

CULTREX[®] Product Data

For Research Use Only. Not For Use In Diagnostic Procedures

Cultrex[®] 5X BME Solution

Catalog #: 3455-096-02

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[®] Basement Membrane Extract (BME) is a soluble form of basement membrane purified from Engelbreth-Holm-Swarm (EHS) tumor. The extract gels at 37 °C to form a reconstituted basement membrane. The major components of BME include laminin, collagen IV, entactin, and heparin sulfate proteoglycan. BME can be used for promotion and maintenance of a differentiated phenotype in a variety of cell cultures including primary epithelial cells, endothelial cells, and smooth muscle cells. It has been employed in angiogenesis assays, neurite outgrowth assays, and tumor cell invasion assays.

Specifications:

Concentration: 10 mg/ml

Source: Murine Engelbreth-Holm-Swarm (EHS) tumor

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

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. Keep Frozen; repeated freeze-thaws will destroy product integrity.**

Material Qualification:

Cell Invasion:

1X concentration = 40% - 80% cell invasion for HT-1080 cells in response to 10% FBS. Less than 10% cell invasion for MCF7 cells in response to 10% FBS.

Sterility Testing:

- No bacterial or fungal growth detected after incubation at 37 °C for 14 days following USP XXIV Chapter 71 sterility test.

TREVIGEN[®]

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Sterility Testing (cont.):

- No mycoplasma contamination detected by PCR.
- Endotoxin concentrations \leq 20 EU/ml by LAL assay.

Coating Procedure:

1. Refrigerator temperatures may vary; therefore thaw Cultrex® BME at 2-8 °C overnight on ice in a refrigerator. BME gels in 15-30 minutes above 15 °C; keeping the BME container and coated labware on ice will prevent gelling and extend working times.
2. Dilute 500 µl 10X coating buffer (cat# 3455-096-03) in 4.5 ml of sterile, deionized water to make 1X coating buffer; filtration at 0.2 µm recommended. Store at 4 °C.
3. For highly invasive cells, dilute 1 ml of 5X BME Solution in 4 ml of 1X Coating Buffer on ice immediately before coating. Less invasive cell types may require a more permissive barrier, so the 5X BME Solution may be diluted as far as 0.1X.
4. Working on ice, prepare 5 ml of 1X BME Solution in a sterile 15 ml conical tube, cap tube, and gently invert to mix.
5. Aliquot 50 µl of 1X BME Solution per well of 96-well cell invasion chamber (cat# 3455-096-01) or 100 µl of 1X BME Solution per insert of 24-well cell invasion chamber (cat# 3455-024-01). Gently tap side of device a few times, and visually inspect wells for dispersion of coating. All wells should be coated except at least three migration control wells (optional). Coat for 4 hours or overnight at 37 °C in a CO₂ incubator.
6. Carefully aspirate coating solution from wells and immediately add cells.

Related Products:

Catalog#	Description	Size
3455-024-K	Cultrex® 24 well BME Cell Invasion Assay	24 inserts
3480-024-K	CultreCoat® 24 Well BME-Coated Cell Invasion Assay	24 inserts
3456-024-K	Cultrex® 24 well Laminin I Cell Invasion Assay	24 inserts
3457-024-K	Cultrex® 24 well Collagen I Cell Invasion Assay	24 inserts
3458-024-K	Cultrex® 24 well Collagen IV Cell Invasion Assay	24 inserts
3455-096-K	Cultrex® 96 well BME Cell Invasion Assay	96 samples

Catalog#	Description	Size
3465-096-K	Cultrex® 96 well BME Cell Migration Assay	96 samples
3456-096-K	Cultrex® Laminin I Cell Invasion Assay	96 samples
3457-096-K	Cultrex® Collagen I Cell Invasion Assay	96 samples
3458-096-K	Cultrex® Collagen IV Cell Invasion Assay	96 samples
3490-096-K	CultreCoat® BME 96 Well Cell Adhesion Assay	96 samples
3496-096-K	CultreCoat® 96 Well Adhesion Protein Array	96 samples
3450-048-SK	Cultrex® Directed <i>in vivo</i> Angiogenesis Assay (DIVAA™) Starter	48 samples
3450-048-K	Cultrex® Directed <i>in vivo</i> Angiogenesis Assay Kit	48 samples
3450-048-IK	Cultrex® Directed <i>in vivo</i> Angiogenesis Inhibition Kit	48 samples

Accessories:

Catalog#	Description	Size
3400-010-01	Cultrex® Mouse Laminin I	1 mg
3440-100-01	Cultrex® Rat Collagen I	100 mg
3410-010-01	Cultrex® Mouse Collagen IV	1 mg

3420-001-01	Cultrex® Human Fibronectin, PathClear®	1 mg
3416-001-01	Cultrex® Bovine Fibronectin, NZHD*	1 mg
3421-001-01	Cultrex® Human Vitronectin, PathClear®	50 µg
Catalog#	Description	Size
3417-001-01	Cultrex® Bovine Vitronectin, NZHD	50 µg
3438-100-01	Cultrex® Poly-L-Lysine	100 ml
3439-100-01	Cultrex® Ploy-D-Lysine	100 ml
3445-048-01	Cultrex® 3-D Culture Matrix™ BME	5 ml
3446-005-01	Cultrex® 3-D Culture Matrix™ Laminin I	5 ml
3447-020-01	Cultrex® 3-D Culture Matrix™ Collagen I	5 ml
3430-005-01	Cultrex® BME with Phenol Red	5 ml
3431-005-01	Cultrex® BME Growth Factor Reduced, with Phenol Red	5 ml
3433-005-01	Cultrex® BME Growth Factor Reduced, no Phenol Red	5 ml
3430-005-02	Cultrex® BME with Phenol Red PathClear®	5 ml
3431-005-02	Cultrex® BME with Phenol Red, Growth Factor Reduced PathClear®	5 ml
3432-005-02	Cultrex® BME, PathClear®	5 ml
3433-005-02	Cultrex® BME Growth Factor Reduced, PathClear®	5 ml
3437-100-K	Cultrex® Cell Staining Kit	100 ml
3450-048-05	CellSpere™	15 ml

*New Zealand Herd Derived

References:

1. Albini, 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 γ 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+ endothelial cells. *J. Immun.* 166:7571-7578.
8. U.S. Patent 4,829,000
9. U.S. Patent 5,158,874

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.



Lot Specific Data:

Protein Concentration (BCA):
 Endotoxin (LAL):
 Size:

5X BME Solution
 Cat# 3455-096-02
 Storage: ≤ -20 °C
 (Manual Defrost)
 1-800-873-8443