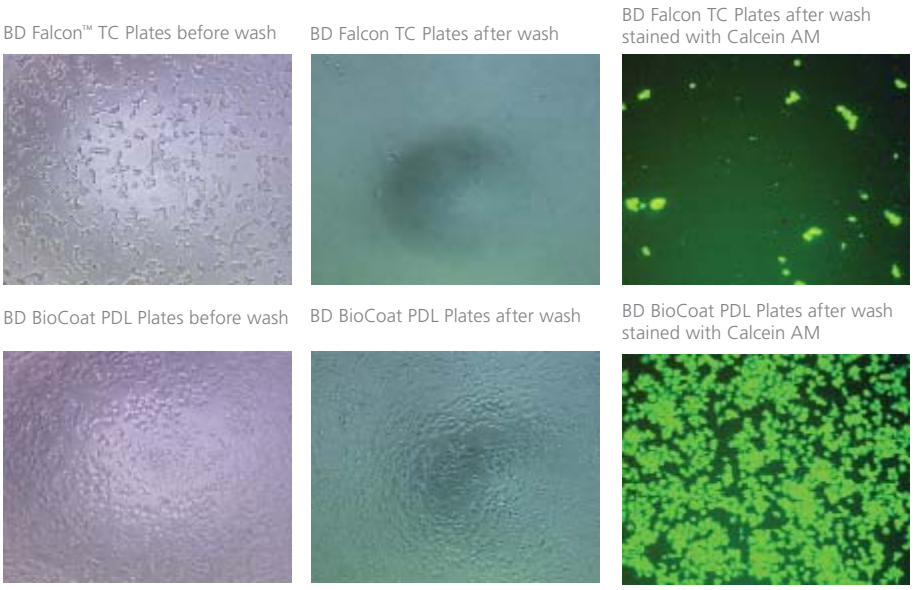
BD BioCoat Plates for High Throughput Screening (HTS)

Application Note

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 cultureware 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.

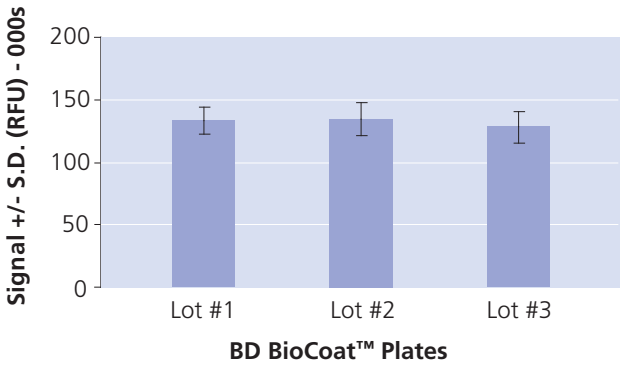


BD EcoPack2™-293 cells in serum-free media cultured on BD BioCoat PDL 384-well Black/Clear Plates and BD Falcon TC-treated Black/Clear Plates. Results are pre- and post-washing on a Skatron Washer (Molecular Devices). Cells exhibit poor adhesion to BD Falcon TC-treated Plates. In contrast, these cells 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 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 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).

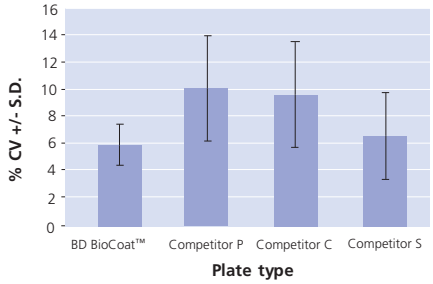
Culture Substrates for Transfected Cells

Cell Attachment Substrate	*Cell Type*
BD BioCoat Poly-D-Lysine	HEK-293 293 EBNA Cardiomyocyte Human Astrocytoma (1321N1) Mouse Pituitary (AtT-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

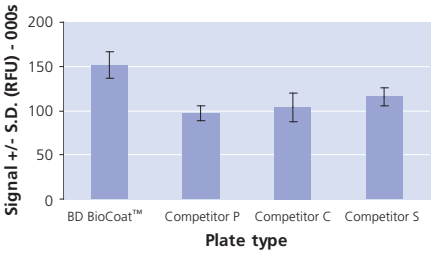
Specialized experimental conditions or the unique properties of a transfected cell line may result in poor adhesion to poly-D-lysine or other cell attach-ment substrates. In these cases, the BD BioCoat Custom Coating Service is dedicated to meeting your needs by developing specialized formulations of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

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 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, demon-strating superior performance and consistency. The PDL plates were tested for signal from Calcein AM-labeled

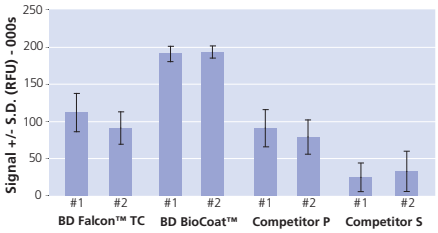
BD EcoPack2-293 cell one day after seeding in serum-free medium and washing on a Skatron Washer (Molecular Devices). Intra- and inter-plate percent CVs were measured to ensure even coating. Signal data represents the average of three plates. CV data represents an average of twelve plates, three from four separate experiments.

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

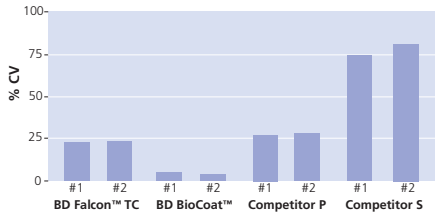
A signal and CV comparison of BD BioCoat versus competitor plates on Collagen I 96-well Clear plates show that BD BioCoat plates exhibit better cell attachment and lower CVs, demonstrating superior performance and consistency. The collagen plates were tested for signal from Calcein AM-labeled HT-1080 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
US Orders: 877.232.8995
bdbiosciences.com

S03B108 Rev 1a/TB454R1