

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 $\alpha 1\beta 1\gamma 1$. 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 $\alpha 1$ 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: ≤ 750 EU/mg
- Mycoplasma Test: Negative
- Sterility Test: Negative
- Integrin Binding Assay (kDa): ≤ 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 μ g ECMatrix™-111 E8 Laminin Substrate (0.5 mg/mL in PBS), expressed in CHO-S cells.

CC164-1050UG

6 X 175 μ 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/cm² (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 temperate 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.

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