iMatrix™ Cell Culture Substrates

By MATRIXOME

Recombinant Human Laminin Fragments for Cell Culture

Overview

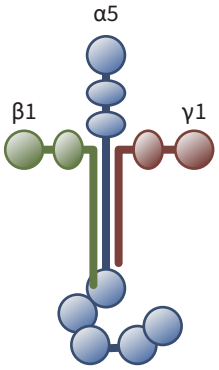
Culturing human stem cells and iPS cells under feed-free conditions requires the use of extracellular matrix proteins (ECM) as an anchor to promote adherence to laboratory plastic-ware. Laminin fulfills this purpose, and through it's binding of membrane bound integrin, multiple intracellular signal cascades 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.

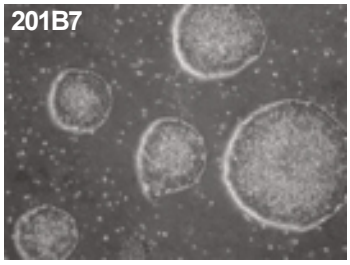
Matrixome® iMatrix™ Substrates available from REPROCELL

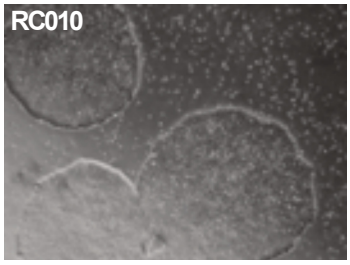
- Recombinant human protein produced in CHO-S cells with serum-free medium
- iMatrix-511 SILK produced in Silkworms
- Ready-to-use liquid (frozen) format
- Each lot validated for high performance in human cell culture
- Stamped with an expiration date
- Tested for endotoxin, mycoplasma and bacterial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

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 -ength 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.





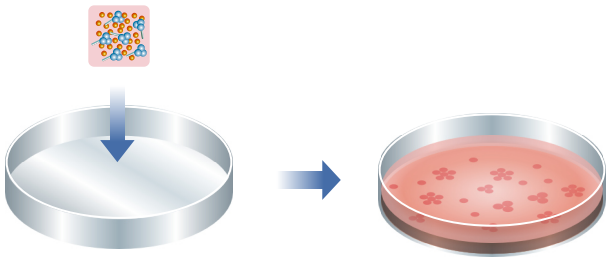


iPS Cell Colony Morphology

Human iPSC lines 201B7 (retrovirus reprogrammed) 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.

ECM Pre-Mix Method

Our unique technology allows us to utilize Matrixome's ECM Pre-Mix Method for iPSCs and ESCs, where you add iMatrix-511 to your cell suspension immediately prior to plating on an uncoating plate. You no longer have to worry about coating plates, long curing times, or plates drying out. It also saves you money as this method requires about half the amount you would need for pre-coating.



Pre-Mix Method outline: Add and mix iMatrix 511 (prod# 892-011) or iMatrix 511-SILK to (prod# 892-021) the cell suspension on passaging; plate it out and incubate.

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Product	Description	Typical Usage	Cat. No.	Size
 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
 iMatrix-411	Recombinant Human Laminin-411 E8 Fragments	Endothelial cells	NP892-041 NP892-042	2 × 175 µg 6 × 175 µg
 iMatrix-332	Recombinant Human Laminin-332 E8 Fragments	Corneal epithelial cells	NP892-031 NP892-032	2 × 175 µg 6 × 175 µg
 iMatrix-221	Recombinant Human Laminin-211 E8 Fragments	Cardiomyocytes	NP892-061 NP892-062	2 × 175 µg 6 × 175 µg
 iMatrix-111	Recombinant Human Laminin-111 E8 Fragments	Hepatoblast-like cells	NP892-071 NP892-072	2 × 175 µg 6 × 175 µg