

Bring your lab cultures to life

With product range

Corning 3D

CORNING

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BRING YOUR LAB CULTURES TO LIFE WITH THE CORNING 3D RANGE

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2D or 3D? The question is no longer relevant

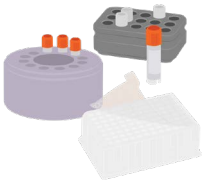
Why have so many researchers adopted 3D cell culture?
This is simply because cells cultured in 3D more faithfully recapitulate the in vivo behavior observed in tissues and organs than those cultured in a 2D model.
3D culture environments enable the creation of more relevant biological models for the discovery and development of drugs. They can thus lead to more predictive outcomes, higher success rates in compound evaluation, faster time to market and reduced development costs.

Characteristic	2D Culture	3D Culture
Growth support	Rigid and inert surface	Reproduces the native tissue microenvironment
Cell morphology	Loss of cell polarity and changes in cell morphology	Maintenance of morphology and polarity comparable to *in vivo* conditions
Architecture	Non-physiological organization; limited cellular interactions	Physiological organization facilitating close interactions between cells, the extracellular matrix (ECM), and growth factors
Diffusion of growth factors	Fast	Slower; biochemical gradients regulate cellular communication and signaling
Gene expression	Gene expression profiles different from those observed *in vivo*	Maintenance of gene expression profiles similar to *in vivo* conditions

Master your 3D cell culture workflow







Cell preparation	Expansion	Harvest	Analysis of 3D models	Storage and preservation
Cell counter	Matrigel® matrix	Cell dissociation and harvesting solutions, Dispase	Falcon® and Corning® permeable supports	Cryotubes and accessories for cryopreservation
Heating and cooling solutions	Culture media	Cell strainers	Spheroid culture plates	Controlled-rate freezing systems CoolCell®
Wide-bore pipette tips	Collagen and laminin	Centrifuge tubes	PCR microplates	Storage plates, films, and mats
Micropipettes	Vial Elplasia® 12K	Pipettes and controllers	Boxes, plates and flasks with Ultra-Low Attachment (ULA)	
Culture media	Elplasia® plates	Wide-bore pipette tips	Extracellular matrices, peptide hydrogels, etc.	
Buffers and preparation solutions	Microplates for spheroid culture		3D Clear® reagents for clearing 3D cultures	
Matrigel® matrix and other extracellular matrices	Ultra-Low Attachment (ULA) flasks and plates			
ITS Premix supplement (Insulin-Transferrin-Selenium)	Transwell® permeable supports			
	CellSTACK® culture system with 1 chamber			
	Stirring flasks			

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Which 3D model is best suited for your research?

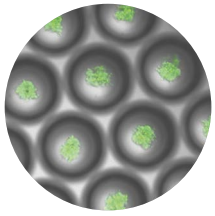
Spheroids

What is a spheroid? : Spheroids are three-dimensional cellular aggregates typically formed in suspension or under non-adherent conditions. Some cell lines can spontaneously form spheroids, while others benefit from using a matrix or hydrogel to better mimic a physiologically relevant environment.

Features:
- Multicellular structure recapitulating certain aspects of solid tumors
- Formation of oxygen and nutrient gradients
- Possible development of a necrotic core
- A simple, easy-to-implement model that is readily amenable to standardization
- Compatible with high-throughput screening (HTS)

Applications:
- Drug discovery
- Cytotoxicity studies
- Evaluation of the penetration of compounds or chemotherapeutic agents
- Stem cell research
- CRISPR applications

Corning® solutions:
- Spheroid plaques
- Elplasia® range: plates, 12K vial, 12K plate, 48K vial
- Transwell® permeable supports
- CellSTACK® single-chamber culture system
- Stirring flasks
- Synthegel® 3D matrix kit
- 3D Clear® reagents for optical clearing of 3D cultures





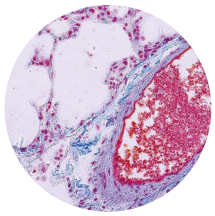
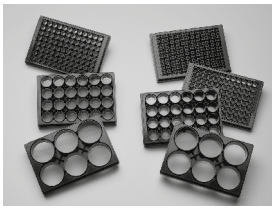
Organoids

What is an organoid? : Organoids are complex three-dimensional (3D) cell cultures derived from stem or progenitor cells. They self-organize to recapitulate the structure and certain functions of an organ in vivo.

Features:
- Native-like tissue architecture
- Maintenance of cellular functions
- Long-term stable cultures
- Improved biological relevance compared with 2D models
- Reproduction of complex physiological responses

Applications:
- Precision medicine
- Disease modeling
- Drug discovery
- Genomics
- Development and treatment response studies

Corning® solutions:
- Matrigel® matrix, Matrigel® for organoids
- 3D Matrigel® matrix-coated culture plate
- Collagens
- Spheroid plates
- Elplasia® plates
- Cell counter

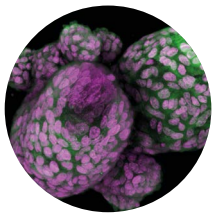

3D tissue models

What is a tissue model? : Tissue models recapitulate complex tissue microenvironments to better understand cellular interactions and tissue function. They can be combined with extracellular matrices to recreate biologically relevant structures.

Features:
- Reproduction of tissue microanatomy
- Modeling of cell-cell and cell-matrix interactions
- Compatible with multilayer systems
- High experimental flexibility

Applications:
- Permeability studies
- Toxicology
- Pharmacological screening
- Regenerative medicine
- Cancer research
- 3D bio-impression

Corning® solutions:
- Transwell® permeable supports
- Falcon® inserts
- BioCoat® inserts
- Collagens
- Matrigel® matrix



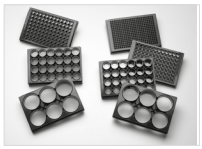

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Corning solutions for 3D cell culture

ULA plates	
003471	6 wells flat bottom
003473	24 wells flat bottom
007007	96 well round bottom
Spheroid plates	
004520	96 well round bottom
004515	96 well round bottom
004516	384 well round bottom
Elplasia® plates	
004440	6 wells
004441	24 wells
004442	96 well
Elplasia® culture systems	
009920	Elplasia® 48K plate
004537	Elplasia® 12K culture vial
004547	Elplasia® 12K plate






Matrigel® matrix	
354277	Qualified for use with hESCs
354230	Protein concentration standard with reduced growth factor content
354234	Protein concentration standard
356255	Qualified for organoids, phenol red-free
356231	Standard protein concentration, phenol red-free, with reduced growth factor content
Extracellular matrices	
354249	Collagen I, rat tail, high concentration
354236	Collagen I, rat tail
Cell recovery solutions for extracellular matrices	
354253	Recovery solution
354235	Dispase





PBS	
702594	1 X without calcium, without magnesium
HBSS	
702583	Without calcium, without magnesium, without phenol red
Dissociation solutions	
702762	Accutase





Tubes 15 mL and 50 mL	
352070	50 ml tubes
352096	15 ml tubes
Cell strainer	
352350	70 µm
352340	40 µm
352360	100 µm




CoolBox®, CoolRack®	
830146	CoolBox® 2XT
830144	CoolBox® XT
830049	CoolRack® 15 mL
830050	CoolRack® 50 mL
CoolCell®	
830159	CoolCell® LX







For more information, contact us.

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