

# CULTREX<sup>®</sup> Product Data

For Research Use Only. Not For Use In Diagnostic Procedures

## Cultrex<sup>®</sup> Human BME \*PathClear<sup>®</sup>

Catalog #: 3415-001-02

Size: 1 ml

**Description:** Basement membranes are continuous sheets of specialized extracellular matrix that form an interface between endothelial, epithelial, muscle, or neuronal cells and their adjacent stroma. Basement membranes are degraded and regenerated during development and wound repair. They not only support cells and cell layers, but they also play an essential role in tissue organization that affects cell adhesion, migration, proliferation, and differentiation. Basement membranes provide major barriers to invasion by metastatic tumor cells. Cultrex<sup>®</sup> Human Basement Membrane Extract (BME) is a soluble form of basement membrane purified from human placenta. BME can be used for promotion and maintenance of an undifferentiated phenotype, or differentiation of precursors, including stem cells, into primary epithelial cells, endothelial cells and smooth muscle cells. It has been employed in cell attachment assays, neurite outgrowth assays, and tumor cell invasion assays.

### Specifications:

Concentration: 1 mg/ml

Source: Human Placenta

Storage Buffer: Dulbecco's Modified Eagle's medium containing 10 µg/ml gentamycin sulfate and no phenol red.

Storage/Stability: Product is stable for a minimum of 3 months from date of shipment when stored at -80 °C.

**Repeated freeze-thaws will destroy product integrity.**

### Material Qualification:

Functional Assay:

- Human BME promotes attachment of human osteosarcoma MG63 cells.

\*Sterility Testing:

- No bacterial or fungal growth detected after incubation at 37 °C for 14 days following USP XXIV Chapter 71 sterility test.
- No mycoplasma contamination detected by PCR.
- Human BME has tested negative for eight human pathogenic viruses including Hepatitis A, B and C, HIV 1 and 2, Hantaan, Seoul, and Sin Nombre by PCR.
- Endotoxin concentrations ≤ 20 EU/ml by LAL assay.

### Safety Statement:

Cultrex<sup>®</sup> Human BME \*PathClear<sup>®</sup> contains human source material and therefore should be treated as potentially infectious and handled at the Biological Safety Level 2 to minimize exposure.

### Coating Procedures:

1. Thaw Human BME at 4°C or on ice.
2. Mix BME by pipetting solution up and down.
3. Dilute BME to desired concentration in cold serum-free medium. Empirical determination of the optimal coating concentration for your application may be required. A protein concentration 150 µg/ml is a recommended starting concentration for the propagation of primary cells.
4. Add a sufficient amount of solution to cover the entire area onto growth surface. A volume of 250 µl per cm<sup>2</sup> is recommended.
5. Place coated object at 37 °C, and 5% CO<sub>2</sub> for a minimum of 2 hours or as long as overnight.
6. Aspirate coating medium.
7. Coated objects are ready for use.

### References:

1. Albin, A., Y. Iwamoto, H. Kleinman, G. Martin, S. Aaronson, J. Kozlowski, and R. McEwan. 1987. A rapid *in vitro* assay for quantitating the invasive potential of tumor cells. *Cancer Res.* **47**:3239-3245.
2. Fridman, R., G. Giaccone, T. Kanemoto, G. Martin, A. Gazdar, and J. Mulshine. 1990. Reconstituted basement membrane (matrigel) and laminin can enhance the tumorigenicity and the drug resistance of small cell lung cancer cell lines. *Proc. Natl. Acad. Sci. USA* **87**:6698-6702.
3. Fridman, R., M. Kibbey, L. Royce, M. Zain, T. Sweeney, D. Jicha, J. Yannelli, G. Martin, and H. Kleinman. 1991. Enhanced tumor growth of both primary and established human and murine tumor cells in athymic mice after coinjection with matrigel. *J. Natl. Cancer Inst.* **83**:769-774.
4. Fridman, R., T. Sweeney, M. Zain, G. Martin, and H. Kleinman. 1992. Malignant transformation of NIH-3T3 cells after subcutaneous co-injection with a reconstituted basement membrane (matrigel). *Int. J. Cancer* **51**:740-744.
5. Kubota, Y., H. Kleinman, G. Martin, and T. Lawley. 1988. Role of laminin and basement membrane proteins in the morphological differentiation of human endothelial cells in capillary-like structures. *J. Cell Biol.* **107**:1589-1598.
6. Ponce, M., M. Nomizu, M. Delgado, Y. Kuratomi, M. Hoffman, S. Powell, Y. Yamada, H. Kleinman, and K. Malinda. 1999. Identification of endothelial cell binding sites on the laminin  $\alpha$ 1 chain. *Circ. Res.* **84**:688-694.
7. Salcedo, R., H. Young, M. Ponce, J. Ward, H. Kleinman, J. Murphy, and J. Oppenheim. 2001. Eotaxin (CCL11) induces *in vivo* angiogenic responses by human CCR3<sup>+</sup> endothelial cells. *J. Immunol.* **166**:7571-7578.
8. U.S. Patent 4,829,000
9. U.S. Patent 5,158,874
10. This product is made and marketed under patent license from the United States Public Health Service. Ref. U.S. Patent 4,829,000 issued May 9, 1989 and U.S. Patent 5,158,874 issued October 27, 1992, all entitled Reconstituted Membrane Complex with Biological Activity.

**Related Products:**

Catalog#	Description	Size
3455-024-K	Cultrex <sup>®</sup> 24 Well BME Cell Invasion Assay	24 inserts
3480-024-K	CultreCoat <sup>®</sup> 24 Well BME-Coated Cell Invasion Assay	24 inserts
3456-024-K	Cultrex <sup>®</sup> 24 Well Laminin I Cell Invasion Assay	24 inserts
3457-024-K	Cultrex <sup>®</sup> 24 Well Collagen I Cell Invasion Assay	24 inserts
3458-024-K	Cultrex <sup>®</sup> 24 Well Collagen IV Cell Invasion Assay	24 inserts
3455-096-K	Cultrex <sup>®</sup> 96 well BME Cell Migration Assay	96 samples
3465-096-K	Cultrex <sup>®</sup> 96 well BME Cell Invasion Assay	96 samples
3456-096-K	Cultrex <sup>®</sup> Laminin I Cell Invasion Assay	96 samples
3457-096-K	Cultrex <sup>®</sup> Collagen I Cell Invasion Assay	96 samples
3458-096-K	Cultrex <sup>®</sup> Collagen IV Cell Invasion Assay	96 samples
3490-096-K	CultreCoat <sup>®</sup> BME 96 Well Cell Adhesion Assay	96 samples
3496-096-K	CultreCoat <sup>®</sup> 96 Well Adhesion Protein Array	96 samples

**Accessories:**

Catalog#	Description	Size
3400-010-01	Cultrex <sup>®</sup> Mouse Laminin I	1 mg
3440-100-01	Cultrex <sup>®</sup> Rat Collagen I	100 mg
3410-010-01	Cultrex <sup>®</sup> Mouse Collagen IV	1 mg
3420-001-01	Cultrex <sup>®</sup> Human Fibronectin, PathClear <sup>®</sup>	1 mg
3416-001-01	Cultrex <sup>®</sup> Bovine Fibronectin, NZHD*	1 mg
3421-001-01	Cultrex <sup>®</sup> Human Vitronectin, PathClear <sup>®</sup>	50 µg
3417-001-01	Cultrex <sup>®</sup> Bovine Vitronectin, NZHD	50 µg
3438-100-01	Cultrex <sup>®</sup> Poly-L-Lysine	100 ml
3439-100-01	Cultrex <sup>®</sup> Ploy-D-Lysine	100 ml
3445-048-01	Cultrex <sup>®</sup> 3-D Culture Matrix <sup>™</sup> BME	15 ml
3446-005-01	Cultrex <sup>®</sup> 3-D Culture Matrix <sup>™</sup> Laminin I	5 ml
3447-020-01	Cultrex <sup>®</sup> 3-D Culture Matrix <sup>™</sup> Collagen I	100 mg
3430-005-01	Cultrex <sup>®</sup> BME with Phenol Red	5 ml
3432-005-01	Cultrex <sup>®</sup> BME without Phenol Red	5 ml
3431-005-01	Cultrex <sup>®</sup> BME with Phenol Red; Reduced Growth Factors	5 ml
3433-005-01	Cultrex <sup>®</sup> BME; no Phenol Red; Reduced Growth Factors	5 ml
3430-005-02	Cultrex <sup>®</sup> BME with Phenol Red PathClear <sup>®</sup>	5 ml
3431-005-02	Cultrex <sup>®</sup> BME with Phenol Red, Reduced Growth Factor PathClear <sup>®</sup>	5 ml
3432-005-02	Cultrex <sup>®</sup> BME PathClear <sup>®</sup>	5 ml
3437-100-K	Cultrex <sup>®</sup> Cell Staining Kit	100 ml
3450-048-05	CellSpense <sup>™</sup>	15 ml

\*New Zealand Herd Derived

Lot Specific Data:

Endotoxin (LAL):

**Human BME  
PathClear<sup>®</sup>**  
 Cat. #: 3415-001-02  
 Storage: ≤ -80 °C  
 1-800-873-8443