

Corning® 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.

Corning 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. Corning 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.

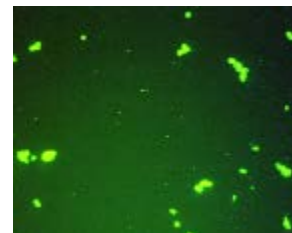
Falcon® TC Plates before wash



Falcon TC Plates after wash



Falcon TC Plates after wash stained with Calcein AM



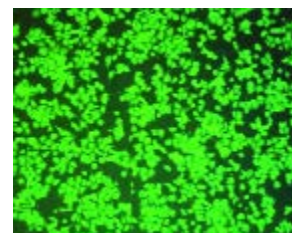
Corning BioCoat PDL Plates before wash



Corning BioCoat PDL Plates after wash



Corning BioCoat PDL Plates after wash stained with Calcein AM



EcoPack™2-293 cells in serum-free media cultured on Corning BioCoat PDL 384-well Black/Clear Plates and Falcon TC-treated Black/Clear Plates. Results are pre- and post-washing on a Skatron Washer (Molecular Devices). Cells exhibit poor adherence to Falcon TC-treated Plates. In contrast, these cells exhibit strong attachment following vigorous washing steps on the Corning BioCoat PDL Plates. EcoPack2-293 is a transformed HEK-293 cell line (Clontech Cat. No. C3203-1).

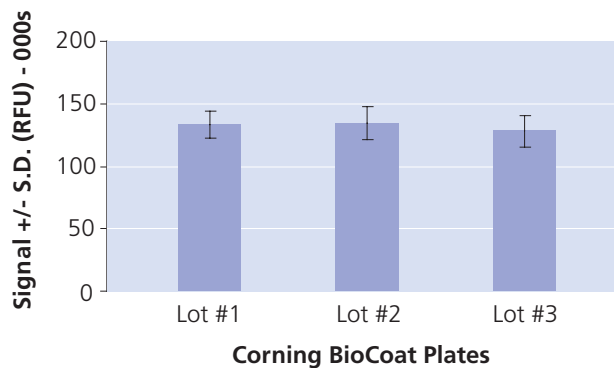


CORNING

Corning® BioCoat™ Manufacturing

Corning BioCoat products are produced in an ISO 9001:2008 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 Corning is totally committed to delivering highly consistent, superior quality products.

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



The Corning BioCoat PDL plates were tested for lot-to-lot consistency from Calcein AM-labeled EcoPack™ 2-293 cells one day after seeding in serum-free medium and washing on a Skatron Washer (Molecular Devices).

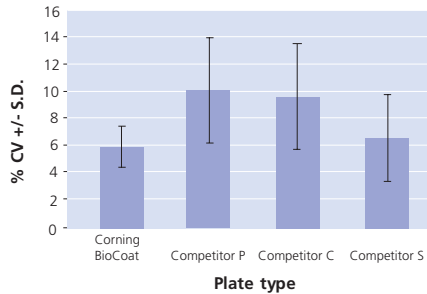
Culture Substrates for Transfected Cells

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

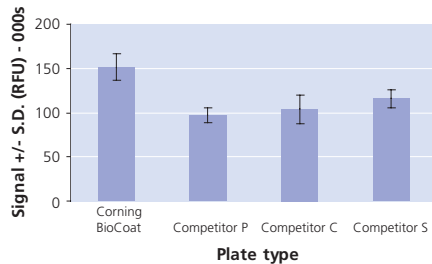
Specialized experimental conditions or the unique properties of a transfected cell line may result in poor adhesion to poly-D-lysine or other cell attachment substrates. In these cases, the Corning BioCoat Custom Coating Service is dedicated to meeting your needs by developing specialized formulations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

Corning BioCoat PDL 384-well Black/Clear Plates

Percent CV Comparison (PE HTS 7000 Reader)



Signal Comparison (PE Victor2™ Reader)



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

A signal and coefficient of variation (CV) comparison of Corning BioCoat versus competitor plates on PDL 384-well Black/Clear plates show that Corning 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

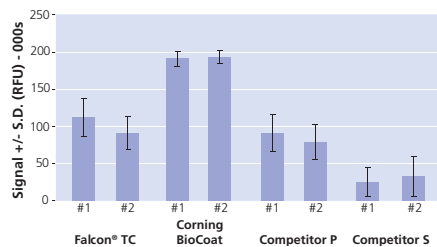
EcoPack™2-293 cell one day after seeding in serum-free medium and washing on a Skatron Washer (Molecular Devices). Intra- and inter-plate percent CVs were measured to ensure even coating. Signal data represents the average of three plates. CV data represents an average of twelve plates, three from four separate experiments.

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

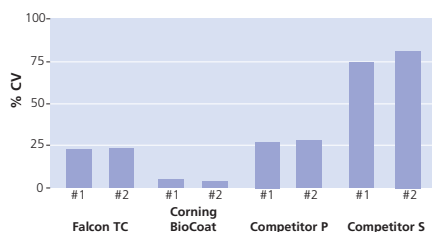
A signal and CV comparison of Corning BioCoat versus competitor plates on Collagen I 96-well Clear plates show that Corning BioCoat plates exhibit better cell attachment and lower CVs, demonstrating superior performance and consistency. The collagen plates were tested for signal from Calcein AM-labeled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

Corning BioCoat Collagen I 96-well Clear Plates

Mean Signal Comparison
(PE Victor2 Reader)



Percent CV Comparison
(PE Victor2 Reader)



**Corning acquired the BioCoat™, Cell-Tak™, and Falcon® brands.
For information, visit www.corning.com/discoverylabware.**

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