Three-Dimensional Cell Culture

Three dimensional (3D) cell culture is more physiologically relevant than traditional adherent or single cell culture methods. It provides a better representation of the in vivo microenvironment and is widely thought to be more predictive of disease state and drug response.

AggreWell™ for 3D Spheroid Production

AggreWell™ plates provide an easy method to produce large numbers of 3D spheroids. Each well contains a standardized array of microwells, allowing the production of large numbers of spheroids in a single well. The size of spheroids generated in AggreWell™ is highly uniform and can be easily modified by adjusting the cell seeding concentration.

Advantages of AggreWell™

- High yield of spheroids
- Uniform-sized spheroids
- Low cost-per-spheroid
- Easy to use
- Reproducible
- Compatible with a variety of cell types

Figure 1. Spheroids Generated in AggreWell™ Plates

Starting from a single-cell suspension, cells form spheroids after 24-48 hours in AggreWell™. Shown are prostate cancer (DU145) spheroids in AggreWell™400 plates (A) 100 cells per microwell and (B) 500 cells per microwell.

Figure 2. Cancer Spheroids Generated using AggreWell™ are Uniform in Size and Shape

(A) Colon cancer cell line HT29. (B) Prostate cancer cell line LNCap. (C) Esophageal cancer cell line TE6. All spheroids were seeded at 100 cells per microwell. Images are shown at 10X magnification. Images courtesy of Golsa Razian and Mark Ungrin, University of Calgary.
AggreWell™ Easy, Reproducible Spheroid Production

AggreWell™ plates are available in 2 sizes of microwells and multiple plate formats to fit your research needs.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>MICROWELL SIZE</th>
<th>CELL RANGE</th>
<th>PLATE FORMAT</th>
<th>NUMBER OF SPHEROIDS</th>
<th>CATALOG #</th>
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<tbody>
<tr>
<td>AggreWell™400</td>
<td>400 μm</td>
<td>50 - 3,000 cells per spheroid</td>
<td>24-well plate</td>
<td>~ 1,200 per well</td>
<td>34411/34415</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>6-well plate</td>
<td>~ 7,000 per well</td>
<td>34421/34425</td>
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<tr>
<td>AggreWell™800</td>
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<td>3,000 - 20,000 cells per spheroid</td>
<td>24-well plate</td>
<td>~ 300 per well</td>
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<td></td>
<td>6-well plate</td>
<td>~ 1,800 per well</td>
<td>34821/34825</td>
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</tbody>
</table>

Note: AggreWell™ Rinsing Solution (Catalog #07010) is required for use with AggreWell™ plates to ensure optimal performance.

Selected AggreWell™ Publications


AggreWell™ has been used in a variety of applications, including:

- Cancer research
- Disease modeling
- Cell signaling
- 3D tissue generation and cell differentiation
- Drug delivery
- Bioprocess design
- Suspension culture of traditionally anchorage-dependent cells

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