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1. Description

This product is for research use only.

Components	1×350 µg (0.5 mg/mL) MACSmatrix Laminin 511: Recombinant engineered human E8 fragment in PBS for use in cell culture
Size	700 µL
Biological activity	The ED ₅₀ is determined by a cell adhesion assay using human induced pluripotent stem cells.
Source	Produced in CHO cells.
Product format	Filled from a filtered (0.2 µm) buffer solution.
Concentration	0.5 mg/mL. Lot-specific concentrations are stated in the Certificate of Analysis (www.miltenyibiotec.com/certificates).
Purity	>95% as determined by CE-SDS analysis.
Endotoxin level	Low endotoxin (<100 EU/mg laminin) as determined by Limulus Amebocyte Lysate (LAL) assay.
Mycoplasma	Negative for mycoplasma.
Storage	Store protected from light at +2 to +8 °C. Do not freeze. The expiration date is indicated on the vial label.

1.1 Background information

Laminins are proteins that are important for correct cell functionality. They are essential for the culture of stem cells and tissue-specific cells. Stem cells grow as monolayers on laminin enabling contact to both the laminin matrix and the cell culture medium forming a homogenous population of cells.

The laminin 511 isoform is instrumental to the growth and maintenance of human pluripotent stem cells (PSCs) through its binding to cell receptor α6β1 integrin. The E8 fragment of laminin 511 has the highest binding activity with integrin α6β1. MACSmatrix Laminin 511 enables extended culture of human PSCs keeping the expression of pluripotency markers, genomic integrity, and the differentiation capability of cells.

1.2 Applications

▲ Determine the optimal concentration for a specific application by a dose-response experiment.

- Culture of human PSCs
- Culture of iPS-derived cardiomyocytes
- Reprogramming of fibroblasts into induced PSCs (iPSCs)

1.3 Reagent and instrument requirements

- Cell culture plates
- Dulbecco's phosphate-buffered saline (DPBS) without Ca²⁺ and Mg²⁺

2. Protocol

▲ Optimal coating is 0.35 µg of MACSmatrix Laminin 511 fragment per cm². Lower amounts may result in low attachment of cells or empty areas in the well.

1. Dilute MACSmatrix Laminin 511 in DPBS at the desired concentration.
2. Add diluted MACSmatrix Laminin 511 to each plate, e.g., add 1 mL per well of a 6-well plate.
3. Incubate for 1 hour at +37 °C or overnight at +2 to +8 °C. If plates are incubated overnight, store them in the dark covered with parafilm to avoid evaporation. Do not allow the coated surface to dry.
4. Remove the solution before seeding the cells.

Refer to www.miltenyibiotec.com for all data sheets and protocols. Miltenyi Biotec provides technical support worldwide. Visit www.miltenyibiotec.com for local Miltenyi Biotec Technical Support contact information.

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