

High Throughput 3D Cell Culture

Scientists have cultured cells in 2D mono-layers for decades due to the practicality of this approach. Now, however, scientists are switching to 3D cell cultures, which have many advantages. These models approximate the in vivo-like extracellular environment much more closely, improve cell differentiation, and

are considered to be morphologically and physiologically superior for studying, for example, the effects of drug candidates or cell microenvironments. Nevertheless, 3D cultures also have drawbacks such as the need for larger numbers of cells, tedious manual workflows, and high overall costs, which combine

to limit their use. These drawbacks could be overcome by automating the 3D cell culturing process. We supply several products that let scientists work more comfortably with automated 3D cell cultures.

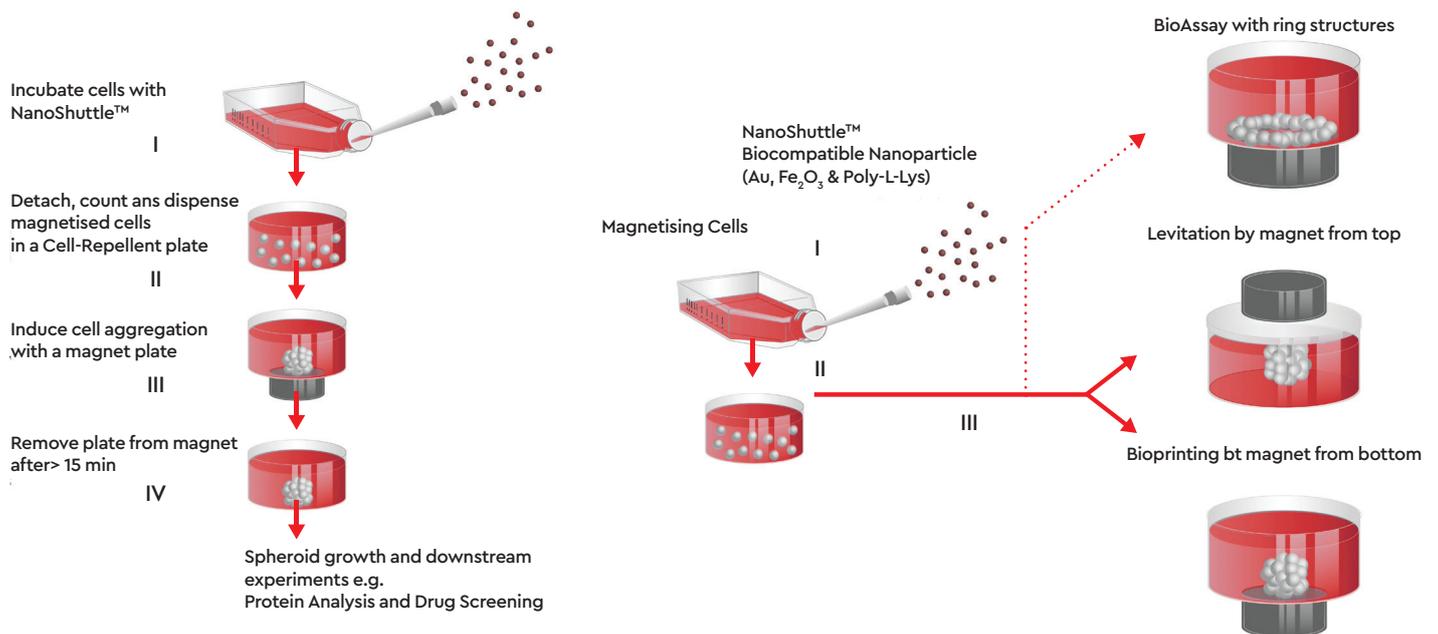


Fig. 1: High throughput 3D cell culture with magnetic bioprinting workflow. I, propagate your MSCs in PromoCell MSC Growth Medium and magnetize your MSCs with Nanoshuttle™ with static overnight incubation. II, detach, count and dispense your MSCs into a cell-repellant plate. III, induce cell aggregation with a magnetic plate. Different structures can be generated: rings and spheres. IV, the magnetic plate can be removed after 15 minutes and subsequent procedures started.

Why use our products for automated 3D cell culture?

- **Convenient.** Save valuable time with high-quality primary cell lots for your 3D Cell Culture.
- **Optimized.** Our xeno- & serum-free, high-quality media provide a standardized cell culture environment devoid of all stimuli originated from non-defined materials.
- **Reproducible.** Predefined media ensure reliable and consistent performance of your cell culture experiments.
- **Easy to use.** Ideal for routine use, with excellent technical support.

Key applications of high throughput 3D cell cultures

- Faster and better ex vivo screening of drugs.
- Continual assessment of cell viability and other functions.
- High throughput rapid bioprinting of cells for advanced tissue engineering.
- Faster development of spheres/co-cultures with various cell types.
- High throughput ex vivo toxicological testing.

Note: Our products are classified for research use only and are not for use / implantation in humans or animals.

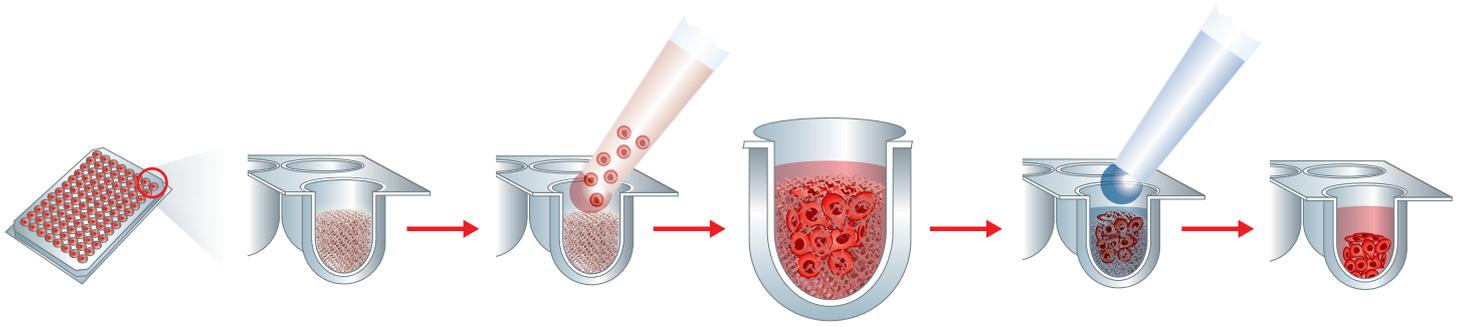


Fig. 2: 3D Cell Culture Scaffold Kit. Cells are seeded on ready-to-use scaffolds, which they attach to. They then form 3D structures (e.g. spheroids) that can be easily harvested by dissolving the scaffold.

Products

Product	Description	Catalog Number
3D Tumorsphere Medium XF	Serum-free and xeno-free medium for cultivating cancer cell lines as 3D tumorspheres.	C-28070
Cancer Cell Line Medium XF	Serum free and xeno-free medium for standardized in vitro cultivation of established cancer cell lines.	C-28077
Primary Cancer Culture System	A complete defined and animal-component free cell culture solution designed for selective culture of malignant cells derived from primary tumors or patient-derived xenografts.	C-28081
Hematopoietic Progenitor Expansion Medium XF	Serum-free and xeno-free medium for expansion of primitive human hematopoietic cells.	C-28021
Human CD34+ Progenitor Cells (hCD34+ -CB)	Human CD34+ Progenitor Cells from Cord Blood (hCD34+ -CB) of a single donor.	C-12921
MSC Growth Medium XF	Serum-free and xeno-free cell culture medium for proliferation of mesenchymal stem cells. Fibronectin coating required.	C-28019
Human Mesenchymal Stem Cells (hMSC)	Primary Human Mesenchymal Stem Cells. Available from adipose tissue, bone marrow and umbilical cord matrix.	C-12971 C-12974 C-12977
Fibronectin Solution, human (1 mg/ml)	Cell attachment factor that facilitates the attachment and cytoplasmic spreading of anchorage-dependent cells.	C-43060
CELLSTAR® Cell-Repellent cell culture plates (Greiner Bio-One)	Plates with a cell-repellent surface treatment to effectively prevent cell attachment; available in different formats	Various part numbers, for details www.gbo.com
M3D Bio-Assembler™ Kit (Greiner Bio-One)	Kit for quick & easy 3D cell culture by magnetic levitation; includes magnet plates, NanoShuttle™-PL and cell-repellent plates; 6- and 24-well versions	657840 662840
M3D Bioprinting Kit (Greiner Bio-One)	Kit for quick & easy magnetic 3D bioprinting; includes magnet plates, NanoShuttle™-PL and cell-repellent plates (clear or black, µClear®); 96- and 384-well versions	655840, 655841, 781840, 781841
M3D BIO Assay™ Kit (Greiner Bio-One)	Kit for the fast and easy magnetic 3D bioprinting of 3D ring structures to perform migration assays, available in 96- and 384-well versions	655846 781846
NanoShuttle™-PL Refill (Greiner Bio-One)	Biocompatible magnetic nanoparticles for magnetizing cells for m3D technology, available in different sizes (single or pack of 3, 6 or 12)	657841, 657843 657846, 657852