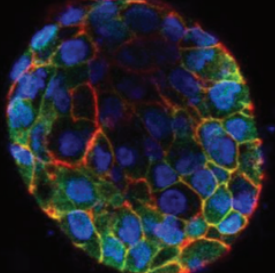
CELLINK Spheroid Kits

The CELLINK Solution



Spheroids are an important method to explore cellular behavior in three dimensions (3D). By more accurately recapitulating the in vivo environment, spheroids provide researchers with physiologically relevant models to better test hypotheses and draw more meaningful conclusions. CELLINK has partnered with Kugelmeiers® to offer Spheroid Kits for more convenient and effective 3D cell culturing. These kits combine the Sphericalplate 5D® with CELLINK's premium bioinks to support the printing of matrix-encapsulated spheroids, which are easier to handle for several analysis methods, enabling the high throughput development of spheroids in a reproducible and cell-friendly manner. Couple this with your bioprinter for a fully automated solution.

Advantages

Designed specifically for fast and easy spheroid formation combined with the benefits of physiologically relevant matrix embedding, the CELLINK Spheroid Kits strengthen your work through:

Spheroid Reproducibility

Kugelmeier's Sphericalplate5D® enable researchers with consistent and uniform spheroid development across each well. With optimized niche geometry and sharp borders, no cell is left behind and each one of the 750 micro cavities in a well is designed for your success.

Flexibility

With 400 x saving on space and 60 x saving on time when compared to traditional hanging drop cultures, the Sphericalplate 5D offers convenient upscaling without loss of desired cellular functionality and viability. Made from cyclic olefin copolymer (COC), the plate is also well suited for downstream imaging processes.

Superior Quality Control

CELLINK rigorously checks the quality of its GelMA and Coll 1 bioinks to ensure low batch-to-batch variation. Carefully tailored, these formulations also confer the mechanobiology properties that encapsulated cells require to produce and organize their own extracellular matrices (ECM).

The CELLINK Workflow

Form Spheroids: Plate your cells in the Sphericalplate 5D and observe spheroid formation.

Bioinks: Mix in the preformed spheroids with your GelMA or Coll 1 bioinks.

Bioprint: Fully automate 3D cell culturing by bioprinting tissue constructs on the BIO X™ using bioinks embedded with spheroids.

Test and Analyze: Carry out downstream analysis methods on up to 9,000 spheroids per plate.

GelMA Kit

Gelatin methacrylate (GelMA) has become a cornerstone bioink in the biomedical field thanks to its extraordinary versatility across applications, especially its unique biological properties that enable excellent attachment and proliferation of various cell types. The GelMA Spheroid Kit includes 3 units of the Sphericalplate 5D, sterile GelMA powder and a photo initiator for blending customized bioinks. Dissolve the GelMA to the desired concentration, add preferred photo initiator and adjust the crosslinking time to fine-tune the stiffness of the material. Warm GelMA is liquid, allowing for an easy incorporation of spheroids. Another benefit of GelMA is its transparency, allowing for simple and convenient visualization of the spheroids with no need for staining.

Coll 1 Kit

Collagen is found in over 30% of total body protein, making it an excellent biomaterial for tissue engineering and 3D printing applications. It forms fibrous networks in the body, enhancing the structural integrity of the extracellular matrices (ECM) while promoting cell adhesion, growth, biological signaling and tissue morphogenesis. The Coll 1 Spheroid Kit includes 3 units of the Sphericalplate 5D and sterile Coll 1, which is transparent for simple visualization of embedded spheroids and can have its concentration fine-tuned for any application.

Sphericalplate 5D Technical specifications

Plate Material	Clear and transparent cyclic olefin copolymer
Well Volume	Max: 3 mL; working capacity: 0.5–2.5 mL
Properties	Proprietary microwell geometry respects physiological and mechanobiological principles. 750 microwells per well for a total of 9000 microwells per plate Ultra low adhesion coating in wells A1-A6 and C1-C6 Biocompatible according to ISO 10993
Lid Material	Clear and transparent polystyrene
Sterility	Treated by x-ray

Contact

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