

Technical Data Sheet

MAPTrix® -L Laminin peptide containing mussel adhesive protein

Product Information

Catalog Number 316211, 316221

Introduction Laminin is the major noncollagenous glycoprotein component of basement membranes and is a multidomain glycoprotein (800kDa) containing functional peptide sequence that promotes the adhesion and migration of many cell types including metastatic cells.

The active sites include YIGSR, IKVAV, and RGD. YIGSR is located on the B1 chain of laminin while IKVAV and RGD are on the long arm and short arm, respectively, of the A chain. The synthetic peptides of YIGSR and IKVAV have been demonstrated to have biological activities similar to those of the whole laminin molecule¹.

Description and Applications MAPTrix® -L is a recombinant mussel adhesive protein based coating kit for cell culture or for use as a modifier of a variety of substrates for biological applications. The mussel adhesive protein contains laminin-derived peptides such as YIGSR or IKVAV motif at the N terminal, which has demonstrated similar bioactivity to natural laminin in primary mouse hippocampal cell cultures.

This coating kit is designed for simple surface modification and/or biofunctionalization with increased cell attachment & growth efficacy for a variety of cell lines.

This product can be used in combination with other MAPTrix® products where combinations of bioligands are required. Simple mixtures of MAPTrix® products can generate a combination of bioligands for synergistic cell adhesion and spreading^{2, 3}.

Features

- Ready-to-use formula
- Control of surface density & spatial distribution of laminin motif on the surface of a substrate with high reproducibility & reliability
- Fully compatible with existing cell culture protocols
- Easy surface coating/modification with a combination of bioligands

Quality Control

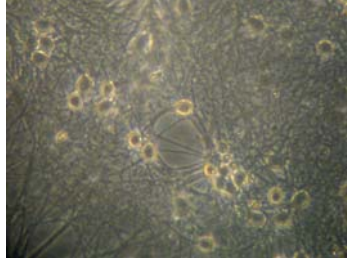
- Quality control in accordance with ISO & USP guidelines
- Purity > 90% by SDS PAGE
- Sterility & endotoxin testing strictly adheres to USP guidelines
- Animal protein-free & *E.coli*-protein free

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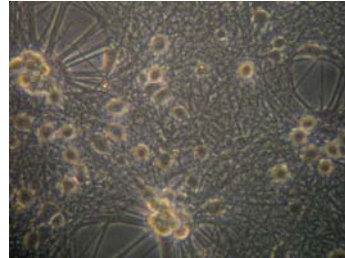
Cell Culture Assay

1. Cell growth assay

a) MAPTrix[®]



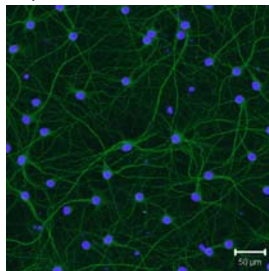
b) Gibco Laminin



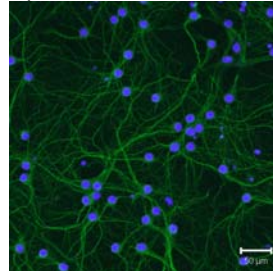
Rat hippocampal cells grew well on both MAPTrix[®]-L and natural laminin coated plates, showing similar neural cell morphology. This result demonstrated MAPTrix[®]-L has a similar bioactivity to naturally occurring laminin.

2. Cell viability assay

a) MAPTrix[®]



b) Gibco Laminin



Rat hippocampal cells were primary cultured on MAPTrix[®]-L and Gibco[™] Mouse laminin coated 24-well plates under serum free conditions for 14 days. The MAPTrix[®]-L showed comparable efficacy for pyramidal dendrite formation of primary nerve cells as compared with mouse-derived natural laminin.

Storage

- Stable for a minimum of 6 months from day of shipment when stored at 2-8°C
- The remaining material is recommended to be used within 1 month after the vial has been opened.

Related Products

- For fibronectin, MAPTrix[®]-F (Cat. #: 316111, 316121, 316131)
- For collagen, MAPTrix[®]-C (Cat. #: 316311, 316321)
- For vitronectin, MAPTrix[®]-V (Cat. #: 316411)

References

1. Dhoot et al., J. Biomed. Mater. Res. A, 2004, 71A, 191-200
2. Redick, et al., J. Cell Biol., 2000, 149, 521-527.
3. García, et al., Biochem. J., 2002, 41, 9063-9069.

Technical Assistance

Contact the Kollodis technical support via:

- website: www.kollodis.com
- Email: support@kollodis.com
- Tel: + 1 (617) 283-2182

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