also acts as an inhibitor of the complement cascade by binding to the C5b-9 complex. Vitronectin protects thrombin from inactivation by antithrombin III in the presence of heparin, binds and stabilizes the activity of plasminogen activator inhibitor and mediates many other physiological functions.

Vitronectin promotes cell adhesion (attachment) and spreading by binding through its cell-attachment tripeptide Arg-Gly-Asp (RGD), activity which is mediated by several different integrin receptors. Human plasma and serum contain 0.1-0.4 mg/ml of vitronectin which is synthesized in the liver. It is also present in amniotic fluid and urine. Apart from the significance for identifying the molecule in the above situations, it also plays an important role in events such as embryonal development, deposition of vitronectin in a number of fibrotic disease states,[3] carcinomas and metastases.

Reagents

The product is provided as ascites fluid with 0.1% sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

Store at 2-8 °C for up to one month.

For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Monoclonal Anti-Vitronectin may be used for the localization of vitronectin using various immunochemical assays such as ELISA, immunoblot, dot blot and immunocytochemistry.

The antibody titer was determined by indirect immunoblotting using a denatured and reduced preparation of purified human plasma vitronectin.

In order to obtain best results in different techniques and preparations, it is recommended that each individual user determine their optimum working dilutions by titration assay.

Reagents

1. Hayman, E. G., et al., Proc. Natl. Acad. Sci. USA, **80**, 4003 (1983).
2. Yatohgo, T., et al., Cell Struct. Funct., **13**, 281 (1988).
3. Dahlback, K., et al., Acta Derm. Venereol., **68**, 107 (1988).