

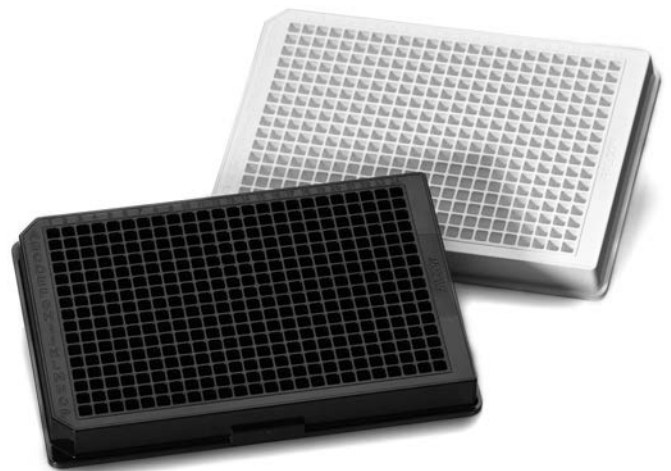
# Corning® Matrigel® Matrix-3D Plates

Convenient. Consistent. Certain.

CORNING

3D cell culture models have become an increasingly important and complementary tool to 2D cultures in many areas of research. Spheroid and organoid models help create a more life-like environment, replicating tumors or organ function in support of areas such as drug discovery, disease modeling, personalized medicine, and cancer research.

Corning Matrigel matrix, a natural extracellular matrix (ECM)-based hydrogel, is widely used and referenced in 3D cell culture, in support of organoid and spheroid formation. As 3D cell culture models migrate into a high throughput environment, the need for more convenient, consistent, pre-coated Matrigel matrix options has emerged. Corning is pleased to offer Matrigel matrix-3D plates, a pre-coated, ready-to-use option available in 96-well and 384-well formats. Matrigel matrix is pre-dispensed into each well of these high throughput formats to support successful 3D cell culture. These products enable 'on-top/sandwich' and 'embedded' workflows to generate 3D cell cultures.



## Convenient

The Matrigel matrix-3D plate pre-coated option reduces workflow steps for the researcher and eliminates the need to handle small volume ECM dispensation.

This convenient, off-the-shelf option helps researchers improve productivity in homogenous assays where 3D structures are grown and assayed directly in the plate.

## Consistent

Corning has built-in quality control to ensure a consistent volume of Matrigel matrix is dispensed into each well. In fact, Z' values of high throughput assays conducted using Matrigel matrix-3D plates demonstrate robust assay and consistent plate-to-plate performance<sup>1</sup>.

Matrigel matrix-3D plates reduce the manual inaccuracies of self-coating and gives researchers the convenience of a "plug and play" protocol to grow and assay 3D structures directly in the plate.

## Certain

Corning Matrigel Matrix-3D plates have been shown to<sup>1</sup>:

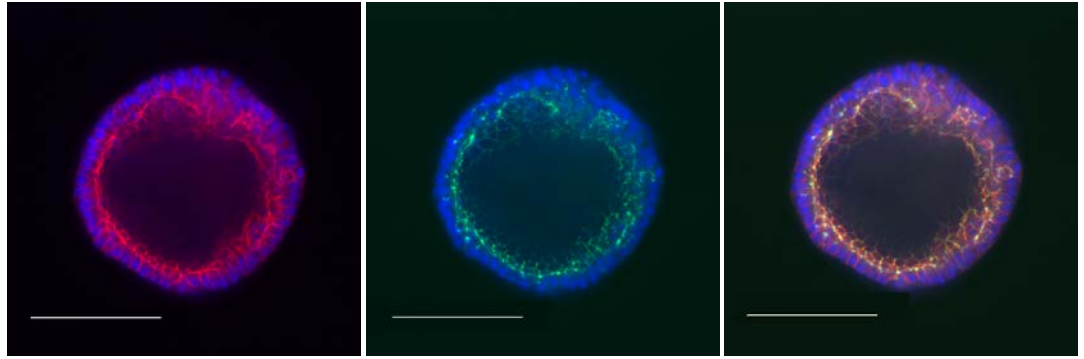
- ▶ Support formation of 3D polarized epithelial structures and cancer spheroids.
- ▶ Successfully support screening with drug compound libraries
- ▶ Provide a suitable format for drug discovery research using organoids (as per customer use).

As an optimized format for 3D cell culture, Corning Matrigel matrix-3D plates streamline workflow and deliver a consistent and convenient solution for a high throughput environment.

## Application Areas

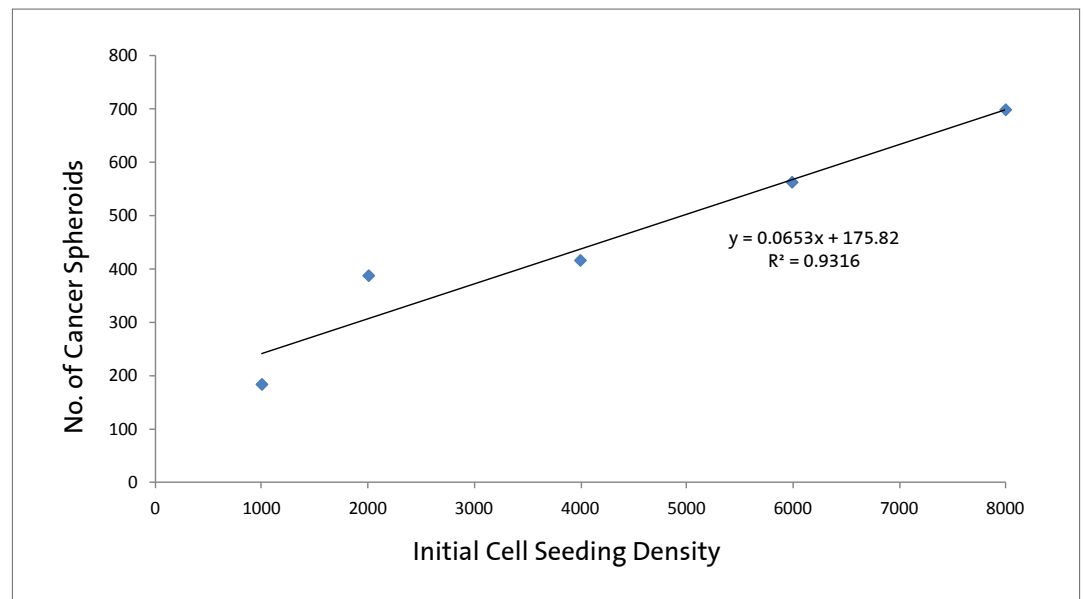
3D cell culture has been steadily increasing in drug discovery as it delivers more physiologically relevant models. Anti-cancer drug screening using spheroids, tumoroids, and organoids are considered better predictors of *in vivo* drug responses. The Corning® Matrigel® matrix-3D plates provide an *in vitro* assay format that allows for growth of cells in 3D for drug discovery applications.

## Corning Matrigel matrix-3D plates support growth of polarized epithelial 3D structures<sup>1</sup>



**MDCK cyst polarity.** Representative photomicrographs of fluorescently stained MDCK cysts using a 20X objective. Blue is nuclei, red is phalloidin, and green is ZO1. Right image is overlay. Scale bar is 100  $\mu$ m.

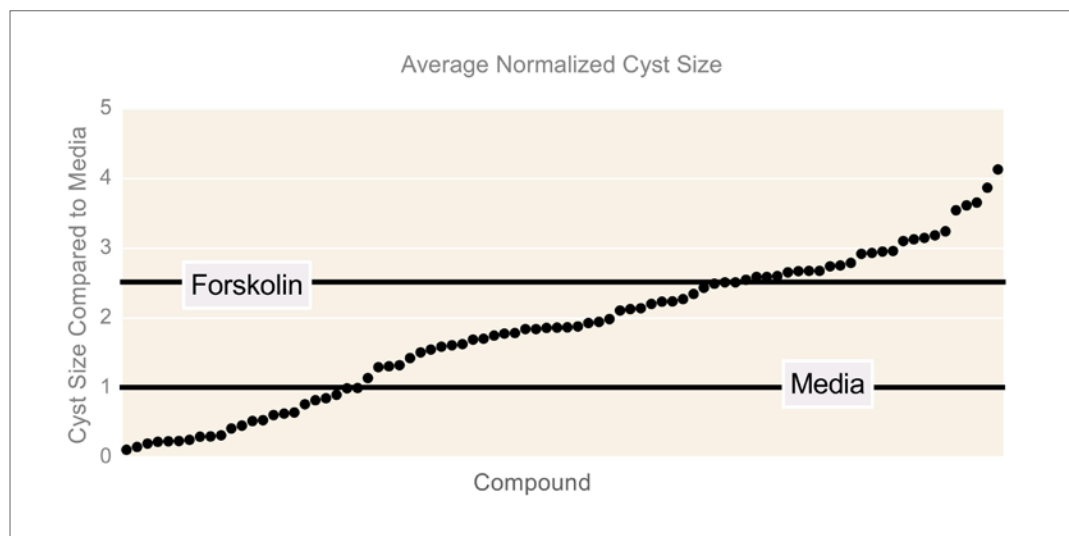
## Corning Matrigel matrix-3D plates support growth of cancer spheroids



**Corning Matrigel matrix-3D plates supports growth of prostate cancer spheroids.** LnCAP prostate cancer cells were seeded onto a Corning Matrigel matrix-3D plate (96-well format) using 'on-top' workflow ( $n \geq 16$  wells/seeding density). After 4 days, plate wells were fixed with 4% paraformaldehyde and stained with a nuclear dye, DAPI. The whole well was scanned with a high-content imager using the acumen<sup>®</sup> Cellista (sptLabtech) laser system and spheroids were counted. A linear correlation was observed between the number of cancer spheroids and cell seeding density on a Matrigel matrix-3D plate.

**Data provided by Dr. X. Fang,** Postdoctoral Research Fellow; Harvard Medical School; Division of Hematology & Oncology; Beth Israel Deaconess Medical Center, MA, USA

## Corning Matrigel matrix-3D plates successfully support screening with drug compound libraries<sup>1</sup>



**Tocris kinase library screen.** Average change in cyst area of screened compounds as a ratio of media response. Data is average of 4 wells per compound from 3 independent screens and sorted by effect on cyst size. Media and forskolin responses are marked for reference.

### Ordering Information

#### Corning® Matrigel® Matrix-3D Plates

Cat. No.	Description	Qty/Pk	Qty/Cs
356259	96-well black/clear bottom microplate, individually packaged	1	1
356256	384-well black/clear bottom microplate, individually packaged	1	5
356258	384-well white/clear bottom microplate, individually packaged	1	1
356257	384-well white/clear bottom microplate, individually packaged	1	5

### References

1. Corning Matrigel Matrix-3D Plates for High Throughput 3D Assays (Corning Application Note CLS-AN-572).

For more specific information on claims, visit [www.corning.com/certificates](http://www.corning.com/certificates).

**Warranty/Disclaimer:** Unless otherwise specified, all products are for research use only. Not intended for use in diagnostic or therapeutic procedures. Not for use in humans. Corning Life Sciences makes no claims regarding the performance of these products for clinical or diagnostic applications.

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