

# Permeable Supports Selection Guide

Including Transwell® and Falcon® Cell Culture Inserts



## About Corning® Permeable Supports

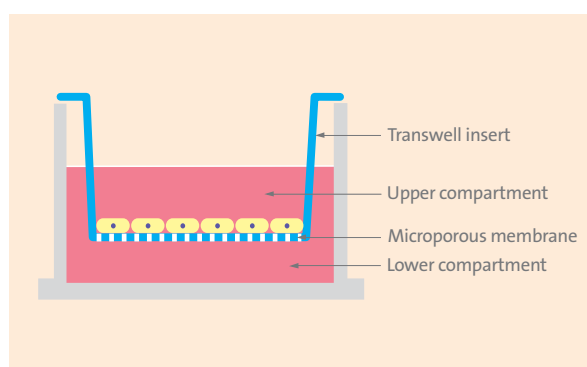
**Permeable supports, also known as cell culture inserts, are an essential tool for the study of both anchorage-dependent and independent cell lines.**

You can use cell culture inserts to:

- ▶ Produce a cell culture environment that closely resembles an *in vivo* state
- ▶ Allow polarized cells to carry out metabolic activities in a more natural manner because the cells feed both apically and basolaterally
- ▶ Co-culture cells with or without cell-to-cell contact
- ▶ Design a diversity of experiments using various pore sizes, membrane types, and coatings

This selection guide will help you choose the right combination of membrane type, pore size, format, and surface treatment to create a cell culture environment that more closely mimics the *in vivo* environment you desire.

### Create a More Natural Environment for Your Cells



The unique, self-centered hanging design of Transwell inserts prevents medium wicking between the insert and outer well. The design also permits access to the lower compartment through windows in the insert wall, as well as undamaged co-culturing of cells in the lower compartment.



### Transwell® Permeable Supports: a Laboratory Standard

Transwell inserts are convenient, ready-to-use permeable support devices pre-packaged in standard multiple well plates. The unique, self-centered hanging design prevents medium wicking between the insert and outer well. Transwell inserts are available in a wide variety of sizes, membrane types, and configurations, and they are backed by extensive citations, protocols, and technical support—all of which has helped to make them the leading brand of cell culture insert for more than 25 years.



### Falcon® and Corning® BioCoat™ Inserts: Giving You More Choices

With Falcon and BioCoat inserts, Corning offers an even broader line of permeable support research tools, including Corning FluoroBlok™ light-blocking inserts and systems for migration assays, as well as BioCoat ECM-coated inserts for enhanced cell attachment, growth, and differentiation.

Falcon inserts are offered in polyester (PET) membranes and come individually packaged in a variety of pore sizes and configurations. For best results, Falcon, BioCoat, and FluoroBlok inserts should be used only with Falcon Cell Culture Companion Plates. These plates allow for a two-position orientation of the inserts for feeding and incubation of cells.

## How to Use this Guide

**Follow these four steps to select the optimal insert for your research.**

### 1. Select a Membrane

Permeable supports are available with three materials of construction:

#### PC (Polycarbonate)

Transwell® permeable supports are available in a broad range of pore sizes from 0.4 to 8.0 µm. This high pore density membrane is suitable for a variety of applications. It allows for maximum diffusion when studying transport, secretions, or drug uptake.

#### PET (Polyester or Polyethylene Terephthalate)

Several PET membrane types are available:

- ▶ Transwell-clear and Falcon® transparent PET inserts permit sufficient optical transparency for visualization of cell outlines by phase contrast microscopy.
- ▶ Falcon high density (HD) PET membranes have a high pore density, which allows maximum diffusion of materials between the insert and receiver plate.
- ▶ Corning FluoroBlok™ light-blocking PET membrane is also available for simplified cell-based assays. This unique membrane blocks >99% of light transmission from 400 to 700 nm and is ideal for both endpoint and kinetic cell invasion, migration, and chemotaxis assays.

#### PTFE (Polytetrafluoroethylene)

Collagen-coated PTFE membranes are available in limited pore sizes (0.4 and 3.0 µm). These coated membranes promote cell attachment and allow cells to be visualized during culture.

Consult the product specification tables on the following pages for more information.

### 2. Select a Pore Size

In general, smaller pore sizes (0.4 and 1.0 µm) are used for culturing cells, co-culture applications, and drug transport studies. Larger pore sizes (3.0 to 8.0 µm) are recommended for chemotaxis and angiogenesis applications. Please refer to the Applications guide below for more information.

| Application                        | Cell Type                           | Pore Size (µm) |
|------------------------------------|-------------------------------------|----------------|
| Angiogenesis                       | Endothelial, HMVEC, HUVEC           | 3.0            |
| Co-culture                         | Stem, neuronal, and various others  | 0.4, 1.0       |
| Epithelial Cell Polarity           | Epithelial cells                    | 0.4            |
| Migration                          | Endothelial, HUVEC, HMVEC           | 3.0            |
|                                    | Neutrophils, PMNs                   | 3.0            |
|                                    | Lymphocytes, macrophages, monocytes | 3.0, 5.0       |
|                                    | Neuronal cells                      | 3.0            |
|                                    | Dendritic cells                     | 3.0, 5.0, 8.0  |
|                                    | Neurite outgrowth                   | 1.0, 3.0       |
|                                    | Epithelial fibroblasts              | 8.0            |
|                                    | Leukocytes                          | 3.0, 5.0       |
| Invasion                           | Smooth muscle                       | 8.0            |
|                                    | Melanoma                            | 8.0            |
|                                    | Glioma                              | 8.0            |
|                                    | Lymphoma, Jurkat                    | 5.0, 8.0       |
|                                    | Osteoblasts                         | 8.0            |
|                                    | Breast cancer                       | 5.0, 8.0       |
| Tissue Engineering                 | Endothelial                         | 3.0, 5.0, 8.0  |
|                                    | Human skin model                    | 0.4, 3.0       |
| Toxicity Testing                   | Mouse fibroblasts                   | 3.0            |
|                                    | Human lung                          | 0.4            |
| Transport and Permeability Studies | Caco-2                              | 0.4, 1.0       |
|                                    | MDCK                                | 0.4, 1.0       |

## How to Use this Guide (Continued)

### 3. Select a Format

- ▶ Individual inserts are used with 6-, 12-, and 24-well plates. A large, single-well format is also available in a 100 mm dish.
- ▶ HTS insert plates are available in either 24- or 96-well formats with special receiver plates and single-well reservoirs to facilitate automation and ease of handling.
- ▶ Snapwell™ inserts are designed for use with diffusion or Ussing chambers.
- ▶ Netwell® inserts are used as tissue carriers or explants at the air-media interface. The inserts are available in 6- or 12-well plates.

#### Growth Area Guide for Transwell® Inserts

| Insert Diameter (mm)* | Multiple Well Plate or Dish Style | Insert Membrane Growth Area (cm <sup>2</sup> ) |
|-----------------------|-----------------------------------|--|
| 4.26                  | 96-well                           | 0.143  |
| 6.5                   | 24-well                           | 0.33   |
| 12                    | 12-well                           | 1.12   |
| 24                    | 6-well                            | 4.67   |
| 75                    | 100 mm dish                       | 44   |

#### Growth Area Guide for Falcon®, Corning® FluoroBlok™, and Corning BioCoat™ Inserts

| Insert Diameter (mm)* | Multiple Well Plate or Dish Style | Insert Membrane Growth Area (cm <sup>2</sup> ) |
|-----------------------|-----------------------------------|--|
| 3.2                   | 96-well                           | 0.08   |
| 6.4                   | 24-well                           | 0.31/0.33**                                    |
| 10.5                  | 12-well                           | 0.90   |
| 23.1                  | 6-well                            | 4.2  |

\*Values are reported as nominal and may vary due to inherent variability of our manufacturing process. To ensure success, we recommend that researchers validate their methods independent from our reported values.

\*\*24 HTS Multiwell

### 4. Select a Surface Treatment

For many applications, an extracellular matrix (ECM) coating can improve cell attachment, differentiation, and signaling. Compared to self-coated inserts, pre-coated Corning BioCoat™ inserts reduce handling steps and can enhance data reproducibility. Consult the BioCoat insert selection guide on page 7 for more information. Custom coatings and configurations are also available. If you don't see what you need, please contact Corning for more information. You'll find contact information on the back cover of this brochure.

## Individual Inserts



24 and 6.5 mm Transwell inserts

### Corning offers four types of individual inserts:

- ▶ Transwell® Polycarbonate (PC) translucent inserts are treated for optimal cell attachment. They are available in a variety of pore sizes ranging from 0.4 to 8.0  $\mu\text{m}$ .
- ▶ Transwell®-clear inserts feature a microscopically transparent polyester (PET) membrane that is tissue culture-treated (TC) for optimal cell attachment and growth. Transwell-Clear inserts provide better cell visibility under phase contrast microscopy and allow assessment of cell viability and monolayer formation.
- ▶ Individual Falcon® inserts are available with standard transparent PET, as well as high pore-density translucent PET for maximum diffusion when studying transport, secretion, and drug uptake.
- ▶ Light-blocking PET (see Corning® FluoroBlok™ inserts on the next page for more information).

### Characteristics of Transwell Inserts

| Pore Size ( $\mu\text{m}$ ) | 0.4             | 0.4             | 3.0             | 3.0             | 5.0             | 8.0             | 8.0             |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Membrane                    | PET             | PC              | PET             | PC              | PC              | PC              | PET             |
| Pore Density                | $4 \times 10^6$ | $1 \times 10^8$ | $2 \times 10^6$ | $2 \times 10^6$ | $4 \times 10^5$ | $1 \times 10^5$ | $1 \times 10^5$ |
| Opacity                     | Clear           | Translucent     | Clear           | Translucent     | Translucent     | Translucent     | Clear           |
| 1-well                      |                 | ■               |                 | ■               |                 |                 |                 |
| 6-well                      | ■               | ■               | ■               | ■               |                 |                 |                 |
| 12-well                     | ■               | ■               | ■               | ■               |                 |                 |                 |
| 24-well                     | ■               | ■               | ■               | ■               | ■               | ■               | ■               |
| Ordering Information        | Page 9          | Page 9          | Page 9          | Page 9          | Page 9          | Page 9          | Page 9          |

### Characteristics of Falcon and Corning BioCoat Inserts

| Pore Size ( $\mu\text{m}$ ) | 0.4               | 0.4             | 1.0               | 3.0             | 3.0             | 8.0             |
|-----------------------------|-------------------|-----------------|-------------------|-----------------|-----------------|-----------------|
| Membrane                    | PET               | PET             | PET               | PET             | PET             | PET             |
| Pore Density                | $1.6 \times 10^6$ | $1 \times 10^8$ | $1.6 \times 10^6$ | $8 \times 10^5$ | $2 \times 10^6$ | $1 \times 10^5$ |
| Opacity                     | Clear             | Translucent     | Clear             | Clear           | Translucent     | Clear           |
| 1-well                      |                   |                 |                   |                 |                 |                 |
| 6-well                      | ■                 | ■               | ■                 | ■               | ■               | ■               |
| 12-well                     | ■                 | ■               | ■                 | ■               | ■               | ■               |
| 24-well                     | ■                 | ■               | ■                 | ■               | ■               | ■               |
| Ordering Information        | Page 9,10         | Page 9,10       | Page 9,10         | Page 9,10       | Page 9,10       | Page 9,10       |

For best results, Falcon Cell Culture and BioCoat inserts should be used together with Falcon cell culture companion plates. Falcon cell culture insert companion plates have been specially designed to reduce the risk of evaporation or contamination due to improper fit. See page 10 for ordering information.



## Individual Inserts (Continued)



Corning FluoroBlok 6.5 mm insert

### Corning® FluoroBlok™ Inserts

Corning FluoroBlok cell culture inserts are designed with a light-tight PET membrane that efficiently blocks the transmission of light from 400 to 700 nm, allowing fluorescence detection in a simplified and non-destructive manner.

Fluorescently labeled cells in the top chamber of the insert are shielded from bottom-reading fluorescence plate readers and microscopes by the FluoroBlok membrane. Labeled cells that migrate through the membrane are easily detected by a bottom-reading fluorescence plate reader, thereby eliminating cell scraping and manual cell counting. This non-destructive detection method enables both kinetic and endpoint chemotactic assays. (Note: Falcon inserts do not come with companion receiver plates. See the ordering information for companion plate catalog numbers.)

#### Characteristics of Corning FluoroBlok Inserts

| Pore Size (µm)             | 3.0                | 8.0                |
|----------------------------|--------------------|--------------------|
| Membrane                   | Light-blocking PET | Light-blocking PET |
| Pore Density               | $8 \times 10^5$    | $6 \times 10^4$    |
| Brand                      | FluoroBlok         | FluoroBlok         |
| Inserts for 24-well plates | ■                  | ■                  |
| Ordering Information       | Page 10            | Page 10            |



Polycarbonate Snapwell inserts

### Snapwell™ Inserts

The Snapwell insert is a modified Transwell® culture insert that contains a 12 mm diameter tissue culture-treated membrane supported by a detachable ring. The inserts are primarily used for transport and electrophysiological studies. Once cells are grown to confluence, this ring-supported membrane can be placed into either vertical or horizontal diffusion or Ussing chambers.

#### Characteristics of Snapwell Insert Membranes

| Pore Size (µm)            | 0.4             |                 |
|---------------------------|-----------------|-----------------|
| Membrane                  | PET             | PC              |
| Pore density              | $4 \times 10^6$ | $1 \times 10^8$ |
| Opacity                   | Clear           | Translucent     |
| Brand                     | Costar®         | Costar          |
| Inserts for 6-well plates | ■               | ■               |
| Ordering Information      | Page 10         | Page 10         |



Polyester Snapwell inserts

### Netwell® Inserts

Netwell Inserts have polyester (PET) mesh bottoms attached to a polystyrene ring or housing. They are used as tissue carriers, supports and strainers for culture of small organs, tissue slices, or explants at the air-media interface. They can be used to coarse filter tissue homogenates, cell suspensions, or microcarriers. Accessories allow them to be used as a handy carrier for immunocytochemical staining of tissue culture slices. See the ordering information for Netwell accessories.

#### Characteristics of Netwell Inserts

| Mesh Size (µm)                          | 74      | 440     |
|---|---------|---------|
| Mesh Material                           | PET     | PET     |
| Sterile                                 | Yes     | Yes     |
| Brand                                   | Costar  | Costar  |
| Inserts for 6-, 12-, and 24-well plates | ■       | ■       |
| Ordering Information                    | Page 10 | Page 10 |



Netwell inserts

## ECM Coated Inserts

Corning® BioCoat™ cell culture inserts are pre-coated with extracellular matrix proteins for applications requiring a protein-coated cell surface, such as cell differentiation, migration and invasion assays. Coatings include Corning Matrigel® matrix, Fibronectin, Collagen, or Laminin.

For example, cell culture inserts coated with Fibrillar Collagen I can establish the barrier function of intestinal epithelial cell monolayers (Caco-2). Inserts coated with Matrigel matrix are frequently cited for *in vitro* cell invasion assays.

### Characteristics of Corning Coated Inserts

| Corning BioCoat Inserts |            |            |            |
|-------------------------|------------|------------|------------|
| Pore Size (µm)          | <b>0.4</b> | <b>1.0</b> | <b>8.0</b> |
| Membrane                | PET        | PET        | PET        |
| Coating:                |            |            |            |
| Collagen I              | ■          |            |            |
| Fibrillar Collagen      |            | ■          |            |
| Fibronectin             |            |            |            |
| Matrigel Matrix         |            |            | ■          |
| Matrigel GFR            |            |            | ■          |
| Ordering Information    | Page 10    | Page 10    | Page 10    |

\*PET with Collagen IV coating is only available for 24 well plates.

| Corning BioCoat Control Inserts |                     |                     |
|---------------------------------|---------------------|---------------------|
| Pore Size (µm)                  | <b>0.4</b>          | <b>8.0</b>          |
| Membrane                        | PET                 | PET                 |
| Pore Density                    | 2 x 10 <sup>6</sup> | 6 x 10 <sup>4</sup> |
| Opacity                         | Clear               | Clear               |
| 24-well                         | ■                   | ■                   |
| Ordering Information            | Page 10             | Page 10             |

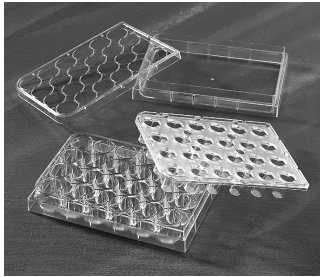
BioCoat control cell culture inserts are packaged ready-to-use in Falcon® cell culture insert companion plates. They may be used as control inserts along side ECM-treated inserts while studying effects of the ECM component present on the Corning BioCoat cell culture inserts.

| Transwell® Coated Inserts |            |            |
|---------------------------|------------|------------|
| Pore Size (µm)            | <b>0.4</b> | <b>3.0</b> |
| Membrane                  | PTFE       | PTFE       |
| Coating:                  |            |            |
| Collagen I and III Mix    | ■          | ■          |
| 6-well                    | ■          | ■          |
| 12-well                   | ■          | ■          |
| 24-well                   | ■          | ■          |
| Ordering Information      | Pages 11   | Pages 11   |

Transwell-COL inserts have a transparent (when wet) collagen-treated PTFE membrane that promotes cell attachment and spreading, while allowing cells to be visualized during culture. The coating process covers each fibril of the matrix, thereby retaining the porosity of the membrane.

HTS insert plates are arrays of individual cell culture inserts connected by a rigid, robotics-friendly holder. This single-unit design makes insert plates ideal for running automated, high throughput drug transport (Caco-2 cells) cell toxicity studies or cell migration and invasion studies.

### Characteristics of Uncoated HTS Insert Plates



HTS Transwell insert plates

| Uncoated Transwell® HTS Insert Plates |                     |                     |                       |                     |                     |                     |
|---------------------------------------|---------------------|---------------------|-----------------------|---------------------|---------------------|---------------------|
| Pore Size (µm)                        | 0.4                 | 0.4                 | 1.0                   | 3.0                 | 5.0                 | 8.0                 |
| Membrane                              | PET                 | PC                  | PET                   | PC                  | PC                  | PET                 |
| Pore Density                          | 4 x 10 <sup>6</sup> | 1 x 10 <sup>8</sup> | 1.6 x 10 <sup>6</sup> | 2 x 10 <sup>6</sup> | 4 x 10 <sup>5</sup> | 1 x 10 <sup>5</sup> |
| Opacity                               | Clear               | Translucent         | Clear                 | Translucent         | Translucent         | Clear               |
| 24-well                               | ■                   | ■                   | ■                     | ■                   |                     |                     |
| 96-well                               |                     | ■                   | ■                     | ■                   | ■                   | ■                   |
| Ordering Information                  | Page 11             | Page 11             | Page 11               | Page 11             | Page 11             | Page 11             |



Falcon HTS insert plates

| Uncoated Falcon® HTS Insert Plates |                       |                     |                     |                     |                     |
|------------------------------------|-----------------------|---------------------|---------------------|---------------------|---------------------|
| Pore Size (µm)                     | 1.0                   | 3.0                 | 3.0                 | 8.0                 | 8.0                 |
| Membrane                           | PET                   | PET                 | FluoroBlok™         | PET                 | FluoroBlok          |
| Pore Density                       | 1.8 x 10 <sup>6</sup> | 6 x 10 <sup>5</sup> | 6 x 10 <sup>5</sup> | 6 x 10 <sup>4</sup> | 6 x 10 <sup>4</sup> |
| Opacity                            | Clear                 | Clear               | Light-blocking      | Clear               | Light-blocking      |
| 24-well                            | ■                     | ■                   | ■                   | ■                   | ■                   |
| 96-well                            | ■                     |                     | ■                   | ■                   | ■                   |
| Ordering Information               | Page 11, 12           | Page 11, 12         | Page 11, 12         | Page 11, 12         | Page 11, 12         |

### Characteristics of Coated HTS Insert Plates

| Coated HTS Insert Plates  |          |                       |                     |   |  |   |
|---------------------------|----------|-----------------------|---------------------|---|--|---|
| Pore Size (µm)            | 0.4      | 1.0                   | 3.0                 | 3.0   | 3.0  | 8.0                                     |
| Membrane                  | PAMPA    | PET                   | PET                 | FluoroBlok                                      | FluoroBlok                                     | FluoroBlok                              |
| Coatings                  |          |                       |                     |   |  |   |
| Fibrillar Collagen I      |          | ■                     |                     |   |  |   |
| Fibronectin               |          |                       | ■                   | ■   |  |   |
| Corning® Matrigel® Matrix |          |                       |                     |   | ■  | ■                                       |
| Phospholipids             | ■        |                       |                     |   |  |   |
| Pore Density              | –        | 1.8 x 10 <sup>6</sup> | 6 x 10 <sup>5</sup> | 6 x 10 <sup>5</sup>                             | 6 x 10 <sup>5</sup>                            | 6 x 10 <sup>4</sup>                     |
| Brand                     | Gentest™ | BioCoat™              | BioCoat             | BioCoat   | BioCoat  | BioCoat                                 |
| System                    |          |                       |                     | Angiogenesis cell migration system <sup>a</sup> | Angiogenesis cell invasion system <sup>b</sup> | Tumor cell invasion system <sup>c</sup> |
| 24-well                   |          | ■                     | ■                   | ■   | ■  | ■                                       |
| 96-well                   | ■        |                       |                     | ■   |  | ■                                       |
| Ordering Information      | Page 12  | Page 12               | Page 12             | Page 12   | Page 12  | Page 12                                 |

<sup>a</sup> Angiogenesis cell migration system: Use to evaluate endothelial cell invasion using real-time fluorescence detection in a simplified and reproducible manner. Increase screening throughput for prospective pro- and anti-angiogenic compounds. Tested for its ability to allow invasion of HUVEC cells in response to VEGF. This system consists of a receiver plate, a lid, and a Falcon Multiwell Insert Plate with 3.0 µm Corning FluoroBlok membrane coated with human Fibronectin.

<sup>b</sup> Angiogenesis cell invasion system: A quantitative and reproducible *in vitro* model system for examining the effects of prospective compounds on endothelial cell migration. Tested for its ability to allow invasion of HMVEC-1 cells and to exclude invasion of NIH-3T3 cells. This system consists of a receiver plate, a lid, and a Falcon multiwell insert plate with 3.0 µm FluoroBlok membrane coated with Matrigel matrix.

<sup>c</sup> Tumor cell invasion system: An *in vitro* system for the study of cell invasion through a basement membrane. The system consists of Falcon inserts containing an 8 µm pore size PET membrane coated with a uniform layer of Matrigel matrix.



## Ordering Information

### Uncoated Individual Inserts

#### Transwell® Permeable Supports, Polycarbonate (PC) Membrane

| VWR<br>Cat. No. | Corning<br>Cat. No. | Description               | Membrane<br>Diameter (mm) | Growth Surface<br>Area (cm <sup>2</sup> ) | Membrane<br>Pore Size (µm) | Qty/Pk    | Qty/Cs |
|-----------------|---------------------|---------------------------|---------------------------|---|----------------------------|-----------|--------|
| 29442-104       | 3412                | Inserts in 6-well plates  | 24                        | 4.67                                      | 0.4                        | 6/plate   | 24     |
| 29442-108       | 3414                | Inserts in 6-well plates  | 24                        | 4.67                                      | 3.0                        | 6/plate   | 24     |
| 29442-130       | 3428                | Inserts in 6-well plates  | 24                        | 4.67                                      | 8.0                        | 6/plate   | 24     |
| 29442-086       | 3401                | Inserts in 12-well plates | 12                        | 1.12                                      | 0.4                        | 12/plate  | 48     |
| 29442-088       | 3402                | Inserts in 12-well plates | 12                        | 1.12                                      | 3.0                        | 12/plate  | 48     |
| 29442-106       | 3413                | Inserts in 24-well plates | 6.5                       | 0.33                                      | 0.4                        | 12/plate* | 48     |
| 29442-110       | 3415                | Inserts in 24-well plates | 6.5                       | 0.33                                      | 3.0                        | 12/plate* | 48     |
| 29442-118       | 3421                | Inserts in 24-well plates | 6.5                       | 0.33                                      | 5.0                        | 12/plate* | 48     |
| 29442-120       | 3422                | Inserts in 24-well plates | 6.5                       | 0.33                                      | 8.0                        | 12/plate* | 48     |
| 29442-114       | 3419                | Inserts in 100 mm dish    | 75                        | 44  | 0.4                        | 1/dish    | 12     |
| 29442-116       | 3420                | Inserts in 100 mm dish    | 75                        | 44  | 3.0                        | 1/dish    | 12     |

\*6.5 mm membrane diameter are packaged 12 inserts in a 24-well plate, 4 plates per case.

#### Transwell-Clear Inserts, Polyester (PET) membrane

|           |      |                           |     |      |     |           |    |
|-----------|------|---------------------------|-----|------|-----|-----------|----|
| 29442-074 | 3450 | Inserts in 6-well plates  | 24  | 4.67 | 0.4 | 6/plate   | 24 |
| 29442-076 | 3452 | Inserts in 6-well plates  | 24  | 4.67 | 3.0 | 6/plate   | 24 |
| 29442-078 | 3460 | Inserts in 12-well plates | 12  | 1.12 | 0.4 | 12/plate  | 48 |
| 29442-080 | 3462 | Inserts in 12-well plates | 12  | 1.12 | 3.0 | 12/plate  | 48 |
| 29442-082 | 3470 | Inserts in 24-well plates | 6.5 | 0.33 | 0.4 | 12/plate* | 48 |
| 29442-084 | 3472 | Inserts in 24-well plates | 6.5 | 0.33 | 3.0 | 12/plate* | 48 |
| 89235-020 | 3464 | Inserts in 24-well plates | 6.5 | 0.33 | 8.0 | 12/plate* | 48 |

\*6.5 mm membrane diameter are packaged 12 inserts in a 24-well plate, 4 plates per case.

#### Costar® Multiple Well Plates

|           |      |  |   |   |   |   |    |
|-----------|------|--|---|---|---|---|----|
| 29442-042 | 3516 | 6-well clear TC-treated multiple well plates                                 | – | – | – | 1 | 50 |
| 29442-040 | 3513 | 12-well clear TC-treated multiple well plates, individually wrapped, sterile | – | – | – | 1 | 50 |
| 29443-952 | 3526 | 24-well clear TC-treated multiple well plates, individually wrapped, sterile | – | – | – | 1 | 50 |

#### Falcon® Transparent Inserts, PET Membrane

|           |        |                            |      |     |     |   |    |
|-----------|--------|----------------------------|------|-----|-----|---|----|
| 62406-163 | 353090 | Inserts for 6-well plates  | 23.1 | 4.2 | 0.4 | 1 | 48 |
| 62406-171 | 353102 | Inserts for 6-well plates  | 23.1 | 4.2 | 1.0 | 1 | 48 |
| 62406-164 | 353091 | Inserts for 6-well plates  | 23.1 | 4.2 | 3.0 | 1 | 48 |
| 62406-196 | 353093 | Inserts for 6-well plates  | 23.1 | 4.2 | 8.0 | 1 | 48 |
| 62406-172 | 353103 | Inserts for 12-well plates | 10.5 | 0.9 | 1.0 | 1 | 48 |
| 62406-174 | 353180 | Inserts for 12-well plates | 10.5 | 0.9 | 0.4 | 4 | 48 |
| 62406-175 | 353181 | Inserts for 12-well plates | 10.5 | 0.9 | 3.0 | 1 | 48 |
| 62406-176 | 353182 | Inserts for 12-well plates | 10.5 | 0.9 | 8.0 | 1 | 48 |
| 62404-550 | 353095 | Inserts for 24-well plates | 6.4  | 0.3 | 0.4 | 1 | 48 |
| 62406-173 | 353104 | Inserts for 24-well plates | 6.4  | 0.3 | 1.0 | 1 | 48 |
| 62406-169 | 353096 | Inserts for 24-well plates | 6.4  | 0.3 | 3.0 | 1 | 48 |
| 62406-198 | 353097 | Inserts for 24-well plates | 6.4  | 0.3 | 8.0 | 1 | 48 |

#### Falcon Translucent, High Density Inserts, PET Membrane

|           |        |                            |      |     |     |   |    |
|-----------|--------|----------------------------|------|-----|-----|---|----|
| 62406-179 | 353493 | Inserts for 6-well plates  | 23.1 | 4.2 | 0.4 | 1 | 48 |
| 62406-170 | 353092 | Inserts for 6-well plates  | 23.1 | 4.2 | 3.0 | 1 | 48 |
| 62406-180 | 353494 | Inserts for 12-well plates | 10.5 | 0.9 | 0.4 | 1 | 48 |
| 62406-177 | 353292 | Inserts for 12-well plates | 10.5 | 0.9 | 3.0 | 1 | 48 |
| 62406-181 | 353495 | Inserts for 24-well plates | 6.4  | 0.3 | 0.4 | 1 | 48 |
| 62406-178 | 353492 | Inserts for 24-well plates | 6.4  | 0.3 | 3.0 | 1 | 48 |

## Ordering Information (Continued)

**Falcon® Companion Plates and Lid**

| VWR<br>Cat. No. | Corning<br>Cat. No. | Description  | Membrane<br>Diameter (mm) | Growth Surface<br>Area (cm <sup>2</sup> ) | Membrane<br>Pore Size (µm) | Qty/Pk | Qty/Cs |
|-----------------|---------------------|--|---------------------------|---|----------------------------|--------|--------|
| 62406-185       | 353502              | 6-well plate, clear, flat bottom, standard tissue culture-treated            | –                         | –   | –                          | 1      | 50     |
| 62405-150       | 355467              | 6-well, deep well plate, clear, flat bottom, standard tissue culture-treated | –                         | –   | –                          | 1      | 4      |
| 62406-187       | 353503              | 12-well plate, clear, flat bottom, standard tissue culture-treated           | –                         | –   | –                          | 1      | 4      |
| 62406-189       | 353504              | 24-well plate, clear, flat bottom, standard tissue culture-treated           | –                         | –   | –                          | 1      | 50     |

**Snapwell™ Inserts\***

|           |      |                                    |    |      |     |   |    |
|-----------|------|------------------------------------|----|------|-----|---|----|
| 29442-160 | 3407 | PC inserts in 6-well plates        | 12 | 1.12 | 0.4 | 6 | 24 |
| 29444-282 | 3801 | Clear PET inserts in 6-well plates | 12 | 1.12 | 0.4 | 6 | 24 |

\*Diffusion Chambers are available through Harvard Apparatus ([www.harvardapparatus.com](http://www.harvardapparatus.com)).

**Netwell™ Inserts, PET Membrane**

| VWR<br>Cat. No. | Corning<br>Cat. No. | Description              | Membrane<br>Diameter (mm) | Membrane Pore<br>Mesh Size (µm) | Color | Qty/Pk  | Qty/Cs |
|-----------------|---------------------|--------------------------|---------------------------|---------------------------------|-------|---------|--------|
| 29442-136       | 3479                | Inserts in 6-well plates | 24                        | 74                              | N/A   | 6/plate | 48     |
| 29442-138       | 3480                | Inserts in 6-well plates | 24                        | 440                             | N/A   | 6/plate | 48     |

**Netwell Accessories**

|           |      |   |   |   |       |   |     |
|-----------|------|---|---|---|-------|---|-----|
| 29442-152 | 3517 | Netwell reagent Tray                          | – | – | Black | – | 200 |
| 29442-154 | 3519 | Netwell reagent Tray                          | – | – | White | – | 200 |
| 29442-156 | 3520 | Netwell 12-well carrier kit for 15 mm inserts | – | – | –     | – | 8   |
| 29442-158 | 3521 | Netwell 6-well carrier kit, for 24 mm inserts | – | – | –     | – | 8   |

**Corning® FluoroBlok™ Cell Culture Inserts for 24-well Plates**

| VWR<br>Cat. No. | Corning<br>Cat. No. | Description                                 | Membrane<br>Diameter (mm) | Growth Surface<br>Area (cm <sup>2</sup> ) | Membrane<br>Pore Size (µm) | Qty/Pk | Qty/Cs |
|-----------------|---------------------|---|---------------------------|---|----------------------------|--------|--------|
| 62406-500       | 351151              | Inserts in 24-well plates, PET              | 6.4                       | 0.3                                       | 3.0                        | 1      | 48     |
| 62406-504       | 351152              | Inserts in 24-well plates, PET              | 6.4                       | 0.3                                       | 8.0                        | 1      | 48     |
| 62406-189       | 353504              | 24-well cell culture insert companion plate | –                         | –   | –                          | 1      | 50     |

**Coated Individual Inserts****Corning BioCoat™ Collagen I Cell Culture Inserts, PET Membrane**

|           |        |                               |     |     |     |    |    |
|-----------|--------|-------------------------------|-----|-----|-----|----|----|
| 62405-628 | 354444 | Inserts in two 24-well plates | 6.4 | 0.3 | 0.4 | 12 | 24 |
|-----------|--------|-------------------------------|-----|-----|-----|----|----|

**Corning® BioCoat™ Fibrillar Collagen Cell Culture Inserts, PET Membrane**

|           |        |                               |     |     |     |    |    |
|-----------|--------|-------------------------------|-----|-----|-----|----|----|
| 62405-050 | 354474 | Inserts in two 24-well plates | 6.4 | 0.3 | 1.0 | 12 | 24 |
|-----------|--------|-------------------------------|-----|-----|-----|----|----|

**Corning BioCoat FluoroBlok™ Fibronectin Cell Culture Inserts, Polyester (PET) Membrane**

|          |        |  |     |     |     |    |    |
|----------|--------|--|-----|-----|-----|----|----|
| BD354597 | 354597 | Individual inserts in two 24-well plates | 6.4 | 0.3 | 3.0 | 12 | 24 |
|----------|--------|--|-----|-----|-----|----|----|

**Corning BioCoat Cell Environments and Corning BioCoat Matrigel® Invasion Chambers, PET Membrane**

|           |        |  |      |     |     |    |    |
|-----------|--------|--|------|-----|-----|----|----|
| 62405-742 | 354481 | Matrigel invasion chambers in four 6-well plates                               | 23.1 | 4.2 | 8.0 | 6  | 24 |
| 62405-744 | 354480 | Matrigel invasion chambers in two 24-well plates                               | 6.4  | 0.3 | 8.0 | 12 | 24 |
| 62405-158 | 354483 | Growth factor reduced Corning Matrigel invasion chambers in two 24-well plates | 6.4  | 0.3 | 8.0 | 12 | 24 |

**Corning BioCoat Intestinal Epithelium Differentiation Environment**

|           |        |   |     |     |     |       |    |
|-----------|--------|---|-----|-----|-----|-------|----|
| 62405-098 | 355057 | Intestinal epithelium differentiation environment, kit includes:<br>a specially formulated serum-free medium, culture supplements,<br>sodium butyrate, and Corning BioCoat Fibrillar Collagen cell culture inserts. | 6.4 | 0.3 | 1.0 | 1 Kit | 24 |
|-----------|--------|---|-----|-----|-----|-------|----|

**Corning BioCoat Control Cell Culture Inserts, PET Membrane**

|           |        |                               |   |   |     |    |    |
|-----------|--------|-------------------------------|---|---|-----|----|----|
| 62405-016 | 354572 | Inserts in two 24-well plates | – | – | 0.4 | 12 | 24 |
| 62405-000 | 354578 | Inserts in two 24-well plates | – | – | 8.0 | 12 | 24 |

**Transwell®-COL Collagen-coated Inserts\***

| VWR Cat. No. | Corning Cat. No. | Description                | Membrane Diameter (mm) | Growth Surface Area (cm <sup>2</sup> ) | Membrane Pore Size (µm) | Qty/Pk | Qty/Cs |
|--------------|------------------|----------------------------|------------------------|--|-------------------------|--------|--------|
| 29442-125    | 3491             | Inserts and 6-well plates  | 24                     | 4.67                                   | 0.4                     | 1      | 24     |
| 29442-112    | 3492             | Inserts and 6-well plates  | 24                     | 4.67                                   | 3.0                     | 1      | 24     |
| 29442-092    | 3493             | Inserts and 12-well plates | 12                     | 1.12                                   | 0.4                     | 1      | 24     |
| 29442-094    | 3494             | Inserts and 12-well plates | 12                     | 1.12                                   | 3.0                     | 1      | 24     |
| 29442-129    | 3495**           | Inserts and 24-well plates | 6.5                    | 0.33                                   | 0.4                     | 1      | 24     |
| 29442-126    | 3496**           | Inserts and 24-well plates | 6.5                    | 0.33                                   | 3.0                     | 1      | 24     |

\*Includes inserts packaged separately with multiwell plates.

\*\*6.5 mm diameter inserts packaged separately in two 24-well plates.

**HTS Insert Plates****HTS Transwell-24 Well Permeable Supports**

|           |      |  |     |      |     |    |    |
|-----------|------|--|-----|------|-----|----|----|
| 29445-098 | 3396 | HTS Transwell-24, individual, polycarbonate (PC) | 6.5 | 0.33 | 0.4 | 1  | 2  |
| 29445-100 | 3397 | HTS Transwell-24, bulk, PC                       | 6.5 | 0.33 | 0.4 | 12 | 12 |
| 29445-102 | 3398 | HTS Transwell-24, individual, PC                 | 6.5 | 0.33 | 3.0 | 12 | 12 |
| 29445-104 | 3399 | HTS Transwell-24, bulk, PC                       | 6.5 | 0.33 | 3.0 | 12 | 12 |
| 66025-540 | 3378 | HTS Transwell-24, bulk, PET                      | 6.5 | 0.33 | 0.4 | 12 | 12 |
| 46610-178 | 3379 | HTS Transwell-24, individual, PET                | 6.5 | 0.33 | 0.4 | 1  | 2  |
| 29445-096 | 3395 | HTS Transwell nontreated reservoir               | –   | –    | –   | 12 | 48 |

**HTS Transwell®-96 Well Permeable Supports**

|           |      |   |      |       |     |    |    |
|-----------|------|---|------|-------|-----|----|----|
| 89089-922 | 3381 | HTS Transwell-96 system, reservoir and receiver plates with 2 lids, PC          | 4.21 | 0.143 | 0.4 | 1  | 1  |
| 89089-924 | 3391 | HTS Transwell-96 system, reservoir and receiver plates with 2 lids, PC          | 4.21 | 0.143 | 0.4 | 5  | 5  |
| 10185-052 | 7369 | HTS Transwell-96 System reservoir and receiver plates with 2 lids, PET          | 4.21 | 0.143 | 0.4 | 5  | 5  |
| 89089-926 | 3380 | HTS Transwell-96 system, reservoir and receiver plates with 2 lids, PET         | 4.21 | 0.143 | 1.0 | 1  | 1  |
| 89089-928 | 3392 | HTS Transwell-96 system, reservoir and receiver plates with 2 lids, PET         | 4.21 | 0.143 | 1.0 | 5  | 5  |
| 89089-930 | 3385 | HTS-Transwell-96 well plate, receiver plate and lid, individual, PC             | 4.21 | 0.143 | 3.0 | 1  | 2  |
| 89089-932 | 3386 | HTS-Transwell-96 well plate, receiver plate and lid, bulk, PC                   | 4.21 | 0.143 | 3.0 | 4  | 8  |
| 89089-936 | 3387 | HTS-Transwell-96 well plate, receiver plate and lid, bulk, PC                   | 4.21 | 0.143 | 5.0 | 4  | 8  |
| 89089-934 | 3388 | HTS-Transwell-96 well plate, receiver plate and lid, individual, PC             | 4.21 | 0.143 | 5.0 | 1  | 2  |
| 89089-938 | 3374 | HTS-Transwell-96 well plate, receiver plate and lid, individual, PET            | 4.21 | 0.143 | 8.0 | 1  | 2  |
| 89089-941 | 3384 | HTS-Transwell-96 well plate, receiver plate and lid, bulk, PET                  | 4.21 | 0.143 | 8.0 | 4  | 8  |
| 89089-944 | 3382 | HTS Transwell-96 receiver plate with lid, standard tissue culture-treated       | 4.21 | 0.143 | –   | 10 | 10 |
| 89089-946 | 3383 | HTS Transwell-96 reservoir plate media stabilizer and lid                       | 4.21 | 0.143 | –   | 10 | 10 |
| 89089-942 | 3583 | HTS Transwell-96 black receiver plate with lid, standard tissue culture-treated | 4.21 | 0.143 | –   | 10 | 10 |
| 89235-024 | 3783 | HTS-Transwell-96 white receiver plate, and lid, standard tissue culture-treated | 4.21 | 0.143 | –   | 10 | 10 |

**Falcon® 24-well Insert Systems, Polyester (PET) Membrane**

|           |        |   |     |     |     |   |   |
|-----------|--------|---|-----|-----|-----|---|---|
| 47727-004 | 351181 | Insert plate with feeder tray and lid   | 6.4 | 0.3 | 1.0 | 5 | 5 |
| BD351183  | 351183 | Insert plate with 24-well plate and lid | 6.4 | 0.3 | 3.0 | 5 | 5 |
| BD351185  | 351185 | Insert plate with 24-well plate and lid | 6.4 | 0.3 | 8.0 | 5 | 5 |

**Falcon Plates**

|           |        |  |     |     |    |             |    |
|-----------|--------|--|-----|-----|----|-------------|----|
| 62406-183 | 353047 | 24-well plate, standard tissue culture-treated | 6.4 | 0.3 | -- | 4           | 50 |
| 62406-159 | 353226 | 24-well plate, standard tissue culture-treated | 6.4 | 0.3 | -  | 6           | 36 |
| 21100-004 | 353935 | 24-well plate, standard tissue culture-treated | 6.4 | 0.3 | -  | 10/RS Tray* | 60 |
| 62406-456 | 353847 | 24-well plate, Corning Primaria™ surface       | 6.4 | 0.3 | -  | 1           | 50 |
| 15705-060 | 351147 | 24-well plate, not treated surface             | 6.4 | 0.3 | -  | 1           | 50 |
| BD351186  | 351186 | Feeder tray with lid                           | 6.4 | 0.3 | -  | 5           | 5  |

\*Ready-Stack Tray

## Ordering Information (Continued)

**Falcon 96-well Insert System**

| VWR<br>Cat. No. | Corning<br>Cat. No. | Description   | Membrane<br>Diameter (mm) | Growth Surface<br>Area (cm <sup>2</sup> ) | Membrane<br>Pore Size (µm) | Qty/Pk | Qty/Cs |
|-----------------|---------------------|---|---------------------------|---|----------------------------|--------|--------|
| BD-351131       | 351131              | Insert plate with feeder tray and lid, PET                            | 3.2                       | 0.08                                      | 1.0                        | 5      | 5      |
| 10147-798       | 353938              | Insert plates with 96 square well, angled-bottom plates and lids, PET | 3.2                       | 0.08                                      | 1.0                        | 5      | 5      |
| BD-353925       | 353925              | 96 square well, angled-bottom plates and lids                         | -                         | -   | -                          | 5      | 5      |
| BD-353924       | 353924              | 96 well feeder tray and lid   | -                         | -   | -                          | 5      | 5      |

**Corning® FluoroBlok™ 24 Multiwell Insert Systems, PET Membrane**

|          |        |   |     |     |     |   |   |
|----------|--------|---|-----|-----|-----|---|---|
| BD351156 | 351156 | Insert plate with 24-well plate and lid | 6.4 | 0.3 | 3.0 | 5 | 5 |
| BD351157 | 351157 | Insert plate with 24-well plate and lid | 6.4 | 0.3 | 8.0 | 1 | 1 |
| BD351158 | 351158 | Insert plate with 24-well plate and lid | 6.4 | 0.3 | 8.0 | 5 | 5 |

**Corning FluoroBlok 96-well Multiwell Insert Systems**

|          |        |  |     |      |     |   |   |
|----------|--------|--|-----|------|-----|---|---|
| BD351161 | 351161 | Insert plate with 96 square well, PET  | 3.2 | 0.08 | 3.0 | 1 | 1 |
| BD351162 | 351162 | Insert plate with 96 square well, PET  | 3.2 | 0.08 | 3.0 | 5 | 5 |
| BD351163 | 351163 | Insert plate with 96 square well, PET  | 3.2 | 0.08 | 8.0 | 1 | 1 |
| BD351164 | 351164 | Insert plate with 96 square well, PET  | 3.2 | 0.08 | 8.0 | 5 | 5 |
| BD353928 | 353928 | 96 square well, flat bottom plate, PET | -   | -    | -   | 5 | 5 |

**Corning BioCoat™ HTS Caco-2 Assay System**

Contains specially formulated serum-free medium, culture supplements, sodium butyrate, and BioCoat Fibrillar Collagen 24-well insert system

|           |        |                                      |     |     |     |                  |  |
|-----------|--------|--------------------------------------|-----|-----|-----|------------------|--|
| 12777-042 | 354802 | BioCoat HTS Caco-2 assay system, PET | 4.4 | 0.3 | 1.0 | 5 plates/ 5 kit5 |  |
|-----------|--------|--------------------------------------|-----|-----|-----|------------------|--|

**Corning BioCoat Fibrillar Collagen I 24-Multiwell Insert System**

|           |        |                          |     |     |     |   |   |
|-----------|--------|--------------------------|-----|-----|-----|---|---|
| 12777-044 | 354803 | With feeder tray and lid | 6.4 | 0.3 | 1.0 | 1 | 1 |
| 12777-046 | 354804 | With feeder tray and lid | 6.4 | 0.3 | 1.0 | 1 | 5 |

**Corning BioCoat (Fibronectin) Angiogenesis System: Endothelial Cell Migration**

|           |        |                                 |     |      |     |   |   |
|-----------|--------|---------------------------------|-----|------|-----|---|---|
| 47743-790 | 354144 | 24 Multiwell Insert System, PET | 6.4 | 0.3  | 3.0 | 1 | 5 |
| 47747-302 | 354148 | 96 Multiwell Insert System, PET | 3.2 | 0.08 | 3.0 | 1 | 5 |

**Corning BioCoat (Matrigel® matrix) Angiogenesis System: Endothelial Cell Invasion**

|          |        |                                       |     |     |     |   |   |
|----------|--------|---------------------------------------|-----|-----|-----|---|---|
| BD354142 | 354142 | 24 Multiwell FluoroBlok Insert System | 6.4 | 0.3 | 3.0 | 1 | 5 |
|----------|--------|---------------------------------------|-----|-----|-----|---|---|

**Corning BioCoat (Matrigel matrix) Tumor Invasion Systems**

|           |        |                            |     |      |     |   |   |
|-----------|--------|----------------------------|-----|------|-----|---|---|
| 47733-148 | 354165 | 24 Multiwell Insert System | 6.4 | 0.3  | 8.0 | 1 | 1 |
| 47733-146 | 354166 | 24 Multiwell Insert System | 6.4 | 0.3  | 8.0 | 5 | 5 |
| 47747-304 | 354167 | 96 Multiwell Insert System | 3.2 | 0.08 | 8.0 | 1 | 1 |
| 47747-306 | 354168 | 96 Multiwell Insert System | 3.2 | 0.08 | 8.0 | 5 | 5 |

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