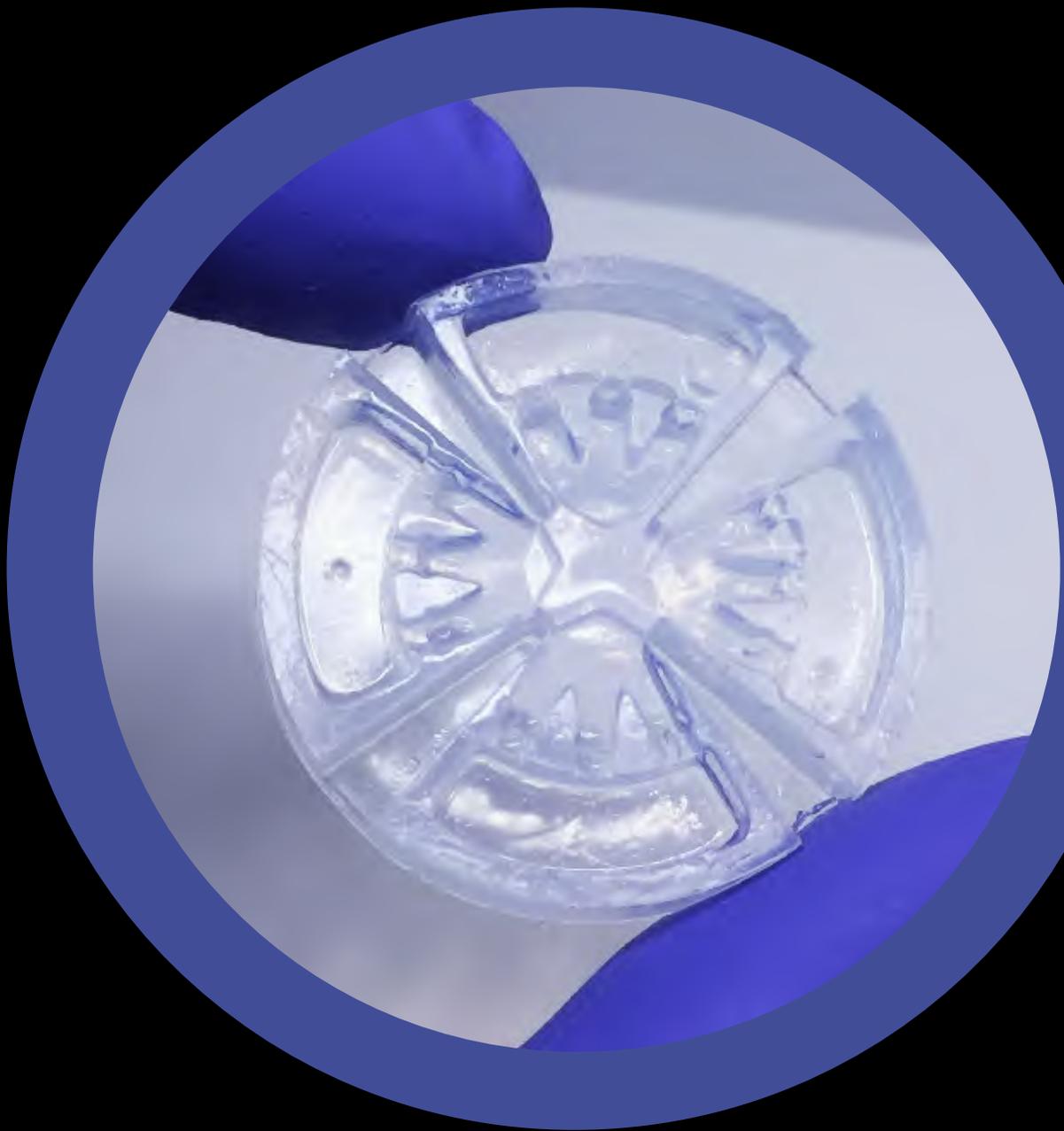


**APRICELL**

BIOTECHNOLOGY



# The 3-in-1

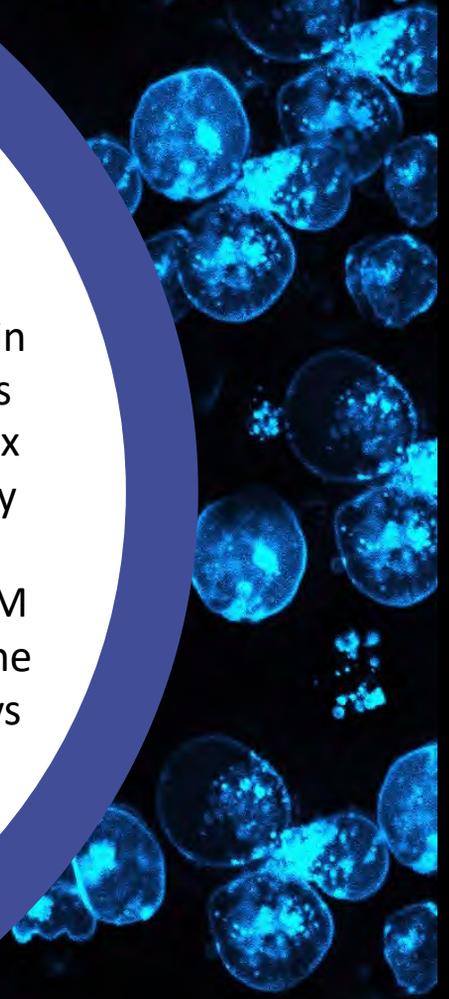
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Spheroid Formation + Microenvironment + Drug Testing

# 3-in-1

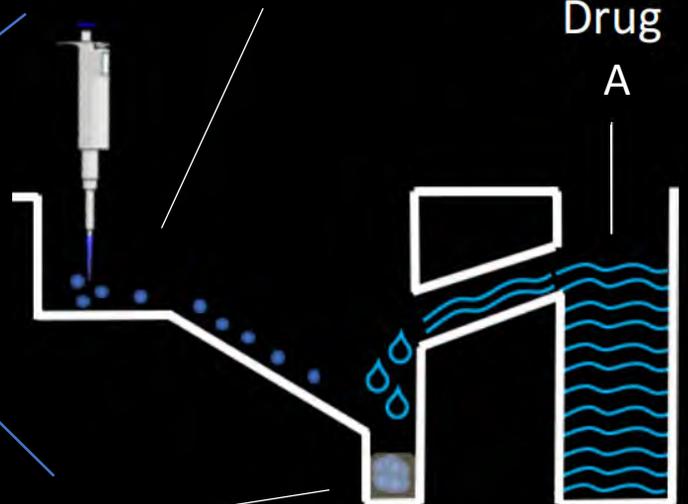
## Hydrogel Insert

The 3-in-1 Plate is a hydrogel insert that fits within each well of a six-well plate. The insert combines spheroid/organoid formation, extracellular matrix (ECM) integration and drug testing all in one easy to use platform. The 3-in-1 Plate is ideal for researchers looking to embed spheroids in an ECM or conduct drug screening on complex models. The insert is also perfectly suited to a variety of assays and standard laboratory imaging equipment.



Cell & ECM Loading Zone

Drug  
A



3D Organoid/Spheroid

# All-in-One Platform

Culture spheroids, embed in an extracellular matrix, test drugs and conduct downstream analysis. All without ever having to transfer the models from one plate to another.

## No Risk of Losing Spheroids

The 3-in-1 Plate enables disturbance free solution exchanges, eliminating the possibility of aspirating spheroids when replacing media.

## In Situ IHC Analysis

Spheroids can be treated and sliced directly within the microwells of the 3-in-1 Plate, preserving the delicate morphology of your models.

## No Crosstalk

Each microwell contains only one spheroid, eliminating the possibility of inter-model crosstalk.

## Effortless Imaging

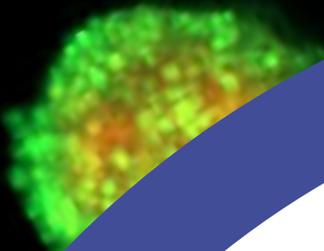
The design and material of the 3-in-1 Plate means you can stain and image spheroids in situ.

## Uniform Models

The geometry of our microwells results in highly uniform spheroids and perfect data consistency.

## Reduced Cell Requirements

Less cells are required to form organoids in the 3-in-1 Plate, eliminating the need for passaging.



# Applications

## Co-Culture

The 3-in-1 Plate allows users to easily create complex in vitro models by co-culturing spheroids with various components of the stroma and immune system.

## Invasion

Study tumor invasion in 3D with the 3-in-1 Plate. After culturing, spheroids can easily be embedded in an ECM without having to remove them from the insert.

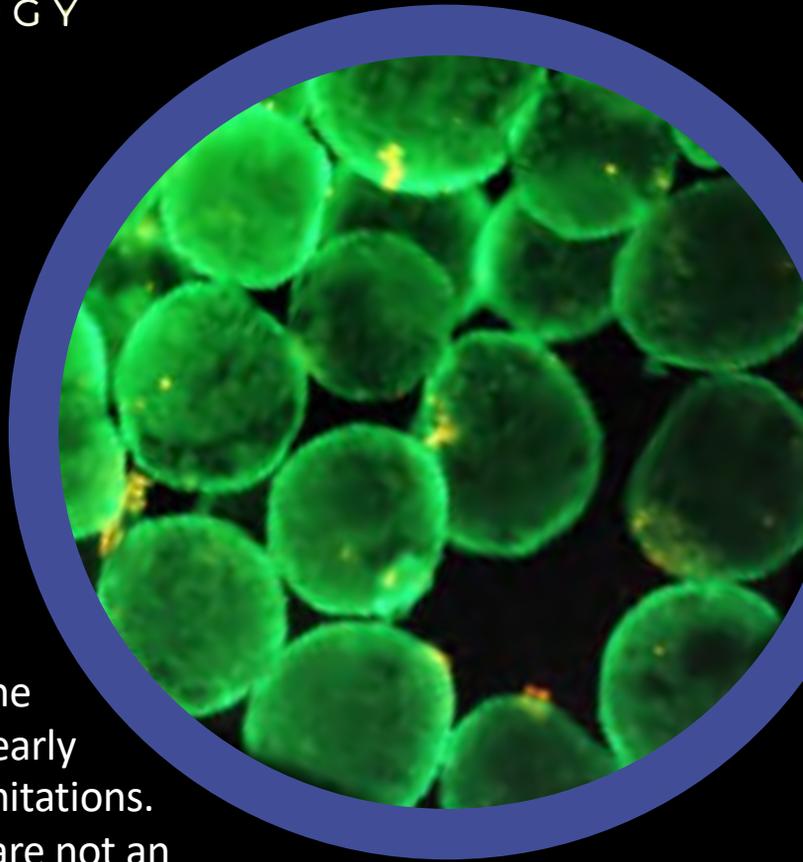
## Drug Screening

The 3-in-1 Plate is perfectly suited for drug screening on complex, ECM integrated models. Each quadrant of the insert can be used to test a different drug.

## Assays + Imaging

Spheroids in the 3-in-1 Plate are amenable to a wide range of assays and compatible with all standard laboratory imaging equipment.

## 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.

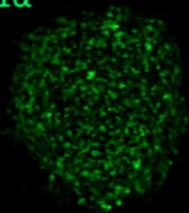
In the last decade 3D cell culture has become an increasingly popular research tool used for modelling cellular systems. When grown in 3D, cells are no longer restricted to growing within a monolayer, and can begin to adhere to each other and the extracellular matrix, mimicking the native microenvironment from which the cells originated. The 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.

## The 3-in-1 Plate is Compatible With Various Assays and Readouts

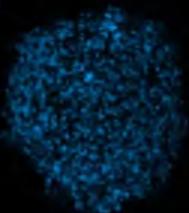
### IHC and H&E Analysis

The 3-in-1 Plate allows spheroids to be treated for IHC and H&E directly in the platform without having to remove them. The platform can then be embedded in paraffin and sliced, without the need for further manipulation.

HIF-1 $\alpha$

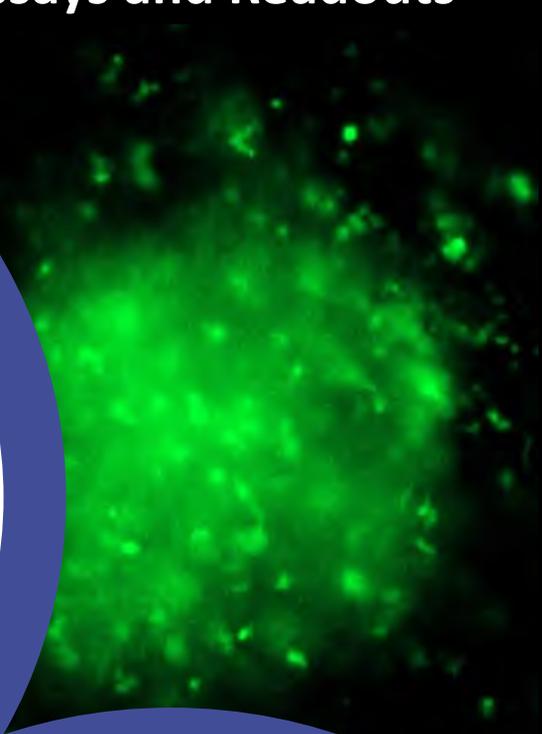


DAPI



### In-Situ Immunofluorescence Imaging

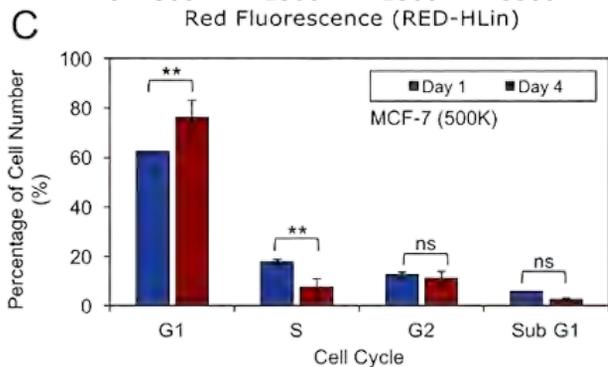
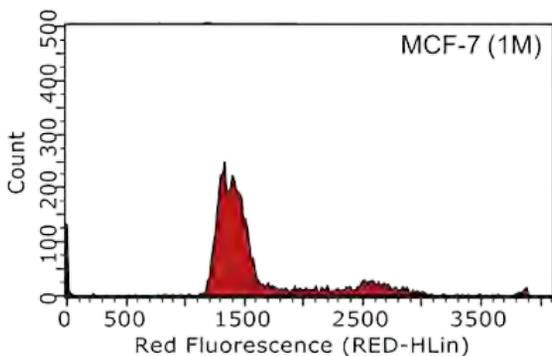
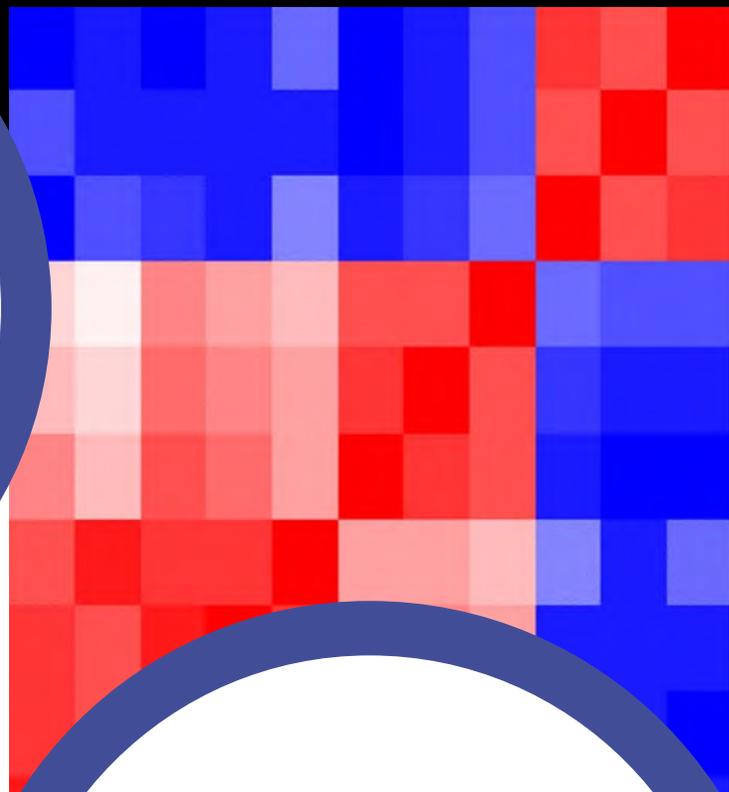
The 3-in-1 Plate is a hydrogel-based transparent insert compatible with in-situ immunostaining and fluorescence microscopy.



### The 3-in-1 Plate is Compatible With Different Assays and Readouts

#### Flow Cytometry & Cell Cycle Analysis

Spheroids in the 3-in-1 insert can be easily dissociated on plate for any downstream cytometry analysis.



#### OMIC's Analysis

Spheroids in the 3-in-1 Plate can be easily lysed and used for various OMIC's analysis.

# Study Design

## Material Types

**Cell Lines**

**Stem Cells**

**Patient-Derived Xenograft  
Material**

**Core Needle Biopsy Samples**

**Biopsy Surgical Resections**

# APRICELL

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## About Us

**Apricell Biotechnology is a company spun out of the University of Victoria dedicated to reducing the attrition rate of new drugs in clinical trials. In collaboration with the University, Apricell is developing novel 3D culture technologies that open opportunities for researchers all the way from basic research and drug testing to advanced patient management.**

## Contact Us

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