

Corning® Synthegel™ 3D Matrix Kits

Synthetic peptide hydrogels for physiologically relevant spheroids and 3D hiPSC culture

Corning Synthegel 3D matrix kits are defined, self-healing synthetic peptide hydrogel bio-tools for culturing many different types of cells including cancer and stem cells, in a 3D format with robustness and convenience. The Synthegel 3D matrix kits provide negligible variability and a more controlled substrate for *in vivo*-like 3D cell culture. This platform is a critical tool that is useful for cancer research, stem cell research and drug screening in a 3D format. The Synthegel 3D matrix platform supports culture of human induced pluripotent stem cells (hiPSCs) in a 3D embedded format or in an encapsulation for suspension format. It also supports the culture of physiological cancer spheroids within a defined, tunable, and synthetic peptide matrix devoid of acidic or chilled conditions.

The 3D matrix peptide solution is designed to create an extracellular matrix mimicking hydrogel in one simple mixing step. The Synthegel 3D matrix solution is formulated in standard cell culture media at neutral pH and is stable at room temperature. The hydrogel formation can be initiated by directly mixing the peptide solution with the cross-linking agent along with any cell suspension without extra steps. Cultured cells can be clearly imaged and are easy to harvest. The Synthegel 3D matrix kits provide reproducible results and work with standard biological methodologies.

Features

- ▶ Ideal for formation and growth of physiologically relevant cancer spheroids
- ▶ Allows 3D culture and passaging of hiPSCs in embedded and suspension conditions
- ▶ The hiPSC Grow Mix supplement provides a complete culture environment for hiPSC 3D culture
- ▶ Purified synthetic peptide in neutral pH
- ▶ Matrix rigidity is tunable by altering the peptide concentration
- ▶ Fast hydrogel formation (5 to 30 min.)
- ▶ Works with standard cell culture methodologies



Corning Synthegel 3D hiPSC Matrix Kit

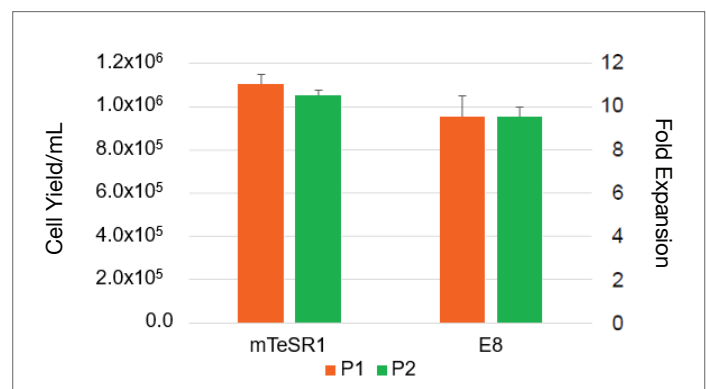
The Corning Synthegel 3D hiPSC matrix kit is a powerful tool for the physiological formation of 3D hiPSC spheroids *in vitro*. hiPSC spheroids maintain high viability, pluripotency and differentiation potential based on multiple biomarkers. The kit consists of a vial of Synthegel 3D hiPSC peptide nanofiber solution and a vial of Synthegel X-Link solution. Also required is a vial of lyophilized Synthegel 3D hiPSC Grow Mix.

Ordering Information

Products may not be available in all markets.

VWR Cat. No.	Corning Cat. No.	Description	Qty/Pk	Qty/Cs
76670-438 CA76670-438	354787	Corning Synthegel 3D hiPSC matrix kit (10 mL)	1	1 kit
76670-440 CA76670-440	354792	Corning Synthegel 3D hiPSC Grow Mix (1 mg)	1	1

hiPSC 3D Culture in Corning Synthegel 3D hiPSC Matrix



Human foreskin fibroblast-derived iPSC were cultured in Corning Synthegel 3D hiPSC matrix for 5 days. Cells were seeded at 4×10^5 cell/mL and cultured with mTeSR™1 or Essential 8™ media at 0.5% and 0.3% w/v Synthegel hiPSC matrix, respectively. Data are shown as means \pm standard deviations (SDs).

Corning® Synthegel™ Spheroid Matrix Kit

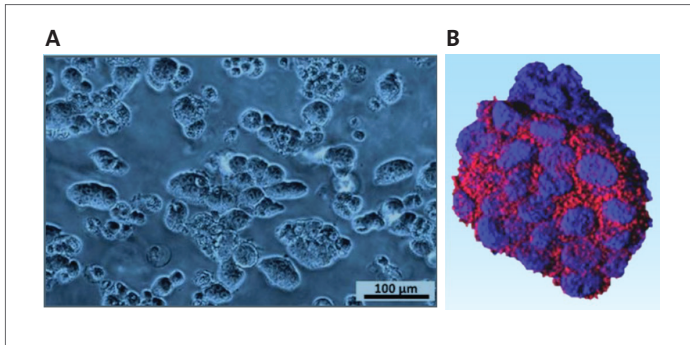
The Corning Synthegel Spheroid matrix kit is a research tool for high content 3D self-assembled biologically formed spheroid cultures with more accurate *in vivo* predictions. The matrix has a higher gel strength and optimal cytocompatibility for spheroid culture. The kit consists of a vial of Spheroid matrix peptide nanofiber solution and a vial of Synthegel X-Link solution.

Ordering Information

Product may not be available in all markets.

VWR Cat. No.	Corning Cat. No.	Description	Qty/Pk	Qty/Cs
76670-444	354789	Corning Synthegel Spheroid matrix kit (10 mL)	1	1 kit
CA76670-444				

Cancer Spheroids Cultured in Corning Synthegel Spheroid Matrix



(A) MCF-7 breast cancer cells cultured for 5 days in Corning Synthegel Spheroid matrix form physiological spheroids. (B) Immunofluorescent image of MCF-7 cells cultured for 5 days. Red indicates actin and blue indicates DAPI-stained nuclei.

Corning Synthegel hiPSC Suspension Matrix Kit

Corning Synthegel hiPSC suspension matrix kit is a powerful bio-tool for large-scale manufacturing of physiological 3D hiPSC spheroids in a lab setting. It is incredibly easy for cell encapsulation and spheroid isolation. After harvesting, spheroids can be used directly for various downstream tasks such as drug screening, bioprinting for tissue engineering, and somatic cells differentiation. The kit consists of a vial of Synthegel hiPSC suspension matrix, a nanofiber solution for 3D suspension culture and, a vial of Synthegel X-Link solution. Also required is a vial of lyophilized Synthegel 3D hiPSC Grow Mix.

Ordering Information

Products may not be available in all markets.

VWR Cat. No.	Corning Cat. No.	Description	Qty/Pk	Qty/Cs
76670-446	354791	Corning Synthegel hiPSC suspension matrix kit (16 mL)	1	1 kit
CA76670-446				
76670-440	354792	Corning Synthegel 3D hiPSC Grow Mix (1 mg)	1	1
CA76670-440				

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