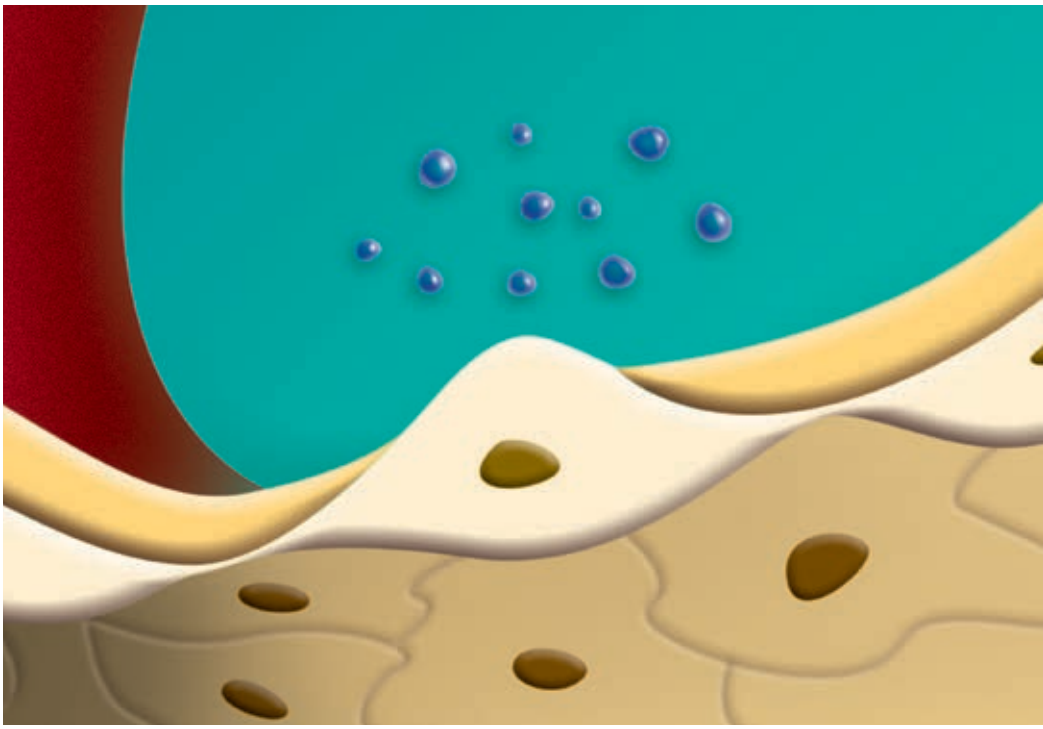
Corning® BioCoat™ Angiogenesis System: Endothelial Cell Invasion

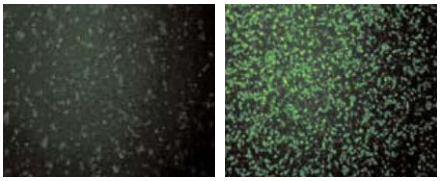
Evaluate and quantitate using real-time fluorescence and non-destructive sample preparation.



The Corning BioCoat Angiogenesis System: Endothelial Cell Invasion is an integrated, automation-friendly cell culture insert system designed to automate endothelial cell invasion assays with real-time fluorescence and non-destructive sample detection. Unlike traditional *in vitro* cell invasion assays, the Corning BioCoat Angiogenesis System: Endothelial Cell Invasion allows rapid data collection without the need for plate washing or tedious manual cell scraping and counting. This versatile system consists of a patented light-tight Corning FluoroBlok™ PET membrane (3.0 µm pore size) that effectively blocks the transmission of light from 490-700 nm. The Corning FluoroBlok membrane is uniformly coated with Corning Matrigel® Matrix that serves as a reconstituted authentic basement membrane *in vitro*. The uniform layer of Corning Matrigel Matrix provides an appropriate protein structure that is a true barrier to non-invasive cells, but allows invasive endothelial cells to penetrate and pass through the Corning FluoroBlok membrane.

Since the Corning FluoroBlok membrane effectively blocks the fluorescence of labeled cells that have not invaded through the membrane, only those cells that appear on the underside of the Corning FluoroBlok membrane are quantitated by fluorescence, providing a signal that can be directly correlated to cell number.

HMVEC Invasion Through Corning BioCoat Angiogenesis System: Endothelial Cell Invasion



- Serum + 5% Serum

Human microvascular endothelial cells (HMVECs) were placed in the Corning BioCoat Angiogenesis System: Endothelial Cell Invasion in either the absence (control) or presence of serum and allowed to invade for 22±1 hour. Cells were labeled post-invasion with Calcein AM and visualized using an Olympus IMT-2 phase epifluorescent microscope. Images were captured using IPWIN 4.0 software.

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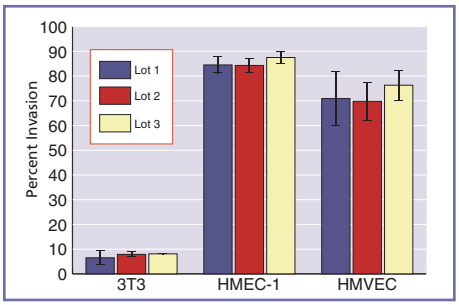
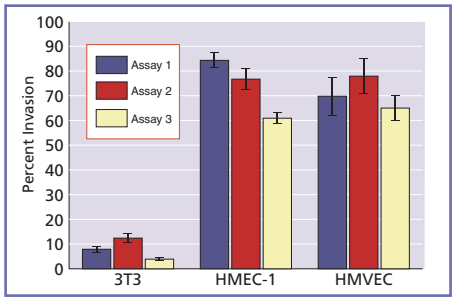
Corning® BioCoat™ Angiogenesis System: Endothelial Cell Invasion

Lot-to-Lot Reproducibility



Three lots of the Corning BioCoat Angiogenesis System: Endothelial Cell Invasion were assayed using a human microvascular endothelial cell line (HMEC-1), a primary cell line (HMVEC), and NIH 3T3 cells, a non-invasive fibroblast cell line. The data was normalized to a migration control (uncoated Corning FluoroBlok insert) to minimize variability due to cell preparation and/or fluorescent dye uptake.

Assay-to-Assay Reproducibility



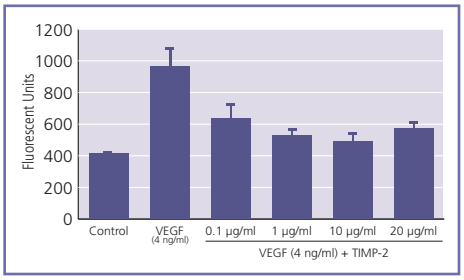
A single lot of the Corning BioCoat Angiogenesis System: Endothelial Cell Invasion was assayed three times using HMEC-1s, HMVECs, and NIH 3T3 cells, a non-invasive fibroblast cell line. The data is normalized to a migration control (uncoated Corning FluoroBlok insert) to minimize variability due to cell preparation and/or fluorescent dye uptake.

Warranty/Disclaimer: Unless otherwise specified, all products are for research use only. Not for use in humans. Not intended for use in diagnostic or therapeutic procedures. Corning Life Sciences makes no claims regarding the performance of these products for clinical or diagnostic applications.

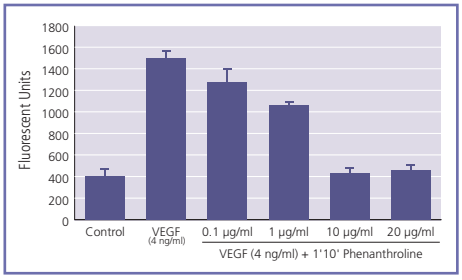
Discover the Advantages and Ease of Screening for Pro- and Anti-Angiogenic Compounds

By combining the benefits of Corning Matrigel® Matrix with the fluorescence blocking membrane properties of the Corning FluoroBlok™ 24-Multiwell Insert System, screening for prospective pro- and anti-angiogenic compounds can be automated and reproducibly quantitated. The ease and efficiency of using this proprietary system offers increased productivity and sample throughput for quantitative comparison of multiple samples. The Corning BioCoat Angiogenesis System: Endothelial Cell Invasion is available in a 24-Multiwell Insert Plate format that is compatible with most fluorescence plate readers, robots, and fluid handlers.

a) Effect of TIMP-2 on VEGF-Induced HMVEC Invasion



b) Effect of MMP Inhibitor 1'10' Phenanthroline on HMVEC Invasion



HMVECs were assayed in the Corning BioCoat Angiogenesis System: Endothelial Cell Invasion in the absence (Control) or presence of VEGF (4 ng/ml) with varying concentrations of a) TIMP-2 or b) 1'10' Phenanthroline in the bottom chamber. Cells were allowed to invade for 22±1 hour. Cells were labeled post-invasion with Calcein AM (4 µg/ml) and measured by detecting the fluorescence of cells that invaded through the Corning Matrigel Matrix with an Applied Biosystems CytoFluor® 4000 plate reader at 485 nm excitation and 530 nm emission. Data represents the mean of n=3 inserts ± SD.

Quality Control

Each lot of Corning BioCoat Angiogenesis System: Endothelial Cell Invasion is tested for its ability to allow invasion of HMEC-1 cells, an invasive human microvascular endothelial cell line, and to exclude invasion of NIH 3T3 cells, a non-invasive fibroblast cell line. All lots are tested and found negative for bacteria and fungi.

Storage and Stability

Product is shipped on dry ice. Upon receipt, store immediately at -20°C.
Stable for at least three months from date of shipment.

Ordering Information

Cat. No.	Description	Qty/Pack
Corning BioCoat Angiogenesis System: Endothelial Cell Invasion		
354141	24-Multiwell Insert System	1
354142	24-Multiwell Insert System	5

For a complete listing of Corning BioCoat products, please visit our website.

To place an order in the U.S., contact Customer Service at:
tel: **800.492.1110**, fax: 978.442.2476, email: **CLSCustServ@corning.com**

For technical assistance, contact Technical Support at:
tel: **800.492.1110**, fax: 978.442.2476, email: **CLSTechServ@corning.com**

Outside the U.S., contact your local distributor or visit **www.corning.com/lifesciences** to locate your nearest Corning office. For additional Corning product, technical, or distributor information, call **978.442.2200**.

Corning acquired the BioCoat™, FluoroBlok™, and Matrigel® brands.

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