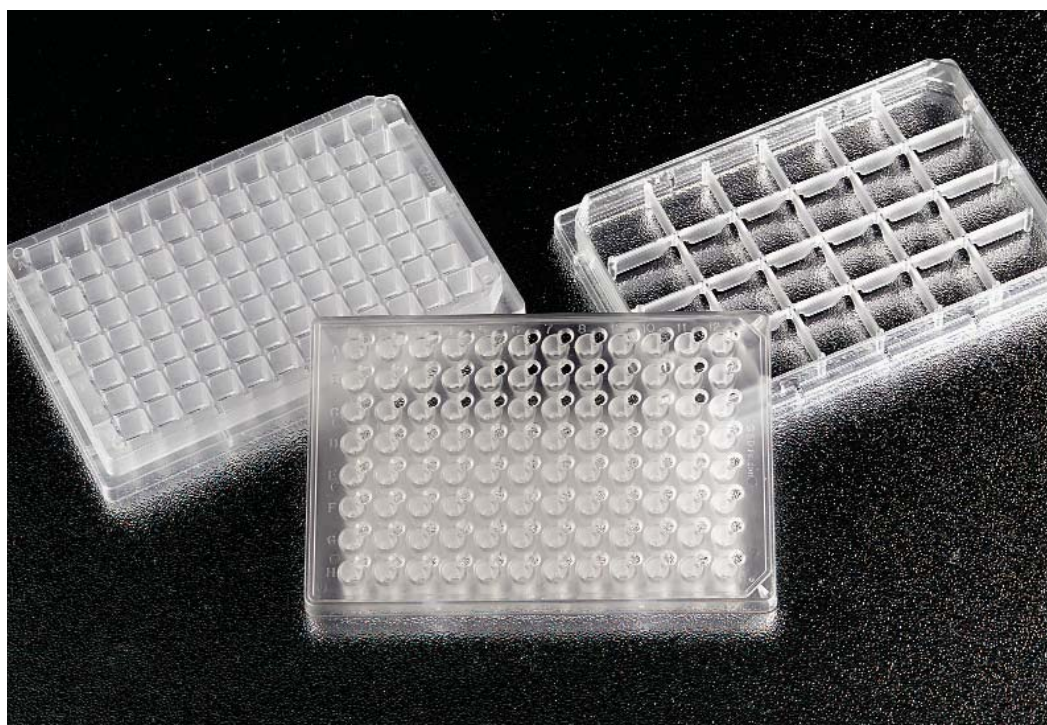


BD Falcon™ 96-Multiwell Insert System

Automate and miniaturize your xenobiotic permeability and transport studies.



Features and Benefits:

- **Automation compatible design**

Format compatible with most robots and fluid handling instruments.

- **Complete sample recovery**

The BD Falcon™ 96-Square Well, Angled-Bottom Plate features an angled bottom for more complete sample utilization.

- **Excellent reproducibility**

One-piece feeder tray enhances consistency in well-to-well monolayer growth.

- **Recover "sticky" lipophilic drug candidates**

The exclusive hydrophilic, covalent coating of the BD Gentest™ Enhanced Recovery Plate increases compound recovery, eliminates assay artifacts, avoids false negative conclusions, and improves mass balance assessments in ADME studies.

- **Total assay flexibility – ideal for transport studies**

System can be used with many cell lines including Caco-2, MDCK, and LLC-PK1, for basal to apical or apical to basal measurements of drug transport.

Understanding the bioavailability of new drug candidates early in the drug development process helps to rank order and select compounds for lead optimization. Drug permeability through cell monolayers correlates well with intestinal permeability and oral bioavailability. Several mammalian cell lines are appropriate for this measurement.^{1,2} BD Biosciences Discovery Labware offers an epithelial cell barrier system using Caco-2, LLC-PK1, or MDCK cells, widely accepted *in vitro* models used to rank order absorption of drug candidates.

The BD Falcon™ 96-Multiwell Insert System is a cell culture insert platform suitable for both manual and robotic screening of compounds in cell-based assays. The system has been tested for its ability to produce a differentiated monolayer of Caco-2, LLC-PK1, and MDCK cells making it an ideal platform for *in vitro* bioavailability and permeability studies.

This automation compatible platform is composed of a 1.0 µm pore size PET (polyethylene terephthalate) membrane-based 96-Multiwell Insert plate, a media feeder tray, and a lid. The newly designed drop in baffle for the Feeder Tray mitigates media sloshing and lowers the risk of contamination. To analyze individual samples, simply transfer the insert plate into the BD Falcon 96-Square Well, Angled-Bottom Plate or a BD Gentest™ Enhanced Recovery Plate. If desired, the BD Falcon 96-Square Well, Angled-Bottom Plate may be used in conjunction with the insert for culturing the cells, eliminating the transfer step from the single-well feeder tray for individual sample analysis.

References

1. Pharm Res. **12**:693 (1995).
2. J. Pharm. Sci. **88**:28 (1999).

BD Biosciences

Clontech
Discovery Labware
Immunocytometry Systems
Pharmingen



BD Falcon™ 96-Multiwell Insert System

Intra-Plate Reproducibility of the BD Falcon™ 96-Multiwell Insert System

Format Used to Culture Monolayers	TEER (ohms cm ²)	Mannitol P _{app} (x 10 ⁶ cm/sec)	Ritonavir P _{app} (x 10 ⁶ cm/sec)
BD Falcon™ 96-Square Well, Angled-Bottom Plate	272 (CV=26%)	0.72 (CV=22%)	9.0 (CV=13%)
BD Falcon Feeder Tray for 96-Multiwell Insert	420 (CV=16%)	0.70 (CV=13%)	11.0 (CV=2.5%)

Permeability measured in Caco-2 cell monolayers cultured for 21-days in the BD Falcon™ Feeder Tray or BD Falcon 96-Square Well, Angled-Bottom Plate. While the newly designed Feeder Tray with drop-in baffle facilitates medium renewal, comparable results can be obtained in either format. Culturing cells in the BD Falcon Feeder Tray enhances consistency in well-to-well monolayer growth (TEER values) and function (P_{app} values).

Mass Balance Determination (Compound Recovery) in Untreated vs. BD Gentest™ Enhanced Recovery Plates

Drug	% Recovery of Drug: 96-well Assay Plate (untreated)	% Recovery of Drug: 96-well BD Gentest™ Enhanced Recovery Plate (treated)
Ritonavir		
mean	56	70
CV	11%	1.4%
Vinblastine		
mean	59	78
CV	5.1%	2.3%
Paclitaxel		
mean	60	78
CV	12%	8.8%
Cyclosporin		
mean	23	56
CV	35%	14%

Using BD Gentest™ Enhanced Recovery Plates (treated) increases compound recovery and reproducibility of replicate determinations. Data represents two lots of plates tested in two different assays.



Media exchange through access ports using TECAN Genesis® RSP 150 liquid handler.

Ordering Information

Cat. No.	Description	Qty./Case
BD Falcon™ 96-Multiwell Insert Systems		
351130	one insert plate with feeder tray and lid	1
351131	five insert plates with feeder trays and lids	5
353938	five insert plates with 96-square well, angled-bottom plates and lids	5
BD Falcon™ 96-Square Well, Angled-Bottom Plate and Lid		
353925	non-treated polystyrene, nonpyrogenic	5
BD Falcon™ 96-well Feeder Tray and Lid		
353924	non-treated polystyrene, nonpyrogenic	5
BD Gentest™ Enhanced Recovery Plate		
453602	96-well square	5

For a complete listing of BD Falcon and BD Gentest products, please visit our website.

To place an order in the U.S., contact your local distributor or contact BD Biosciences Customer Service at:

tel: 800.343.2035 or 978.901.7300; fax: 800.743.6200 or 978.901.7493

For technical assistance, contact BD Biosciences Technical Service at:

tel: 800.343.2035 or 978.901.7300; fax: 800.743.6200 or 978.901.7493

To place an order outside the U.S., contact your local distributor or nearest BD Biosciences office.

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