

CULTREX[®] Product Data

For Research Use Only. Not For Use In Diagnostic Procedures

Cultrex[®] Mouse Laminin I

Catalog #: 3400-010-01

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, glycosaminoglycans (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 μ g/ml.

Sterility Testing:

- Negative by PCR test for mycoplasma.
- 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 μ g/cm² of growth surface (0.5 - 20 μ 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.
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.

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TREVIGEN[®]

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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 |
|-----------------|--|-------------|
| 3400-010-02 | Cultrex® Mouse Laminin I, PathClear® | 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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Cat#: 3400-010-01

Storage: - 20°C

(Manual Defrost Freezer)

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