

Product Information

Fibronectin-like Protein Polymer genetically engineered cell culture tested

Catalog Number **F5022**

Product Description

This product is cell culture tested as a cell culture substratum. Fibronectin-like protein polymer is a novel protein polymer which is a stable substratum for receptor-specific cell attachment.³ The protein has been engineered to include 13 copies of the cell attachment epitope of human fibronectin, Arg-Gly-Asp (RGD)¹ interspersed between structural peptide segments.² The resulting protein is a stable three-dimensional conformation highly resistant to thermal and chemical denaturation. Based on gene sequence, the molecular weight is 75 kDa. By SDS PAGE, its' approximate apparent molecular weight is 110 kDa. The difference in molecular weight is due to the unusual amino acid composition of the protein. The entire 10-amino acid structural backbone is Val-Thr-Gly-Arg-Gly-Asp-Ser-Pro-Ala-Ser (VTGRGDSPAS).

This product contains two autoclaved components, Product No. F5147, the fibronectin-like protein polymer, and Product No. F5272, the 4.5 M lithium perchlorate diluent. The diluent and the stock solution formed when they are added together contain 4.5 M lithium perchlorate which is near saturation at room temperature. If crystals are present, warm to 37 °C until dissolved.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Solutions are stable at room temperature up to six months. Refrigerating the stock may cause the 4.5 M lithium perchlorate diluent solution to crystallize. Warming will return the crystals into solution.

Procedure

Recommended for use as a cell culture substratum at 2-10 µg/cm². Prepare a 1 mg/ml stock solution by adding the diluent, Product No. F5272, to the protein polymer, Product No. F5147, and swirl until completely dissolved. Solutions will be opalescent, not completely clear. Coat culture vessels with substrate solution as follows:

1. Dilute the stock solution to the desired working concentration with phosphate buffered saline or balanced salt solution to obtain a working solution at a starting concentration of 100 µg/ml. Performing serial dilutions to determine the optimal coating concentration for your particular cell culture system is recommended. Typically the concentration will be 10 µg/ml.
2. Coat surface with 0.1 ml/cm² of the working solution and leave for 5 minutes at room temperature.
3. Remove coating solution and rinse twice with a balanced salt solution or tissue culture medium. Coated vessels may be used immediately or stored for up to at least 4 months at room temperature.

References

1. Ruoslahti, E., and Pierschbacher, M. D., New perspectives in cell adhesion: RGD and integrins. *Science*, **238**(4826), 491-497 (1987).
2. Cappello, J., and Crissman, J. W., The design and production of bioactive protein polymers for biomedical applications. *ACS Polymer Preprints*, **31**(1), 193-194 (1990).
3. Esty, A., Receptor-specific serum-free cell attachment using a highly stable engineered protein polymer. *Am. Biotechnol. Lab.*, **9**(3), 44 (1991).

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