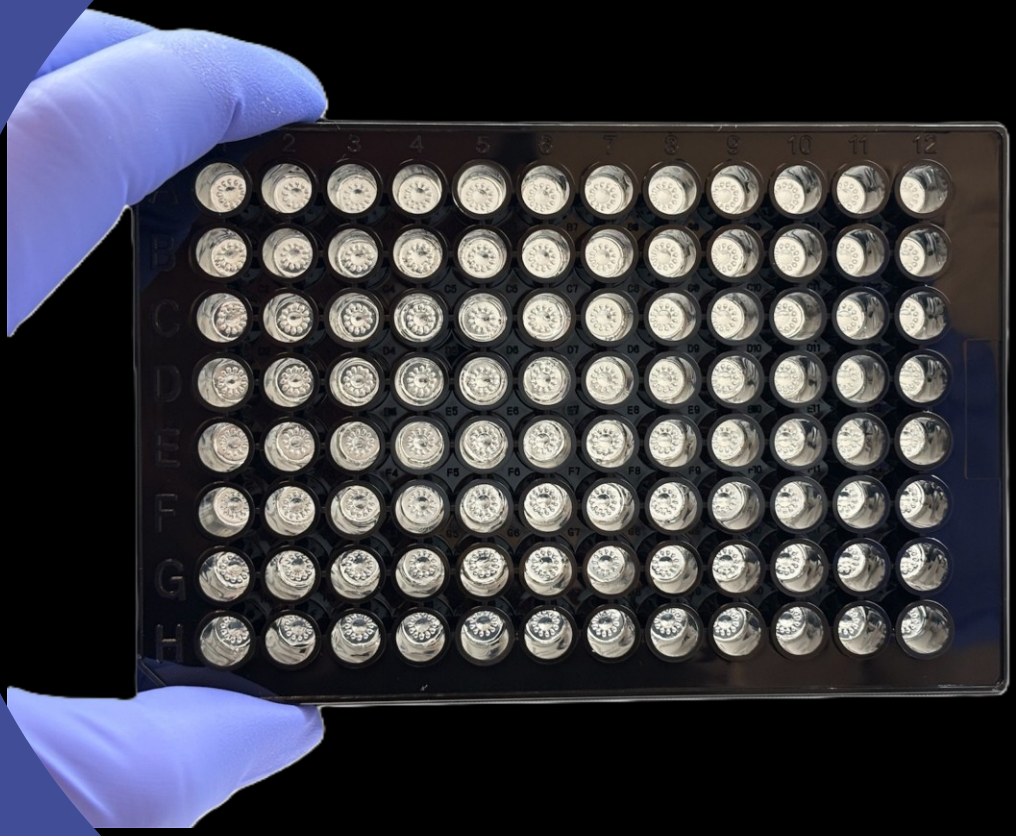
APRICELL BIOTECHNOLOGY

BIO-SCIENCE



HTSphere™

96-well plate

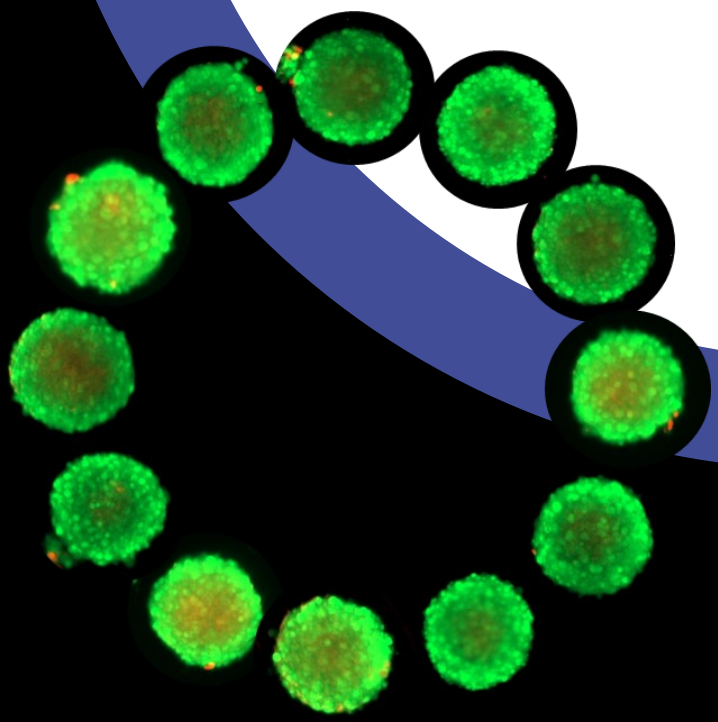
Next-Gen High Throughput 3D Tissue Culture Plate

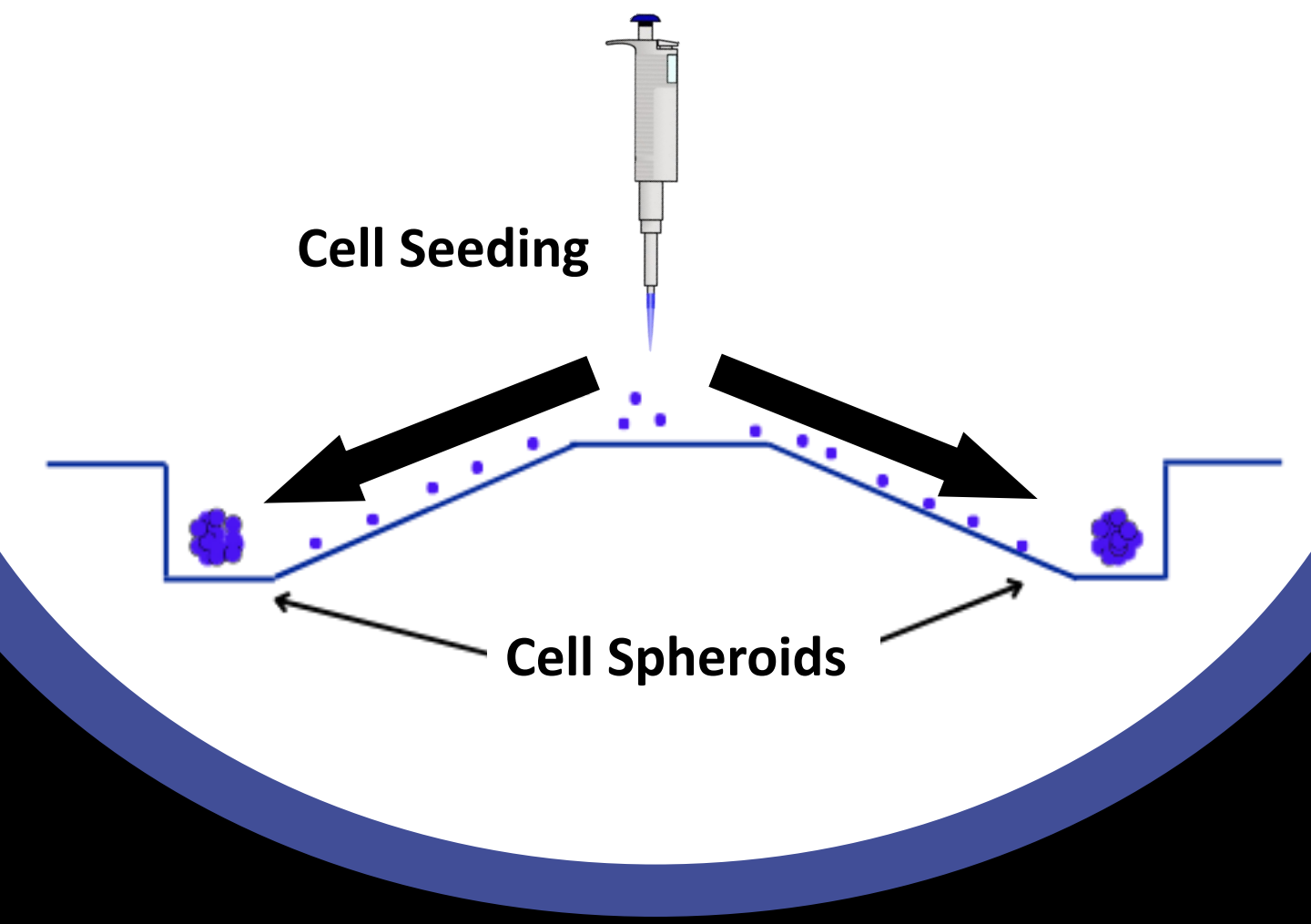
APRICELL BIOTECHNOLOGY

BIO-SCIENCE

HTSphere™

The **HTSphere™ 96-well Plate** is designed for high-throughput spheroid culture, ECM embedding and drug testing. Each well contains a hydrogel insert that facilitates the formation of spheroids/organoid arrays with up to 12 uniform models per insert. The HTSphere platform makes 3D culture faster, more reproducible, and better suited to real-time and post-experimental analysis.





HTSphere™ 96-well Plate Advantages

High Throughput Culture

Get 1152 spheroids/organoids from one HTSphere™ Plate. Each cell seeding produces 12 uniform Tissue models per well.

Easy IHC and H&E Analysis

Spheroids can be paraffin-embedded and sliced directly within the hydrogel insert, enabling in situ IHC analysis.

Easy Media Changes

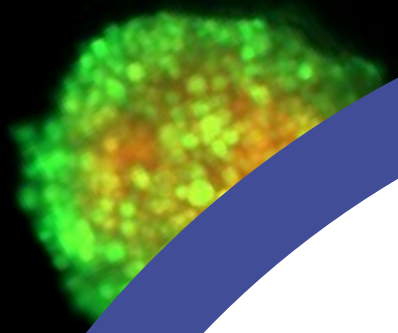
The HTSphere Plate™ enables disturbance-free media exchanges, eliminating the possibility of aspirating spheroids when replacing media.

All-in-One

Culture spheroids, embed in an ECM, screen therapeutic compounds and image. All on the same platform. Compatible with process automation.

APRICELL BIOTECHNOLOGY

BIO-SCIENCE



Applications

01.

Spheroid Culture

The HTSphere™ Plate allows users to create spheroid/organoid models quickly & reproducibly. With just one seeding step, users can get up to 40 uniform spheroids.

02.

OMIC's

Spheroids/organoids in the HTSphere™ Plate are amenable to a wide range of OMIC's studies and provide more physiologically relevant conditions.

03.

Assays + Imaging

Spheroids/organoids are amenable to a wide range of assays, making them suitable for various readouts.

04.

Drug Screening

Spheroids provide a physiologically relevant 3D model for testing the efficacy of novel and repurposed therapeutics.

BIO-SCIENCE

APRICELL BIOTECHNOLOGY

Microwell size:

500 µm. We can customize the size and number of the microwells

Spheroids/organoids size:

150 – 450 µm, depending on the size of the microwells you use.

Imaging compatibility:

All standard forms of microscopy: inverted, upright, bright field, fluorescent, confocal, etc.

Number of spheroids in each well:

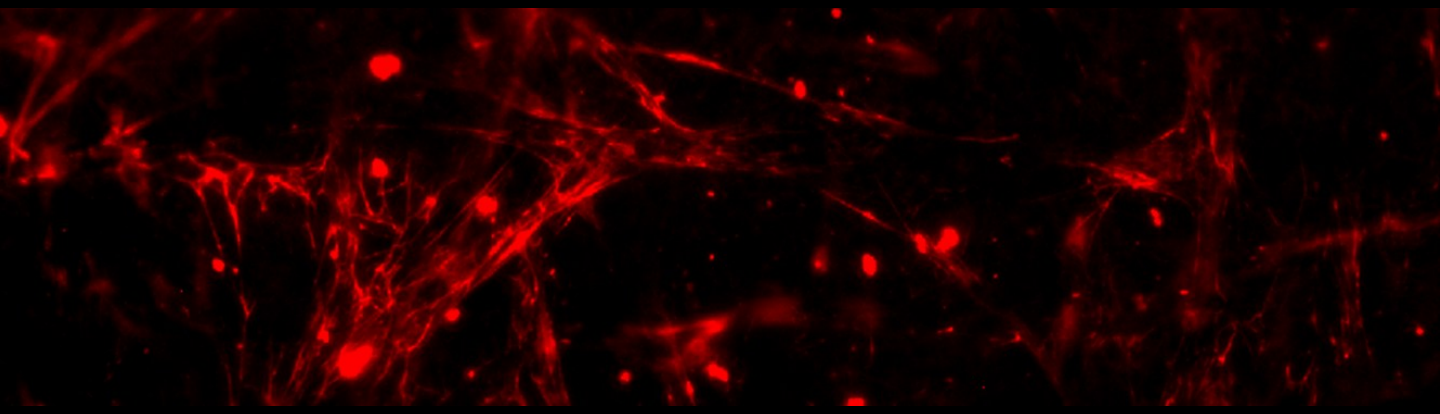
There are six spheroids per well of the 96-well plate (up to 1152 per plate).

Extracellular matrix Embedding:

An ECM can be added by pipetting into the seeding zone of each insert. It will then drift down the channels and embed each spheroid.

Compatibility with automation:

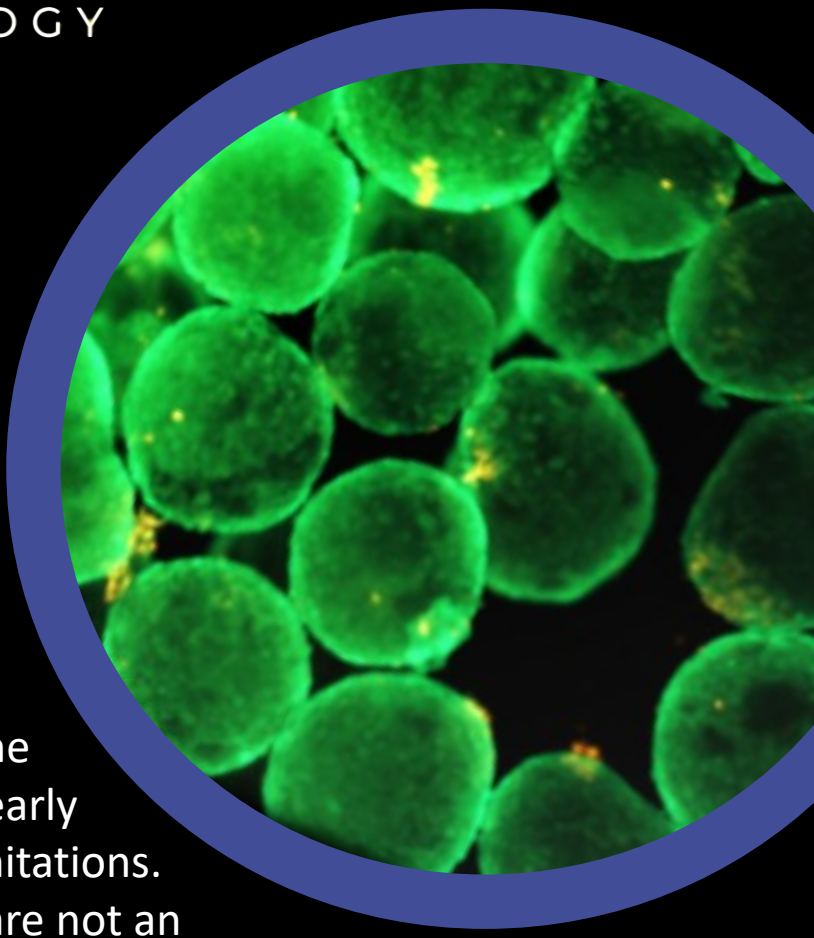
The HTSphere Plate™ is compatible with SLS automation.



APRICELL BIOTECHNOLOGY

BIO-SCIENCE

Why 3D?



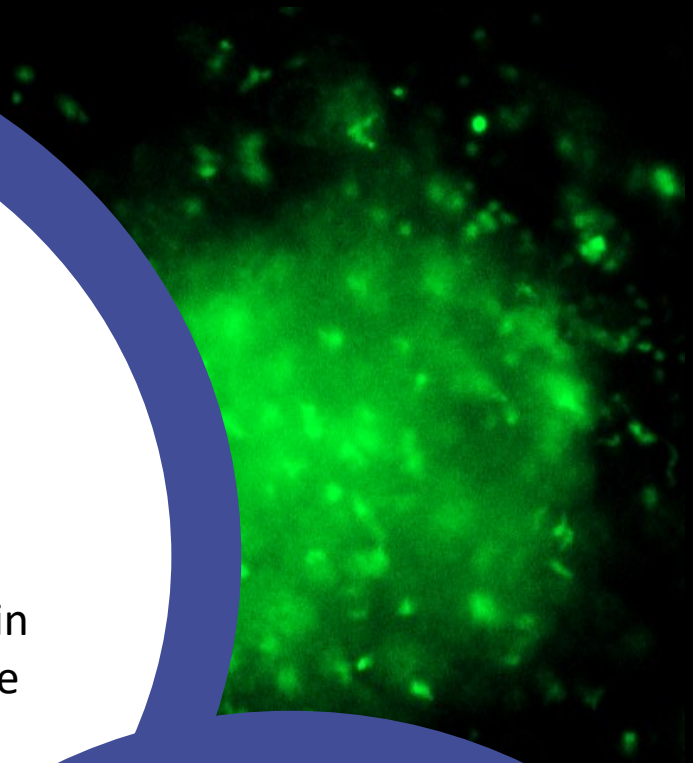
2D cell cultures have been the industry standard since the early 1900s, despite significant limitations. Simply put, 2D cell cultures are not an accurate representation of in vivo tissue because cells do not exist in 2D planes within the human body.

In the last decade 3D cell culture has become an increasingly popular research tool used for modelling cancer. When grown in 3D, tumor cells are no longer restricted to growing within a monolayer, and can begin to adhere to each other and the extracellular matrix, mimicking the native microenvironment from which the cells originated. Gene expression profiles of tumor cells from 3D cultures more accurately reflect clinical expression profiles than those observed in 2D cultures. There is also increased cell-cell and cell-matrix communication, proliferation differences, increased survival rates and relevant pH, nutrient and oxygen gradients.

APRICELL BIOTECHNOLOGY

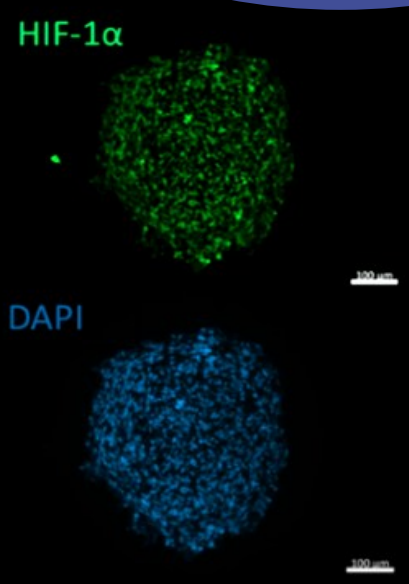
BIO-SCIENCE

HTSphere™ Spheroids are Compatible With Different Assays and Readouts



In Situ IHC Analysis

The HTSphere allows tumor spheroids to be treated directly in the microwell array. The treated microwells can then be embedded in paraffin for IHC analysis without the need for further manipulation.



In-Situ Immunofluorescence Imaging

The HTSphere is a hydrogel-based transparent insert compatible with in-situ immunostaining and fluorescence microscopy. The HTSphere inserts come in standard 96-well plates.

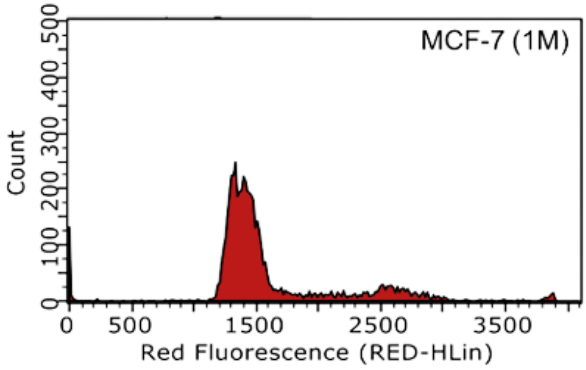
APRICELL BIOTECHNOLOGY

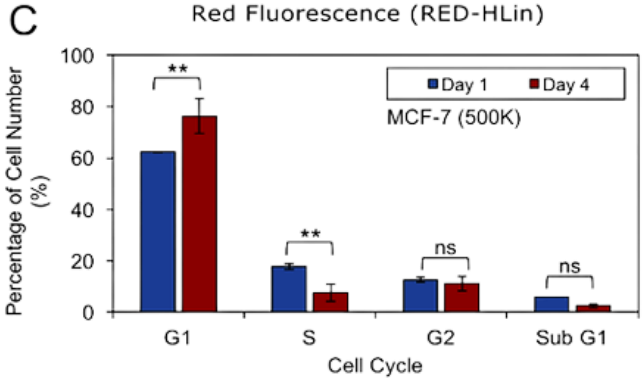
BIO-SCIENCE

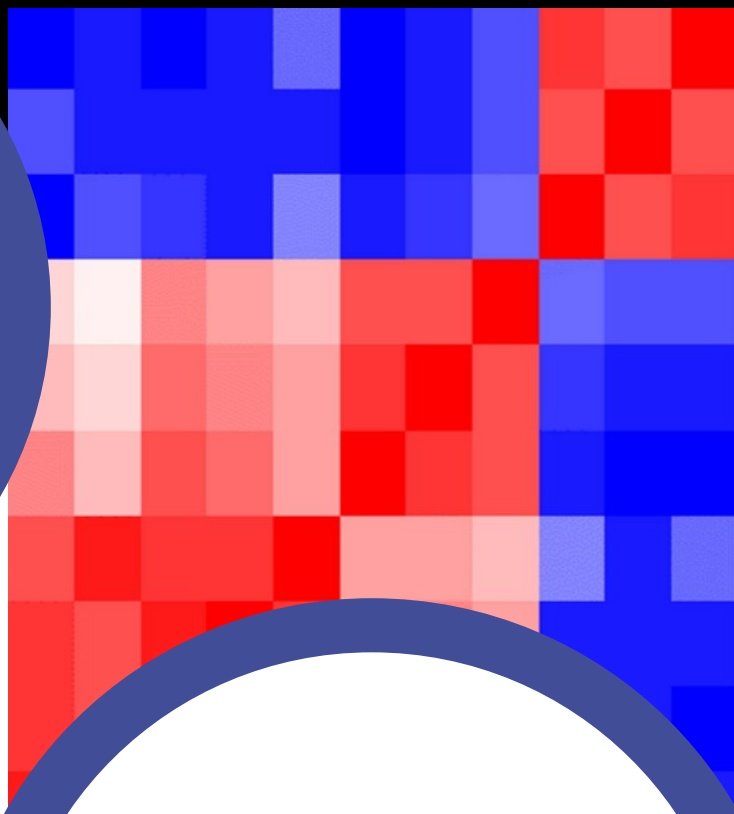
HTSphere™ Spheroids are Compatible With Different Assays and Readouts

Flow Cytometry & Cell Cycle Analysis

Spheroids/organoids in the HTSphere™ insert can be easily dissociated on plate for any downstream cytometry analysis.







OMIC's Analysis

Spheroids/organoids in the HTSphere™ Plate can be easily lysed and used for various OMIC's analysis.

APRICELL BIOTECHNOLOGY

BIO-SCIENCE

Study Design

Material Types

Cell Lines

Stem Cells

Patient-Derived Xenograft Material

Core Needle Biopsy Samples

Biopsy Surgical Resections

APRICELL BIOTECHNOLOGY

BIO-SCIENCE

About Us

Apricell Biotechnology Inc. is dedicated to reducing the attrition rate of new cancer drugs in clinical trials. In collaboration with the University, Apricell has developed a novel organoid-on-a-chip technology that opens up multiple opportunities for researchers and oncologists all the way from basic research and drug testing to advanced patient management.

Bio-Science Kft.
1119 Budapest, Fehérvári út 79.
Tel.: 06-1-619-8321, 06-1-619-8316
Fax: +36 1 799 01 59
e-mail: bio-sci@bio-science.hu
www.bio-science.hu