

# CULTREX<sup>®</sup> Product Data

*For Research Use Only. Not For Use In Diagnostic Procedures*

## Cultrex<sup>®</sup> Antibiotic-Free Mouse Laminin I, PathClear<sup>®</sup>

Catalog #: 3401-010-02

Size: 1 mg

**Description:** Laminins are extracellular matrix glycoproteins and major structural components of basement membranes<sup>1,2,3</sup>. Laminin I molecule is composed of three polypeptide chains:  $\alpha$ 1,  $\beta$ 1 and  $\gamma$ 1 subunits, that are covalently linked together by disulfide bonds; the molecular weights for the subunits are 400 kDa, 210 kDa, and 200 kDa, respectively, resulting in 810 kDa for the assembled protein<sup>4</sup>. Laminin I has binding sites for other Laminin I molecules, collagen IV, glycosylaminoglycans (GAGs), and integrin/non-integrin cell surface receptors<sup>5</sup>. Laminin I forms large polymer networks that function in the assembly and organization of the basement membrane<sup>6</sup>. Laminin-I promotes adhesion, migration, growth, and differentiation of various types of cells<sup>7,8</sup>.

### Specifications:

Concentration: 1 mg/ml  
 Source: Murine Engelbreth-Holm-Swarm (EHS) tumor.  
 Purity: >90% by SDS-PAGE.  
 Storage Buffer: Dulbecco's Modified Eagle's Medium (DMEM).  
 Storage/Stability: Product is stable for a minimum of 3 months from date of shipment when stored at -20°C in a manual defrost freezer.  
**For optimal stability, store at -80°C. Avoid freeze-thaw cycles.**

### Material Qualification:

#### Functional Assays:

- Supports the attachment of MG63 osteosarcoma cells at  $\leq 20 \mu\text{g/ml}$ .

#### Sterility Testing:

- **PathClear<sup>®</sup>** - Negative by PCR test for mycoplasma; 17 bacterial and virus strains typically included in mouse antibody production (MAP) testing, plus 13 additional murine infectious agents including LDEV, for a total of 31 organisms and viruses.
- No bacterial or fungal growth detected after incubation at 37°C for 14 days following USP sterility testing guidelines.
- Endotoxin concentration < 20 EU/ml by LAL assay.

### Coating Procedure:

The recommended working concentration is 0.5 - 10  $\mu\text{g/cm}^2$  of growth surface (0.5 - 20  $\mu\text{g/ml}$ ) depending on cell type and needs to be determined experimentally.

1. Thaw Laminin I at 2 – 8°C and place it on ice.
2. Dilute Laminin I to desired concentration in **cold** serum-free medium.
3. Transfer Laminin I solution to the wells of tissue culture plate. Spread the solution to completely cover the bottom of the wells.

# TREVIGEN<sup>®</sup>

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4. Incubate the plate at 37°C for an hour or overnight.
5. Aspirate coating solution and immediately plate cells.

**Do not allow coated surface to dry out.**

The following table is a guide for the suggested volumes required per well:

<u>Plate type</u>	<u>Volume Laminin I solution per Well</u>
6 wells (or 35 mm dish)	1 – 1.5 ml
12 wells	500 - 600 µl
24 wells	250 – 300 µl
48 wells	150 µl
96 wells	50 µl

**References:**

1. Malinda K.M., Kleinman H.K. The laminins. 1996. Int. J. Biochem. Cell Biol. 28(9):957-9.
2. Miner J.H. and Yurchenco P.D. Laminin functions in tissue morphogenesis. 2004. Annu Rev Cell Dev Biol. 20:255-84.
3. Aumailley M. and Smyth N. The role of laminins in basement membrane function. 1998. J Anat. 193:1-21.
4. Sasaki M. et al. Laminin, a multidomain protein. The A chain has a unique globular domain and homology with the basement membrane proteoglycan and the laminin B chains. 1988. J Biol Chem. 263:16536-16544.
5. Colognato-Pyke H. et al. Mapping of Network-forming, Heparin-binding, and 11 Integrin-recognition Sites within the -Chain Short Arm of Laminin-1. 1995. J Biol Chem. 270(16): 9398-406.
6. Patarroyo M., Tryggvason K. and Virtanen I. Laminin isoforms in tumor invasion, angiogenesis and metastasis. 2002. Seminar Cancer Biol. 12(3): 197-207.
7. Benton G., Crooke E. and George J. Laminin-1 induces E-cadherin expression in 3-dimensional cultured breast cancer cells by inhibiting DNA methyltransferase 1 and reversing promoter methylation status. 2009. FASEB J. 23:3884-95.
8. Xu C. et. al. Feeder-free growth of undifferentiated human embryonic stem cells. 2001. Nat. Biotechnol. 19:971–974.

**Related Products:**

<b>Catalog#</b>	<b>Description</b>	<b>Size</b>
3400-010-01	Cultrex® Mouse Laminin I	1 mg
3400-010-02	Cultrex® Mouse Laminin I, PathClear®	1 mg
3446-005-01	Cultrex® 3-D Culture Matrix™ Laminin I	5 ml
3400-010-03	Cultrex® Stem Cell Qualified Laminin I, PathClear®	1 mg
3434-005-02	Cultrex® Stem Cell Qualified RGF BME, PathClear®	5 ml
3420-001-03	Cultrex® Stem Cell Qualified Human Fibronectin, PathClear®	1 mg
3421-001-03	Cultrex® Stem Cell Qualified Human Vitronectin, PathClear®	200 µg
3432-005-01	Cultrex® Basement Membrane Extract, PathClear®	5 ml
3433-005-01	Cultrex® Reduced Growth Factor BME, PathClear®	5 ml
3532-005-02	Cultrex® Basement Membrane Extract, Type 2, PathClear®	5 ml
3533-005-02	Cultrex® Reduced Growth Factor BME, Type 2, PathClear®	5 ml
3632-005-02	Cultrex® Basement Membrane Extract, Type 3, PathClear®	5 ml
3445-005-01	Cultrex® 3-D Culture Matrix™ BME, PathClear®	5 ml
3447-020-01	Cultrex® 3-D Culture Matrix™ Collagen I	100 mg



**Antibiotic-Free Mouse Laminin I, PathClear®**

Cat#: 3400-010-02

Storage: - 20°C

(Manual Defrost Freezer)

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