Corning® Elplasia® 12K Flask

Culture Thousands of Spheroids in a Convenient Flask Format

With the effectiveness of 3D cell culture in many areas of research, including anti-cancer drug screening and *in vitro* tumor studies, the need for better methods to produce replicate spheroids of uniform size in mass quantities has emerged.

The Corning Elplasia 12K flask addresses this need by enabling researchers to generate a high density of spheroids in a scaffold-free model.

The Corning Elplasia 12K flask contains 152 microcavities per cm^2 in a vessel footprint similar to that of a T-75 flask. Gravity, in conjunction with the Corning Ultra-Low Attachment (ULA) surface, and a rounded microcavity geometry enable formation of approximately 12,000 spheroids of similar shape and size.

The ULA surface, a proprietary, animal-free, covalently bonded hydrogel, promotes the formation and easy harvesting of spheroids.

The microcavity geometry allows spheroids to remain in place during medium exchange without compromising full recovery at harvest time. The flask's internal diverter feature allows for minimal disruption of spheroids during liquid handling steps.

The Corning Elplasia 12K flask is compatible with many tumor, normal, and primary cell types often used for 3D cell culture, and may be used across many applications including:

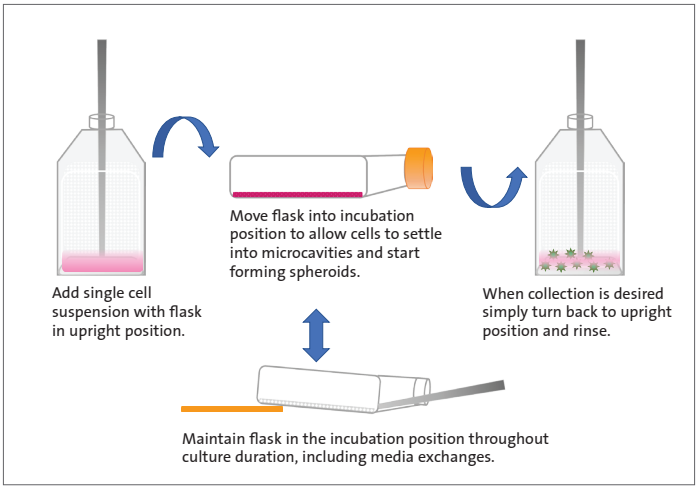
- Drug screening
- Cancer/Tumor biology
- Stem cell biology
- Cell therapy research
- 3D tissue engineering

Key Features

- Corning ULA surface
- Optically clear, gas permeable polystyrene film with low autofluorescence
- Liquid diverter feature to minimize impact of liquid flow during medium exchange steps and flask handling
- 80 cm^2 surface area with 152 microcavities per cm^2 generate approximately 12,000 spheroids of uniform size and shape per flask
- Round well-bottom geometry
- Microcavity geometry dimensions: 850 x 650 µm (top diameter x depth), with working spheroid growth dimensions of 500 x 600 µm (diameter x depth)
- 25 to 50 mL working volume

Key Benefits

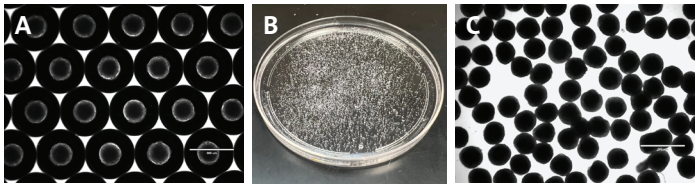
- Ease of spheroid formation, culture, assessment, and harvest
- Creates uniform spheroid formation at large volumes with an easy to use "plug and play" ready protocol
- Scaffold-free cultures
- Culture spheroids for up to 30 or more days (cell line-dependent)
- Highly reproducible bulk spheroid formation across microcavities
- Common media reservoir for equivalent culture conditions for all spheroids
- Compatible with brightfield and fluorescent microscopy



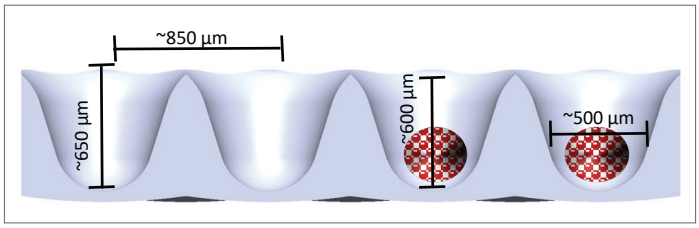
The Corning® Elplasia® 12K flask was designed to enable the generation of a large volume of uniform spheroids under one culture condition with a simple "plug and play" protocol. For more details, please refer to the Corning Elplasia 12K flask Guidelines for Use (CLS-AN-713DOC).

Table 1. Cell lines evaluated using the Corning Elplasia 12K flask.

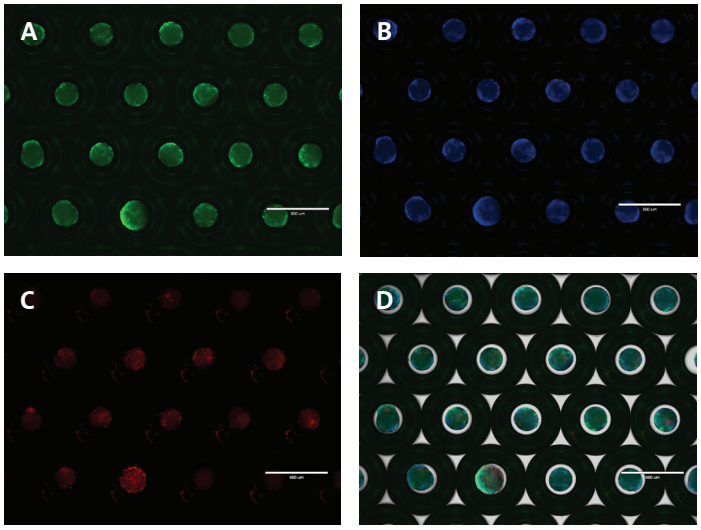
Cell Type	Source
Cancer Lines	
MCF7	Human breast adenocarcinoma
HT-29/GFP	Human colon adenocarcinoma
DU-145	Human prostate carcinoma
A549/GFP	Human lung carcinoma
Stem Cells	
hMSC	Human bone marrow mesenchymal stem cells
iPSC	Human induced pluripotent stem cells, normal
Normal Lines	
HEK-293/RFP	Human embryonic kidney
HUVEC	Human umbilical vein



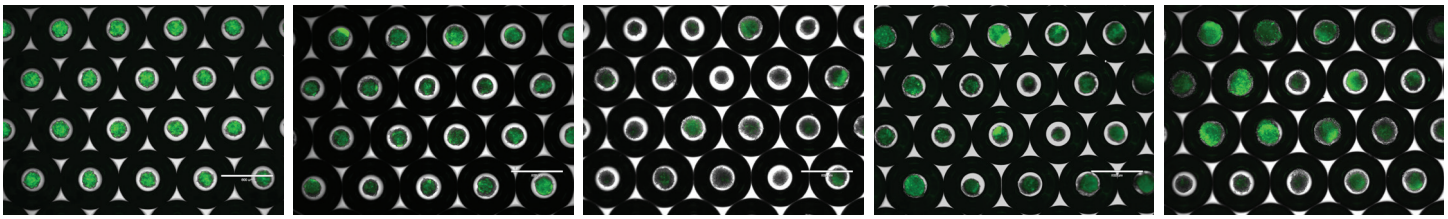
The Corning Elplasia 12K flask was designed to enable the generation of large quantities of uniform spheroids. 14-day old MCF 7 (human breast adenocarcinoma) spheroids culture in a Corning Elplasia 12K flask (A). Spheroid collection post harvest (B). Representative image of harvested MCF 7 spheroids (C). Micrographs were taken with an EVOS® FL microscope in brightfield mode using a 2X objective.



The Corning Elplasia 12K flask substrate contains approximately 12,000 round bottom cavities that each provide a growth area of 500 x 600 µm (diameter x depth) with gas permeable bottoms.



The Corning Elplasia 12K flask is compatible with fluorescent imaging. 30-day HepG2 (human liver carcinoma) spheroids stained with Calcein AM (A), Hoechst (B), and Propidium Iodide (C), A, B, and C superimposed under Brightfield (D). Micrographs were taken with an EVOS FL microscope using a 2X objective.



Day 7 Day 14 Day 21 Day 28 Day 30

The Corning Elplasia 12K flask enables long-term cultures. A-549/GFP (human lung carcinoma) spheroids cultured in a Corning Elplasia 12K flask for 30 days. Micrographs were taken with an EVOS FL microscope in brightfield and GFP modes using a 2X objective.

Ordering Information

Product may not be available in all markets.

VWR Cat. No	Corning Cat. No.	Description	Approximate Spheroids/Flask	Microcavity Size (Diameter x Depth)	Qty/Pk	Qty/Cs
76516-666	4537	Corning® Elplasia® 12K flask, ULA surface, sterile	12,000	850 x 650 µm	1	5

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For additional product or technical information, visit **vwr.com/corning**, call 1.800.932.5000, or contact your VWR representative.

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