iMatrix™ Cell Culture Substrates

Recombinant Human Laminin Fragments for Cell Culture

Overview

Culturing human stem cells and iPS cells under feed-free conditions requires the use of extracellular matrix proteins (ECM) as an anchor to promote adherence to laboratory plastic-ware. Laminin fulfills this purpose, and through it's binding of membrane bound integrin, multiple intracellular signal cascades are activated. The recombinant human laminin-511 E8 fragment has become the most popular ECM for human stem cell research due to it's broad applicability and strong capacity to induce cell proliferation. iMatrix-211 is a widely used matrix for culture of cardiomyocytes.

Matrixome® iMatrix™ Substrates available from REPROCELL

- Recombinant human protein produced in CHO-S cells with serum-free medium
- iMatrix-511 SILK produced in Silkworms
- Ready-to-use liquid (frozen) format
- Each lot validated for high performance in human cell culture
- Stamped with an expiration date
- Tested for endotoxin, mycoplasma and bacterial contamination
- Guaranteed more than 95% pure Laminin
- Integrin binding activity quality checked

Product	Description	Typical Usage	Cat. No.	Size
 iMatrix-221	Recombinant Human Laminin-211 E8 Fragments	Cardiomyocytes	NP892-061 NP892-062	2 × 175 µg 6 × 175 µg
 iMatrix-411	Recombinant Human Laminin-411 E8 Fragments	Endothelial cells	NP892-041 NP892-042	2 × 175 µg 6 × 175 µg
 iMatrix-511	Recombinant Human Laminin-511 E8 Fragments	Pluripotent Stem Cells	NP892-011 NP892-012	2 × 175 µg 6 × 175 µg
 iMatrix-511 Silk	Recombinant Human Laminin-511 E8 Fragments, expressed in Silkworm	Pluripotent Stem Cells	NP892-021	2 × 175 µg

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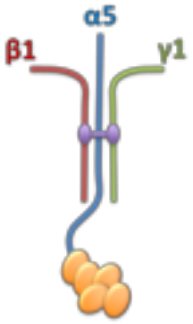
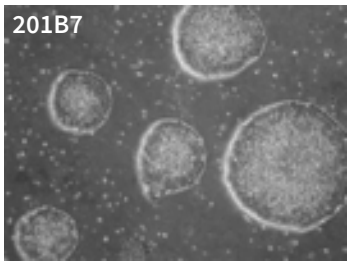
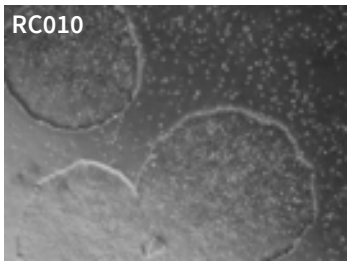
What is Laminin E8?

Laminin is a ubiquitous cell surface protein comprised of multiple sub-units. E8 fragments are proteolytic fragments that retain the high binding capacity of full-length laminin. At least 15 different sub-types of laminin have been discovered. For example, laminin-511 is comprised of the α5-chain, β1-chain, and γ1-chain. This sub-type is known to bind strongly to α6β1 integrin.







iPS Cell Colony Morphology

Human iPSC lines 201B7 (retrovirus reprogram-med) and RC010 (mRNA reprogrammed) are shown grown on iMatrix-511 coated plates in StemFit™ AK02 medium. Both exhibit flat, rounded colonies with distinct edges; characteristic of healthy, pluripotent iPSC colonies.

NEW iPS Cell Reprogramming System

The NEW StemRNA™-3rd Gen Reprogramming Kit from Stemgent® (00-0076) used in combination with iMatrix-511 and NutriStem™ hPSC XF medium, brings you higher efficiencies, more options, and simple, improved protocols. One kit enables you to reprogram primary human fibroblasts, blood-derived endothelial progenitor cells (EPCs), or urine-derived epithelial cells (UDCs). The entire workflow is xeno-free with cGMP compatible reagents. Delivered as a mRNA cocktail, the reprogramming factors enable the high efficiency conversion to iPS cells in as little as 2 weeks without the risk for vector-induced genome mutations. RNA-based approaches are regarded as one of the most promising clinically compatible methods for iPS cell reprogramming.

Cat. No.	Description	Size
00-0076	StemRNA™ 3rd Gen Reprogramming Kit	1 kit
01-0005	NutriStem hPSC XF Culture Medium	500 mL
01-0020-50	NutriFreez™ D10 Cryopreservation Medium	50 mL
ASB01	StemFit™ Basic02 Medium	500 mL
04-0012	Stemolecule™ Y27632	2 mg

References

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