Corning® Matrigel® Matrix-3D Plates

Frequently Asked Questions

CORNING

Available Formats

1. **What type of Corning Matrigel matrix-3D microplate formats are available?**

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

Thawing and Handling

2. **How long does it take to thaw Matrigel matrix-3D plates?**

   The product should be thawed overnight in the original foil packaging in a 2°C to 8°C refrigerator or cold room. Bubbles may appear in the matrix if a shorter thawing time is used. Do not stack, and keep plates flat while thawing.

3. **How should the Matrigel matrix-3D plate be stored prior to use?**

   Plates should be kept at -20°C in a non-frost-free freezer until use.

4. **Does the Matrigel matrix-3D plate need to be centrifuged prior to use?**

   With proper storage, thawing, and handling, the Matrigel matrix coating will remain at the bottom of the plate, thus eliminating the need for centrifugation.

5. **Can a thawed Matrigel matrix-3D plate be refrozen?**

   Once thawed, a plate should not be refrozen for later use; it should be kept cold until used that same day.

Use/Application(s)

6. **What are the different methods of using the Matrigel matrix-3D plates?**

   The Matrigel matrix-3D plate can be used in 'sandwich/overlay' or 'embedded' cell culture workflows to yield 3D structures. The 'sandwich/overlay' method involves addition of cells after the hydrogel has been polymerized whereas in the 'embedded' workflow, cells are added into thawed Matrigel contained in each well and then polymerized. The 'sandwich/overlay' workflow is more amenable to higher throughput. Cell type, density, volume, and medium will be highly user-dependent factors that may affect 3D structure formation. Please follow detailed user instructions provided with product(s).

   'Sandwich/Overlay' Workflow

   How long should the Matrigel matrix-3D plate be polymerized prior to use for 'sandwich/overlay' cultures?

   Typically, after thawing polymerize plate at 37°C in 5% CO_2 incubator for 30 to 60 minutes.

   How much Matrigel matrix should be added as a diluent for 'sandwich' cultures?
   This needs to be optimized based on your application; typically, titrate between 0 to 0.2 mg/mL of Matrigel matrix as a diluent into culture media; in some cell types, you may need up to 0.45 mg/mL in media, while some other cell types do not need any additional supplementation. When needed, we recommend using the same type of Matrigel matrix as a diluent in media as that was used during cell expansion.

   'Embedded' Workflow

   Can the Matrigel matrix-3D plate be used with 'embedded' workflows for 3D cell culture?
   This plate can be used in an embedded protocol after the plate has been thawed and before the Matrigel matrix polymerizes. In order to do so, add a small volume of cells (5 to 20 µL for the 96-well and 2 to 5 µL for the 384-well plate) to the thawed plate that is kept cold at 4°C or on ice by:

   - Carefully dispensing cell suspensions on top of thawed Matrigel matrix layer.

HELPFUL TIPS

- Add cell suspension to center of each well and DO NOT apply a swirling mixing motion as cells can seep through sides causing growth of cells in 2D.
- For best results, DO NOT stack plates.
- Holding seeded plates with lids in a refrigerator at 4°C for an additional 30 min. before polymerizing may improve embedding results.

- OR -

- Gently mixing cell suspension with thawed Matrigel matrix in each well.

HELPFUL TIPS

- When cells are mixed using a pipet, care must be taken to not introduce bubbles into the cell-Matrigel matrix mixture

- Then, polymerize plates containing cell suspensions for 30 to 60 minutes at 37°C/5% CO_2, add growth medium, and culture as required.

Why do you recommend using small cell volumes with 'embedded' workflows?
Using larger cell volumes may result in seepage to the well edges that can result in 2D instead of 3D cell growth. It can also dilute the Matrigel matrix in each well such that it cannot support 3D growth.

Why is it important to keep plates cold at 4°C/on ice during cell seeding for 'embedded' workflows?
Keeping plate cold until cells are added may help ensure that polymerization does not start unevenly

7. **Are these Matrigel matrix-3D microplates compatible with imaging?**
   Yes.
8. **What types of cells can I use with the Matrigel matrix-3D plate?**
   It is suited for cancer spheroids and organoids (customers have used it with ovarian, prostate, colon, and pancreatic tumor organoids).
9. **What is the end-point readout(s) using these Matrigel matrix-3D plates?**
   Depending on the plate type used, use of fluorescence or luminescence detection methods are possible. We recommend the white/clear plate formats for luminescence, and black/clear plate formats for fluorescence assays. These plates are also amenable for imaging applications.
10. **How do you address media evaporation in the Matrigel matrix-3D plates?**
    Plate lids have evaporation rings which are meant to reduce evaporation.
11. **How do you ensure consistent performance of the Matrigel matrix-3D plate?**
    We utilize validated in-process controls to ensure plate-to-plate consistency within and across lots.

For more specific information on claims, visit the Certificates page at **www.corning.com/lifesciences.**

For additional product or technical information, visit **www.corning.com/lifesciences** or call 800.492.1110. Outside the United States, call +1.978.442.2200 or contact your local Corning sales office.

CORNING

Corning Incorporated
Life Sciences
836 North St.
Building 300, Suite 3401
Tewksbury, MA 01876
t 800.492.1110
t 978.442.2200
f 978.442.2476
www.corning.com/lifesciences

ASIA/PACIFIC
Australia/New Zealand
t 61 427286832
Chinese Mainland
t 86 21 3338 4338
f 86 21 3338 4300
India
t 91 124 4604000
f 91 124 4604099
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Korea
t 82 2-796-9500
f 82 2-796-9300
Singapore
t 65 6572-9740
f 65 6735-2913
Taiwan
t 886 2-2716-0338
f 886 2-2516-7500

EUROPE
CSEurope@corning.com
France
t 0800 916 882
f 0800 918 636
Germany
t 0800 101 1153
f 0800 101 2427
The Netherlands
t 020 655 79 28
f 020 659 76 73
United Kingdom
t 0800 376 8660
f 0800 279 1117
All Other European Countries
t +31 (0) 206 59 60 51
f +31 (0) 206 59 76 73

LATIN AMERICA
grupoLA@corning.com
Brazil
t 55 (11) 3089-7400
Mexico
t (52-81) 8158-8400