

CULTREX[®] Product Data

For Research Use Only. Not For Use In Diagnostic Procedures

Cultrex[®] Mouse Laminin I, PathClear[®]

Catalog #: 3400-010-02

Size: 1 mg

Description: Laminins are extracellular matrix glycoproteins and major structural components of basement membranes^{1,2,3}. Laminin I molecule is composed of three polypeptide chains: α 1, β 1 and γ 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 protein⁴. Laminin I has binding sites for other Laminin I molecules, collagen IV, glycosylaminoglycans (GAGs), and integrin/non-integrin cell surface receptors⁵. Laminin I forms large polymer networks that function in the assembly and organization of the basement membrane⁶. Laminin-I promotes adhesion, migration, growth, and differentiation of various types of cells^{7,8}.

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) with 10 μ g/ml gentamicin sulfate.

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[®]** - 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 $< 20 \text{ EU/ml}$ 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 $2 - 8^{\circ}\text{C}$ 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[®]

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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:

Catalog#	Description	Size
3400-010-01	Cultrex® Mouse Laminin I	1 mg
3401-010-02	Cultrex® Antibiotic-Free 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



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Storage: - 20°C

(Manual Defrost Freezer)

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