

Data Sheet

## ECMatrix™-111 E8 Laminin Substrate

**CC164-350UG, CC164-1050UG**

Store at 2-8 °C

**FOR RESEARCH USE ONLY****Not for use in diagnostic procedures. Not for human or animal consumption.**

### Introduction

ECMatrix™-111 E8 Laminin Substrate (ECMatrix™-111 Substrate) is a laminin protein isoform that is identified by its isoform's chain composition of  $\alpha1\beta1\gamma1$ . This protein plays an important role in embryonic development. Injections of this substance are used in treatment for Duchenne muscular dystrophy, and its cellular action may potentially become a focus of study in cancer research.

ECMatrix™-111 Substrate supports the survival, proliferation, and differentiation of many different cell types *in vitro*. However, its distribution after birth is restricted to only a few tissues, such as the brain and kidney. Many of the cultivated cell types would not encounter this protein naturally *in vivo* and it is advisable to match your specific cell type to the laminin naturally expressed by this cell, improving the cell culture. During development, Reichert's membrane supporting the extraembryonic trophoblasts express laminin-111 protein. Reichert's membrane is essential for epiblast differentiation, which is essential for the formation of the three embryonic germ layers by pluripotent cells in the inner cell mass. In the adult, laminin  $\alpha1$  chain expression is relatively restricted and is only present in some epithelial basement membranes, and primarily found in tissues such as the eye, liver, and kidney, whereas hardly expressed at all in endothelial, adipose, nervous, or muscle tissues (Ekblom, 2003; Virtanen, 2000). In addition to inducing different cell signaling cascades, ECMatrix™-111 Substrate is known to co-signal with various growth factors in a cell type dependent manner.

### Source

K Takayama, *et al.* Generation of Safe and Therapeutically Effective Human Induced Pluripotent Stem Cell-Derived Hepatocyte-Like Cells for Regenerative Medicine. *Hepatology Communications*. 2017 Oct 12;1(10):1058-1069.

### Quality Control Testing

- Purity (SDS-Page): > 95%
- Endotoxin Test:  $\leq 750$  EU/mg
- Mycoplasma Test: Negative
- Sterility Test: Negative
- Integrin Binding Assay (kDa):  $\leq 10$  nM

### Storage and Handling

ECMatrix™-111 Substrates should be stored at 2-8 °C. Avoid multiple freeze-thaw cycles and protect from light.

### Presentation

**CC164-350UG**

2 X 175  $\mu$ g ECMatrix™-111 E8 Laminin Substrate (0.5 mg/mL in PBS), expressed in CHO-S cells.

**CC164-1050UG**

6 X 175  $\mu$ g ECMatrix™-111 E8 Laminin Substrate (0.5 mg/mL in PBS), expressed in CHO-S cells.

## Protocol

### Precoating Method

1. Dilute the 0.5 mg/mL stock solution with sterile PBS to achieve a 2.5 µg/mL working solution.
2. Coat dishes with ECMatrix™-111 Substrate at 0.25 µg/cm<sup>2</sup> (for example, for one well of a 6-well plate add 1 mL of the 2.5 µg/mL working solution).
3. Incubate for 1 hour at 37 °C, 3 hours at room temperature or overnight at 4 °C.
4. Before use, remove remaining fluid from the coated surface (do not rinse).
5. Detach cells into small clumps using Accutase® solution (A6964).
6. Plate the cells at desired density.

**Note:** Do not allow the plates to dry, briefly spin down all liquids in the tube before use, avoid repeated freeze-thaw cycles.

## Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

### Technical Assistance

Visit the tech service page at [SigmaAldrich.com/techservice](https://SigmaAldrich.com/techservice).

### Terms and Conditions of Sale

Warranty, use restrictions, and other conditions of sale may be found at [SigmaAldrich.com/terms](https://SigmaAldrich.com/terms).

### Contact Information

For the location of the office nearest you, go to [SigmaAldrich.com/offices](https://SigmaAldrich.com/offices).

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

Merck, ECMatrix and Sigma-Aldrich are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

© 2024 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.

Document Template 20306518 Ver 6.0

23047594 Ver 1.0, Rev 15MAR2024, NA

