Corning® BioCoat™ High Content Imaging Glass Bottom Microplates for High Throughput Data Capture and Analysis

Technical Brief

CORNING

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Corning® BioCoat™ high content imaging glass bottom microplates are ideal for performing cell-based imaging assays where cell attachment or retention may be an issue with a standard glass microplate. The BioCoat high content imaging microplates are available pre-coated with rat tail collagen type I, human fibronectin, or poly-D-lysine.

Benefits

- Uniform and consistent coating for improved cell attachment and even distribution, or spreading of cells
- High optical clarity and scratch-resistant glass
- Glass bottom thickness of 200 µm is well-suited for imaging microscopy
- Well bottom flatness <50 µm to ensure planarity for imaging devices
- Low background fluorescence and minimal crosstalk to provide outstanding optical quality for cell-based assays

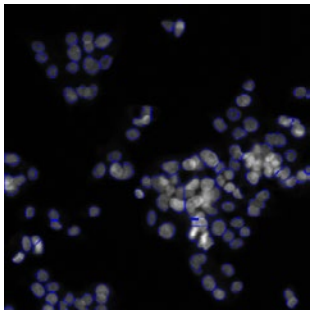

Figure 1. HepG2 cells on uncoated glass microplates were clumpy and displayed an uneven distribution.

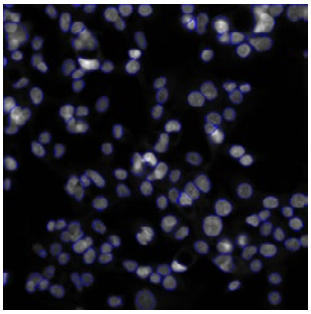

Figure 2. HepG2 cells on coated glass microplates displayed an even distribution.

Application

Glass bottom microplates have historically been viewed as the gold standard for high content cell-based assays because of the high optical clarity, flatness, and scratch resistant properties intrinsic to glass. Conversely, the natural hydrophobicity of glass may cause adherence issues with some cell types. In those cases, cells may benefit greatly from a protein coating to aid in cell attachment, spreading, and/or functionality. Studies described here demonstrate that Corning BioCoat high content imaging glass bottom microplates provide improved cell attachment, spreading, and retention.

HepG2 cells were seeded on uncoated and collagen-coated high content imaging glass bottom microplates. Cells cultured on the uncoated glass microplates were clumpy and displayed an uneven distribution compared to cells cultured on the collagen-coated microplates. (Figures 1 and 2). As a result, cells cultured on the uncoated plates exhibited statistically lower cell counts when analyzed using a high content imager (data not shown).

In a separate experiment, HEK-293 cells were seeded on fibronectin and collagen-coated glass microplates. After multiple washes, a greater number of cells were retained on fibronectin and collagen-coated glass microplates when compared to the uncoated microplates (Figure 3).

For more details on this experiment and other assays performed using Corning BioCoat high content imaging microplates, please refer to Corning document CLS-AN-244.

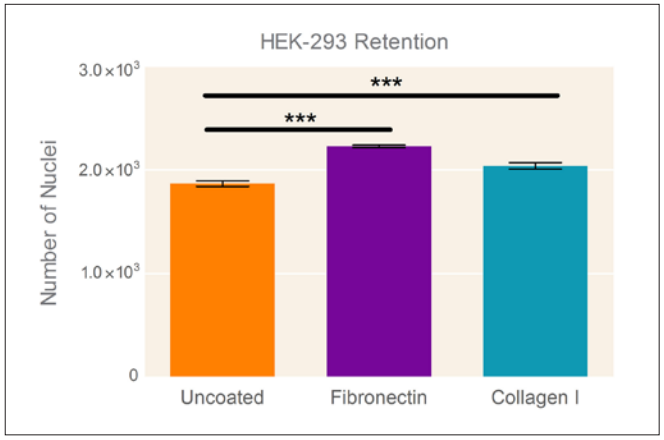

Figure 3. HEK-293 cells exhibit improved retention on Corning BioCoat Fibronectin and Collagen I high content imaging glass bottom microplates compared to uncoated glass microplates. Data shown with standard errors. One-way ANOVA with Newman-Keuls post-test ***p<0.001. n = 768 from 2 independent studies. 16 fields per well were analyzed.

Ordering Information

Corning® BioCoat™ High Content Imaging Glass Bottom Microplates

Cat. No.	Description	Sterile	Qty/Pk	Qty/Cs
4582	96-well half area microplate, glass bottom, collagen-coated, with lid	No	1	10
4583	384-well microplate, glass bottom, collagen-coated, with lid	No	1	10
4584	96-well half area microplate, glass bottom, fibronectin-coated, with lid	No	1	10
4585	384-well microplate, glass bottom, fibronectin-coated, with lid	No	1	10
4586	96-well half area microplate, glass bottom, poly-D-lysine-coated, with lid	No	1	10
4587	384-well microplate, glass bottom, poly-D-lysine-coated, with lid	No	1	10

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It is this expertise, plus a 160-year history of Corning innovation and manufacturing excellence, that puts us in a unique position to offer a beginning-to-end portfolio of high-quality, reliable cell culture consumables.

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