



ANGIOGENESIS • DNA DAMAGE & REPAIR • APOPTOSIS

## Basement Membrane Extract (BME) and Related Products

### Multipurpose Cultrex® BME

Multipurpose BME is available in concentrations ranging from 12-17 mg/ml and is qualified for angiogenesis, tumorigenicity assays, migration, growth, differentiation, adherence and invasion assays. It is available either reduced or non-reduced in growth factors and either with phenol red or without. All four standard BME types and our specialty BME matrices are available in trial sizes for your testing convenience. BME lots can be reserved for your research requirements.

Description	Size	Catalog #
Cultrex® BME with Phenol Red	5 ml	3430-005-01
Cultrex® BME with Phenol Red, Reduced Growth Factor	5 ml	3431-005-01
Cultrex® BME, No Phenol Red	5 ml	3432-005-01
Cultrex® BME, No Phenol Red, Reduced Growth Factor	5 ml	3433-005-01

### Cultrex® BME PathClear®

Cultrex® BME PathClear® has been tested by PCR and is clear of 31 pathogens and viruses, including LDEV. Each lot is rigorously qualified in biological performance assays. PathClear® BME is ideal for *in vivo* murine research work and other work requiring BME free from viruses, bacteria and mycoplasma.

Description	Size	Catalog #
Cultrex® BME with Phenol Red, PathClear®	5 ml	3430-005-02
Cultrex® BME with Phenol Red, Reduced Growth Factor PathClear®	5 ml	3431-005-02
Cultrex® BME, No Phenol Red, PathClear®	5 ml	3432-005-02
Cultrex® BME, No Phenol Red, Reduced Growth Factor PathClear®	5 ml	3433-005-02

### Cultrex® Stem Cell Qualified BME PathClear®

Cultrex® Stem Cell Qualified Basement Membrane Extract (BME), PathClear® is a soluble form of basement membrane purified from Engelbreth-Holm-Swarm (EHS) tumor. The extract forms a reconstituted basement membrane mainly comprised of laminin, collagen IV, entactin, and heparin sulfate proteoglycan. Cultrex® Stem Cell-Qualified BME provides an effective feeder-free surface for the attachment and maintenance of human embryonic stem cells in a pluripotent state, thereby enabling its use for growth promotion or for study of stem cell differentiation.

Description	Size	Catalog #
Cultrex® Stem Cell Qualified BME PathClear®	5 ml	3434-005-02

### Cultrex® 3-D Culture Matrix™

3-D Culture Matrix™ is our reduced growth factor BME qualified, lot-to-lot, specifically for 3-D culture studies. This matrix provides the foundation for cells to grow in three dimensions allowing for the formation of structures *in vitro* and is available at a consistent concentration range of 13-16 mg/ml.

Description	Size	Catalog #
Cultrex® 3-D BME, No Phenol Red, Reduced Growth Factor	5 ml	3445-005-01
Cultrex® 3-D Laminin I	5 ml	3446-005-01
Cultrex® 3-D Collagen I - Rat Tail	100 mg	3447-020-01

### Cultrex® HC20+™ BME PathClear®

Cultrex® HC20+™ BME PathClear® is available at a concentration of 20 mg/ml or greater for those requiring a high concentration BME for *in vivo* angiogenesis assays and tumorigenicity assays. Cultrex® HC20+™ BME PathClear® has been tested by PCR and is clear of 31 pathogens and viruses, including LDEV, making it ideal for *in vivo* work.

Description	Size	Catalog #
Cultrex® High Protein BME (HC20+™) PathClear®	5 ml	3444-005-02



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## Basement Membrane Extract (BME) and Related Products

### Cultrex® Human BME PathClear®

Cultrex® Human BME is a soluble form of basement membrane purified from human placenta. This 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.

Description	Size	Catalog #
Cultrex® Human BME PathClear®	1 mg/ml	3415-001-02

### Specialized Proteins

**Collagen I** is the major structural component of extracellular matrices found in connective tissue and internal organs, but is most prevalent in the dermis, tendons, and bone. It is a 300 kDa molecule composed of two alpha1(I) chains and one alpha2(I) chain that spontaneously form a triple helix scaffold at a neutral pH and 37°C. This property can be exploited to promote cell attachment, growth, differentiation, migration, and tissue morphogenesis during development.

**Collagen IV** is the primary collagen type found in the extracellular basement membranes separating a variety of epithelial and endothelial cells. Trevigen's mouse collagen IV is purified from EHS sarcoma in lathyritic mice, where it comprises up to 10% of the total tumor mass. It can be used as a thin coating on tissue culture surfaces to promote cell attachment and proliferation, and to study its effects on cell behavior.

**Laminin** is an extracellular matrix protein, which contains a number of functional domains that allow it to assemble into sheets. Trevigen's highly purified Laminin I, purified from EHS sarcoma, increases cell adhesion, migration, growth, and differentiation. It is composed of  $\alpha 1\beta 1\gamma 1$  chains with a total Mr of 800,000 and is used for the coating of culture dishes.

**Fibronectin** is a 440 kDa, soluble disulfide linked dimer composed of two 220 kDa independent globular peptide chains. It is an extracellular matrix protein that is found abundantly in blood, connective tissues, and provisional matrices associated with malignant transformation of migratory cells, and has demonstrated functions in both cell-cell and cell-matrix interactions. Fibronectin functions either as a general cell adhesion molecule or as a modulator in binding between cell surfaces and the extracellular matrix by means of a central cell-binding domain, RGD (Arg-Gly-Asp).

**Vitronectin** is an extracellular soluble disulfide linked dimer composed of a 75 kDa and a 65 kDa peptide chain with a molecular weight of 140 kDa. Vitronectin is a major plasma glycoprotein that promotes cellular adhesion and spreading, inhibits the membrane-damaging effect of the terminal cytolytic complement pathway, and binds to several serpin serine protease inhibitors. Vitronectin can be used for coating tissue culture surfaces to promote cell adhesion or as an additive for serum-free medium.

Description	Size	Catalog #
Cultrex® Mouse Laminin I	1 mg	3400-010-01
Cultrex® Mouse Collagen IV	1 mg	3410-010-01
Cultrex® Bovine Fibronectin	1 mg	3416-001-01
Cultrex® Bovine Vitronectin	50 µg	3417-001-01
Cultrex® Human Fibronectin, PathClear®	1 mg	3420-001-01
Cultrex® Human Vitronectin, PathClear®	50 µg	3421-001-01
Cultrex® Rat Collagen I	100 mg	3440-100-01
Cultrex® Bovine Collagen I	50 mg	3442-050-01

### Accessory Products

Poly-L-Lysine and Poly-D-Lysine, highly positively charged amino acid chains, are commonly used as a coating agent to promote cell adhesion in culture. This solution is provided ready to use at 0.01% and contains polymers in the 70,000-150,000 kDa range.

Description	Size	Catalog #
Cultrex® Poly-L-Lysine	100 ml	3438-100-01
Cultrex® Poly-D-Lysine	100 ml	3439-100-01