

Is the time right for High Throughput 3D Cell Culture Assays?

2010

66% of scientists planned to transition their cell culture from 2D to 3D to improve assay results.¹

2010-2014

Adoption is slow due to 3D's lack of automation compatibility.

2015

Automation-friendly methods, such as the Corning® Spheroid Microplate, are allowing researchers to unlock the power of high throughput 3D.

Setting up a 3D assay using Corning Spheroid Microplates

1

Prepare Cells for Seeding



Starting working volumes can range from **75 to 200 μ L** for a 96-well microplate and **25 to 75 μ L** for a 384-well microplate.

Tips ▼

Wells should be seeded based on cell type, length of growth phase in a spheroidal format, and desired size of the spheroid at assessment.

Optimize seeding density for spheroid formation by performing a titration from 5,000 cells/well to 35,000 cells/well and measuring spheroid diameter over time.

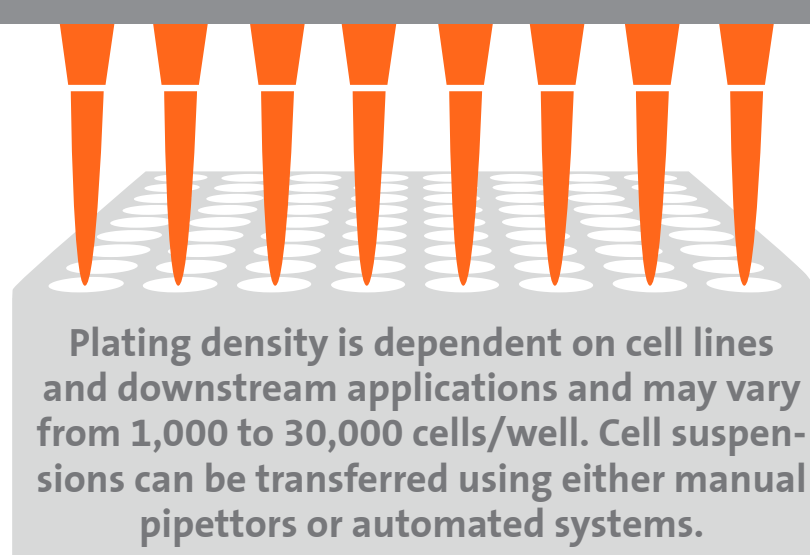
2

Seed

Tips ▼

Make sure pipet tips do not touch the bottom or sides of the wells to avoid damaging the attachment coating.

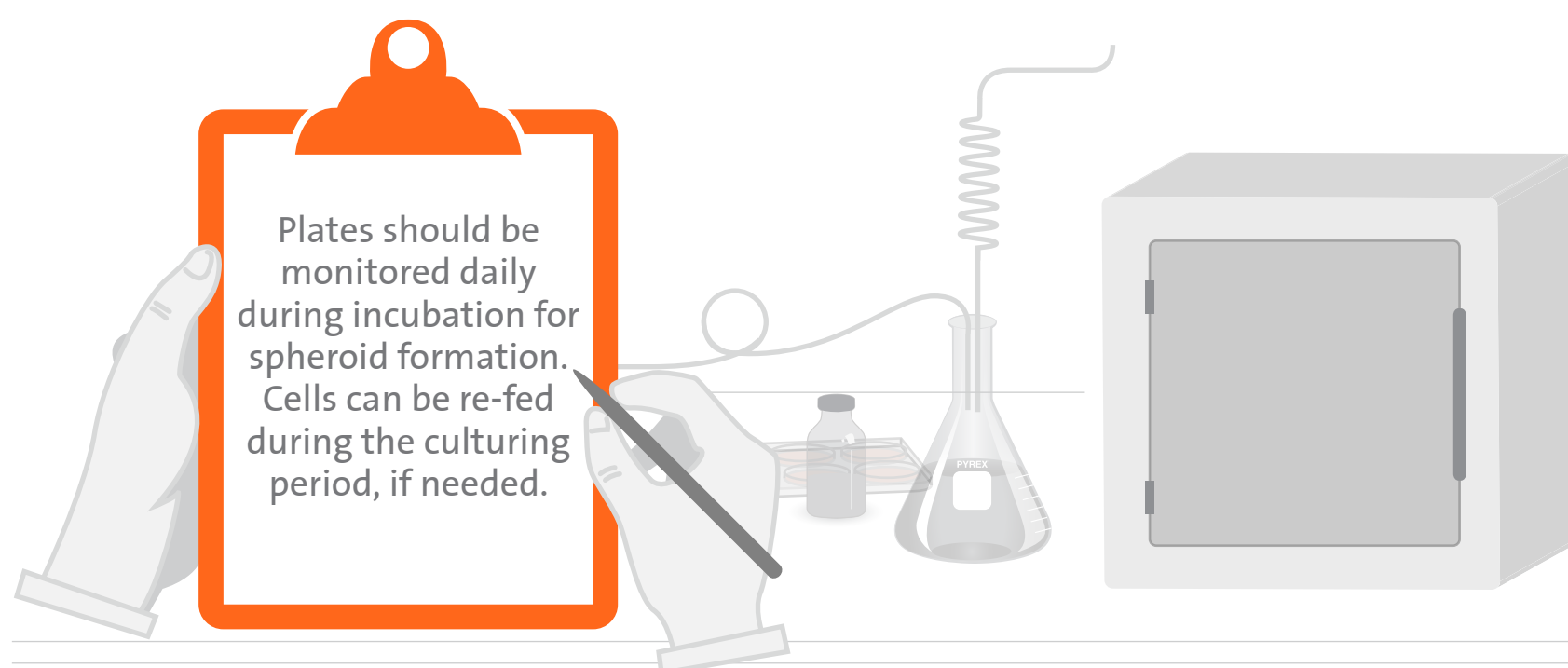
Allowing cells to settle in a cell culture hood for 15 minutes prior to incubation can enhance spheroid production.



Plating density is dependent on cell lines and downstream applications and may vary from **1,000 to 30,000 cells/well**. Cell suspensions can be transferred using either manual pipettors or automated systems.

3

Maintain



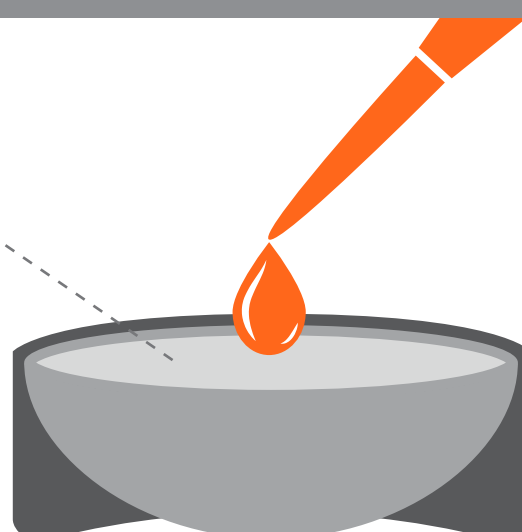
Plates should be monitored daily during incubation for spheroid formation. Cells can be re-fed during the culturing period, if needed.

4

Assay

You can culture and assay spheroids in the same microplate without needing to transfer them to a new plate.

Side walls are black for fluorescence and luminescence assays. Bottom is clear for imaging.



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For more information on Corning Spheroid Microplates, visit www.corning.com/lifesciences or www.cellculturesuccess.com

All procedures are cell line-dependent and should be tested prior to use.
¹Comley, J. "3D Cell Culture: Easier Said Than Done!" Drug Discovery World, Summer, 2010.