Corning® High Content Screening Microplates

Frequently Asked Questions

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1. I find some areas within wells where there are no cells attached. How can I avoid this?

Use of a manual pipettor can sometimes result in the formation of air bubbles which will prevent cells from reaching the microplate surface. Use an automated pipettor or liquid handler to reduce the chances of pipetting difficulties. You can also pre-wet the wells with small volumes of medium (25 µL per well for 96-well half area (A/2) microplates or 10 µL per well for 384-well microplates) and quickly centrifuge to ensure media reaches the bottom of all the wells. Cells can be manually seeded more easily immediately following this.

2. I noticed an uneven distribution of cells in the outer wells of my microplate. How do I reduce this edge effect?

After seeding the microplates, let them sit for 30 to 45 minutes in order for cells to settle prior to moving to the incubator. This will negate any effect from temperature differences from the edge of the microplate compared to the center of the microplate that occurs upon initial incubation.

3. Why are the wells round?

The round well geometry prevents wicking of liquid within the well and prevents cells from aggregating into square well corners.

4. What are the main dimensions of the microplate that I need in order to use Corning high content screening microplates with my in-house imager?

Microplate Dimensions

Representative Microplate	Cat. No.	Well Depth (mm)	Well Diameter (Top/Bottom) (mm)	Plate L x W x H (mm)	A1 Row Offset (mm)	A1 Column Offset (mm)	Well Center to Well Center Spacing (mm)	Flange or Skirt Height (mm)	Stack Height (mm)	Well Bottom Elevation (mm)	Well Bottom Thickness (mm)	Well Bottom Area (cm^2)	Distance to Bottom of Microplate (mm)
96-well A/2 film bottom	4680	8.94	5.00/4.49	127.8 x 85.5 x 14.2	14.4	11.24	9	6.096	12.49	2.4	0.127	0.159	2.349
96-well A/2 glass bottom	4580	8.94	5.00/4.49	127.8 x 85.5 x 14.2	14.4	11.24	9	6.096	12.49	2.4	0.2	0.159	2.349
384-well film bottom	4681	10.92	3.4/2.8	127.8 x 85.5 x 14.2	8.99	12.13	4.5	6.096	13.15	3.3	0.127	0.0615	1.5
384-well glass bottom	4581	10.92	3.4/2.8	127.8 x 85.5 x 14.2	8.99	12.13	4.5	6.096	13.15	3.3	0.2	0.0615	1.5

5. Why do the Corning high content screening microplates have smaller wells than other manufactures?

Corning 96-well half area (A/2) and 384-well microplates have smaller wells to allow for less use of reagents and cells, which may result in a cost savings. The 96- and 384-well bottom surface area is sufficient to capture quality data for high content imaging. Using a Thermo Scientific CellInsight™ imager, we determined the number of fields of view that could be obtained without capturing the edge of the well. For most users, these fields of view are acceptable to capture more than 1,000 nuclei per well.

	Fields of View	
Microplate Format	10X Objective	20X Objective
96-well half area (A/2)	15	121
384-well	9	36

6. I seem to have greater evaporation along the edges of my microplate, and I worry that it could affect my assay. How can I reduce this type of edge effect?

Make sure there is a sufficient media volume per well. 40 µL per 384-well microplate and 100 µL per 96-well half area (A/2) microplate should have limited evaporation for a 24- to 48-hour culture period. For longer culture periods, breathable tape (Corning Cat. No. 3345) can significantly reduce evaporation without inhibiting gas exchange.

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

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