

# BD Matrigel™ Basement Membrane Matrix

Certified  
LDEV-Free

BD Matrigel™ Basement Membrane Matrix is a solubilized basement membrane preparation extracted from the Engelbreth-Holm-Swarm (EHS) mouse sarcoma, a tumor rich in extracellular matrix proteins to include laminin (a major component), collagen IV, heparan sulfate proteoglycans, and entactin/nidogen.<sup>1,2</sup> BD Matrigel Matrix also contains TGF-beta, epidermal growth factor, insulin-like growth factor, fibroblast growth factor, tissue plasminogen activator,<sup>3,4</sup> and other growth factors which occur naturally in the EHS tumor.

BD™ Human Umbilical Vein Endothelial Cells (HUVEC-2) stained with Calcein AM and cultured on BD Matrigel™ Matrix. Confocal image (4x) taken using the BD Pathway™ BioImager.

BD Matrigel™ Basement Membrane Matrix is effective for the attachment and differentiation of both normal and transformed anchorage dependent epithelioid and other cell types. These include neurons,<sup>5,6</sup> Sertoli cells,<sup>7</sup> chick lens,<sup>8</sup> and vascular endothelial cells,<sup>9</sup> and hepatocytes.<sup>10</sup> BD Matrigel Matrix will influence gene expression in adult rat hepatocytes<sup>11</sup> as well as three dimensional culture in mouse<sup>12-15</sup> and human<sup>16,17</sup> mammary epithelial cells. It will support *in vivo* peripheral nerve regeneration,<sup>18-20</sup> can be used for metabolism and toxicology studies,<sup>21,22</sup> and is the basis for several types of tumor cell invasion assays.<sup>23,24</sup> BD Matrigel Matrix provides the substrate necessary for the study of angiogenesis both *in vitro*<sup>25,26</sup> and *in vivo*.<sup>27-29</sup> BD Matrigel Matrix also supports *in vivo* propagation of human tumors in immunosuppressed mice.<sup>30-32</sup>

## Wide Selection of Basement Membrane Matrices:

**BD Matrigel Matrix Growth Factor Reduced (GFR)** is suited for applications where a more highly defined basement membrane preparation is desired. Available in standard GFR, High Concentration (HC), and Phenol Red-Free formats.

**BD Matrigel Matrix High Concentration** is suited for *in vivo* applications where a high protein concentration augments growth of tumors. The high protein concentration also allows the BD Matrigel Matrix Plug to maintain its integrity after subcutaneous injection into mice. Available in Standard, Growth Factor Reduced (GFR), and Phenol Red-Free formats.

**BD Matrigel Matrix Phenol Red-Free** is recommended for assays which require color detection (i.e. fluorescence).

**BD Matrigel hESC-qualified Matrix** has been qualified as mTeSR™1-compatible by StemCell Technologies, thus eliminating the need for time-consuming screening, in order to provide the reproducibility and consistency essential for your human embryonic stem (hES) cell research. The mTeSR1 formulation and BD Matrigel Matrix have been shown to be a successful combination for feeder-free maintenance of different WiCell™ hES cell lines for up to 20 passages (mTeSR1, StemCell Technologies Cat. No. 05850).

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## Typical Applications:

### Cell Growth and Differentiation

BD Matrigel Matrix is especially suited for the culture of polarized cells, such as epithelial cells. It promotes the differentiation of many cell types, including hepatocytes, neurons, mammary epithelial, endothelial, and smooth muscle cells.

### In Vivo Angiogenesis Studies

BD Matrigel Matrix HC can be used to assess *in vivo* angiogenic activity of different compounds by subcutaneous injection into mice (BD Matrigel Plug Assay). The plugs are subsequently removed and analyzed for the formation of blood vessels.

### Augmentation of Tumor Growth in Nude Mice

BD Matrigel Matrix HC has been shown to promote successful transplantation of many human tumor cells, including prostatic, breast, small-cell lung, colon, adrenal carcinomas, melanomas, and lymphoblastic leukemia cells. Also, it has been found to increase tumor growth rates *in vivo*.

To place an order, please contact your local distributor or nearest BD Biosciences office.  
For technical assistance, please contact Scientific Support at:  
[help.biosciences@bd.com](mailto:help.biosciences@bd.com)

For literature citations and other BD™ Extracellular Matrix products, please visit [bdbiosciences.com](http://bdbiosciences.com).

## Quality Control:

- Mouse colonies are routinely screened for pathogens via Mouse Antibody Production (MAP) testing
- Extensive PCR testing is performed to screen for a number of pathogens, including LDEV, to ensure strict control of raw materials used during the manufacturing process
- Tested and found negative for bacteria, fungi, and mycoplasma
- Protein concentrations are determined by Lowry method
- Endotoxin units are measured by Limulus Amoebocyte Lysate assay
- BD Matrigel Matrix gel stability is tested for a period of 14 days at 37°C
- Biological activity is determined for each lot using a neurite outgrowth assay. Chick dorsal root ganglia are plated on a 1.0 mm layer of BD Matrigel Matrix and must generate positive neurite outgrowth response after 48 hours without addition of nerve growth factor

## Ordering Information

Description	Qty.	Cat. No.
<b>BD Matrigel™ Basement Membrane Matrix</b>		
BD Matrigel Matrix	5 ml	356234
BD Matrigel Matrix	10 ml	354234
BD Matrigel Matrix	5 x 10 ml	356235
BD Matrigel Matrix High Concentration	10 ml	354248
BD Matrigel Matrix Phenol Red-Free	10 ml	356237
BD Matrigel Matrix High Concentration, Phenol Red-Free	10 ml	354262
BD Matrigel Matrix Growth Factor Reduced	5 ml	356230
BD Matrigel Matrix Growth Factor Reduced	10 ml	354230
BD Matrigel Matrix Growth Factor Reduced, High Concentration	10 ml	354263
BD Matrigel Matrix Growth Factor Reduced, Phenol Red-Free	10 ml	356231
BD Matrigel hESC-qualified Matrix	5 ml	354277

Typical protein concentrations for BD Matrigel Matrix are between 9-12 mg/ml. BD Matrigel Matrix High Concentration is 18-22 mg/ml. A lot-specific Certificate of Analysis is included in each BD Matrigel Matrix shipment noting exact endotoxin and protein concentrations.

## BD Biosciences - Discovery Labware

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