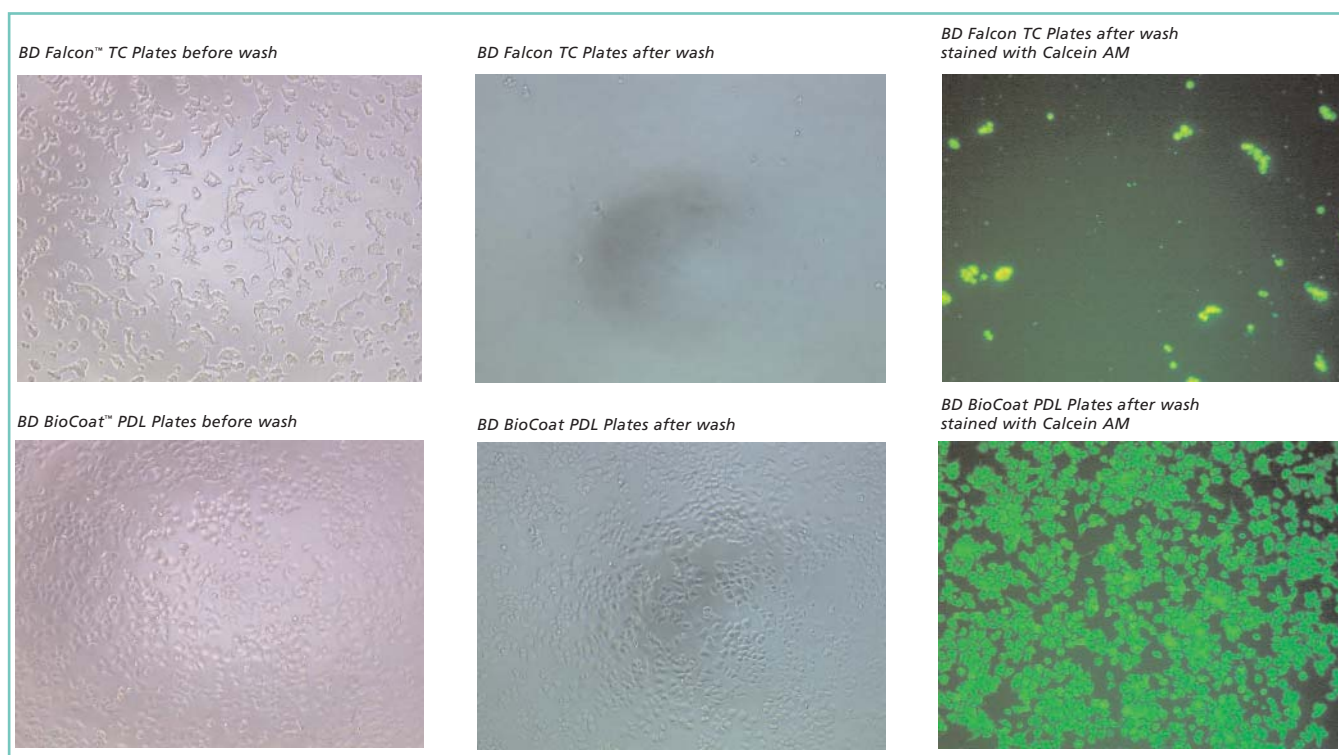


Technical Bulletin #454

BD BioCoat™ Plates for High Throughput Screening (HTS)

A variety of assays are used in conjunction with HTS to identify drug candidates that exhibit a desired effect upon target function. A number of transfected cell lines in these assays have been shown to exhibit reduced adherence to standard tissue culture (TC) plates following DNA transfection, especially when subjected to standard washing protocols during sample processing. As cell-based assays are an integral part of the drug discovery process, the need for optimal culture conditions exists to assure the acquisition of reliable data.

BD BioCoat™ Cellware provides a variety of substrates that promote strong attachment and growth of many cell types. A number of unique formulations have been shown to dramatically improve cell adherence during high throughput processing of samples cultured in serum-free and serum-containing media. BD BioCoat Poly-D-Lysine (PDL) 384-well Black/Clear and White/Clear Plates have been reformulated to further enhance their performance in a number of specialized assays that demand superior cell attachment.



BD EcoPack2™-293 cells in serum-free media cultured on BD BioCoat™ PDL 384-well Black/Clear Plates and BD Falcon™ TC-treated Black/Clear Plates. Results are pre- and post-washing on a Skatron Washer (Molecular Devices). Cells exhibit poor adhesion to BD Falcon TC-treated Plates. In contrast, these cells exhibit strong attachment following vigorous washing steps on the BD BioCoat PDL Plates. BD EcoPack2-293 is a transformed HEK-293 cell line (BD Biosciences Clontech Cat. No. C3203-1).

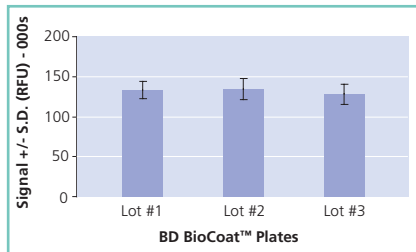
BD Biosciences

Clontech
Discovery Labware
Immunocytometry Systems
Pharmingen

BD BioCoat™ Manufacturing

BD BioCoat products are produced in an ISO 9001 facility under aseptic conditions to minimize the risk of contamination from bacteria, fungi, pyrogens, and particulates. ISO certification verifies that our facilities meet international quality standards and provides assurance that BD Biosciences Discovery Labware is totally committed to delivering highly consistent, superior quality products.

BD BioCoat™ Lot-to-Lot Consistency (PE Victor2™ Reader)



The BD BioCoat™ PDL plates were tested for lot-to-lot consistency from Calcein AM-labeled BD EcoPack2™-293 cells one day after seeding in serum-free medium and washing on a Skatron Washer (Molecular Devices).

Culture Substrates for Transfected Cells

Cell Attachment Substrate	Cell Type
BD BioCoat™ Poly-D-Lysine	HEK-293
	293 EBNA
	Cardiomyocyte
	Human Astrocytoma (1321N1)
	Mouse Pituitary (ArT-20)
	Pancreatic Islet (RIN-m)
COS-7	
BD BioCoat Poly-L-Lysine	HEK-293
	PC12
BD BioCoat Collagen I	CHO
	HEK-293
	PC12
	SR-3T3
BD BioCoat Fibronectin	Pancreatic Tumor (AR42J)
	COS-7
BD Cell-Tak™ Cell and Tissue Adhesive	HEK-293
	L9 Mouse Fibroblasts

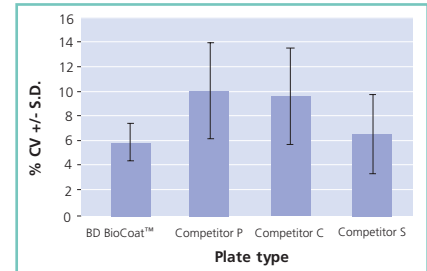
Specialized experimental conditions or the unique properties of a transfected cell line may result in poor adhesion to poly-D-lysine or other cell attachment substrates. In these cases, the BD BioCoat™ Custom Coating Service is dedicated to meeting your needs by developing specialized formulations of ECM proteins and/or cell attachment molecules.

Competitive Benchmarking of BD BioCoat Poly-D-Lysine (PDL) 384-well Black/Clear Plates

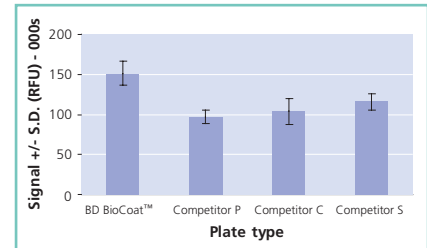
A signal and coefficient of variation (CV) comparison of BD BioCoat versus competitor plates on PDL 384-well Black/Clear plates show that BD BioCoat plates exhibit better cell attachment and lower CVs, demonstrating superior performance and consistency. The PDL plates were tested for signal from Calcein AM-labeled BD EcoPack2-293 cell one day after seeding in serum-free medium and washing on a Skatron Washer (Molecular Devices). Intra- and inter-plate percent CVs were measured to ensure even coating. Signal data represents the average of three plates. CV data represents an average of twelve plates, three from four separate experiments.

BD BioCoat™ PDL 384-well Black/Clear Plates

Percent CV Comparison (PE HTS 7000 Reader)



Signal Comparison (PE Victor2™ Reader)

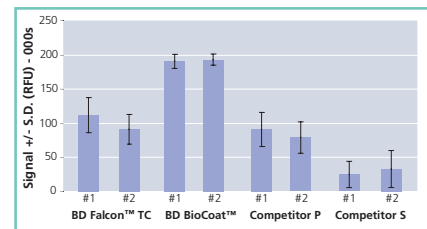


Competitive Benchmarking of BD BioCoat Collagen I 96-well Clear Plates

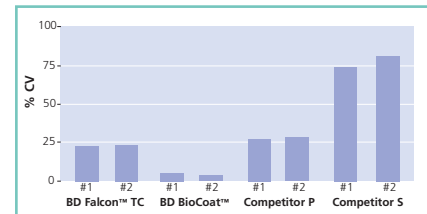
A signal and CV comparison of BD BioCoat versus competitor plates on Collagen I 96-well Clear plates show that BD BioCoat plates exhibit better cell attachment and lower CVs, demonstrating superior performance and consistency. The collagen plates were tested for signal from Calcein AM-labeled HT-1080 cells seeded at 50,000 cells/well one hour after seeding in serum-free medium and hand-washing. Intra- and inter-plate percent CVs were measured to ensure even coating.

BD BioCoat™ Collagen I 96-well Clear Plates

Mean Signal Comparison (PE Victor2™ Reader)



Percent CV Comparison (PE Victor2™ Reader)



BD Biosciences
Two Oak Park
Bedford, MA 01730 USA
tel: 800.343.2035
fax: 800.743.6200

Nippon BD
Akasaka DS Bldg.
5-26 Akasaka 8-chome
Minato-ku, Tokyo 107 Japan
tel: (81) 24 593 5405
fax: (81) 24 593 5761

BD Biosciences Europe
POB 13, Denderstraat 24
B-9320 Erembodegem, Belgium
tel: (32) 53 720 211
fax: (32) 53 720 450
e-mail: contact_bdb@europe.bd.com

BD
2771 Bristol Circle
Oakville, Ontario
Canada L6H 6R5
tel: 905.855.5550
fax: 905.829.5405

BD Biosciences
Singapore Branch
30 Tuas Avenue 2
Singapore 639461
tel: (65) 6861 0633
fax: (65) 6860 1590

BD Biosciences
4 Research Park Drive
Macquarie University Research Park
North Ryde NSW 2113 Australia
tel: (612) 8875 5239
fax: (612) 8875 7200