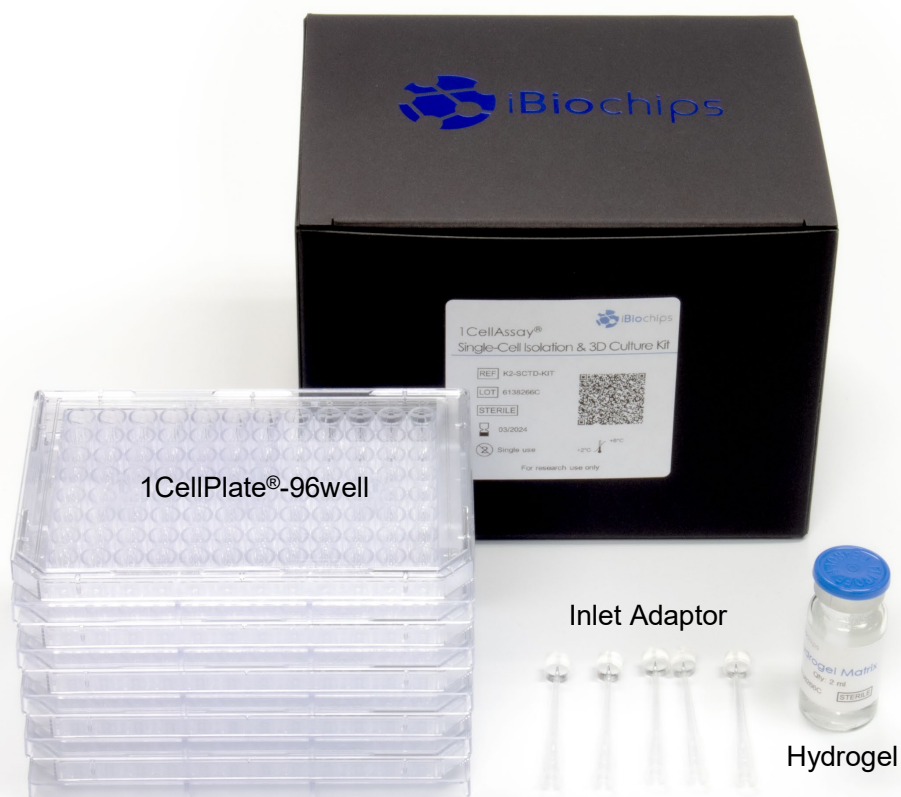


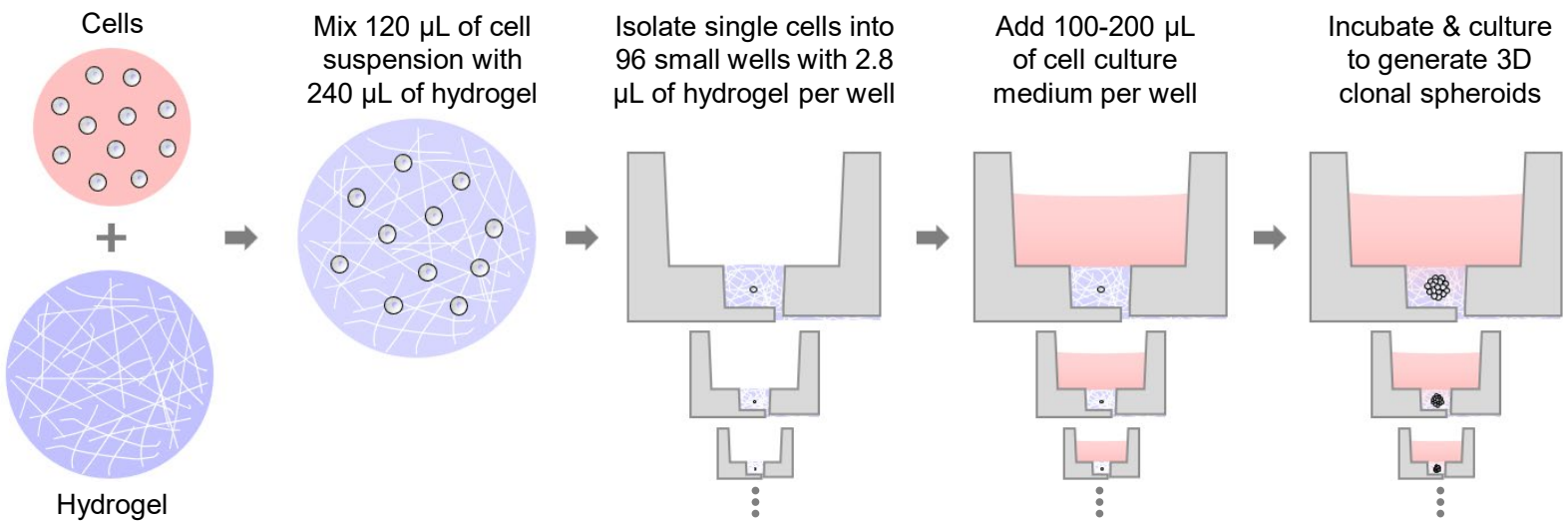
**1CellAssay<sup>®</sup> Ultra-Low Volume Single-Cell Isolation & 3D Culture Kit** provides a complete solution from easy single-cell isolation to efficient 3D cloning in a 2.8  $\mu$ L hydrogel for generating spheroids and organoids.



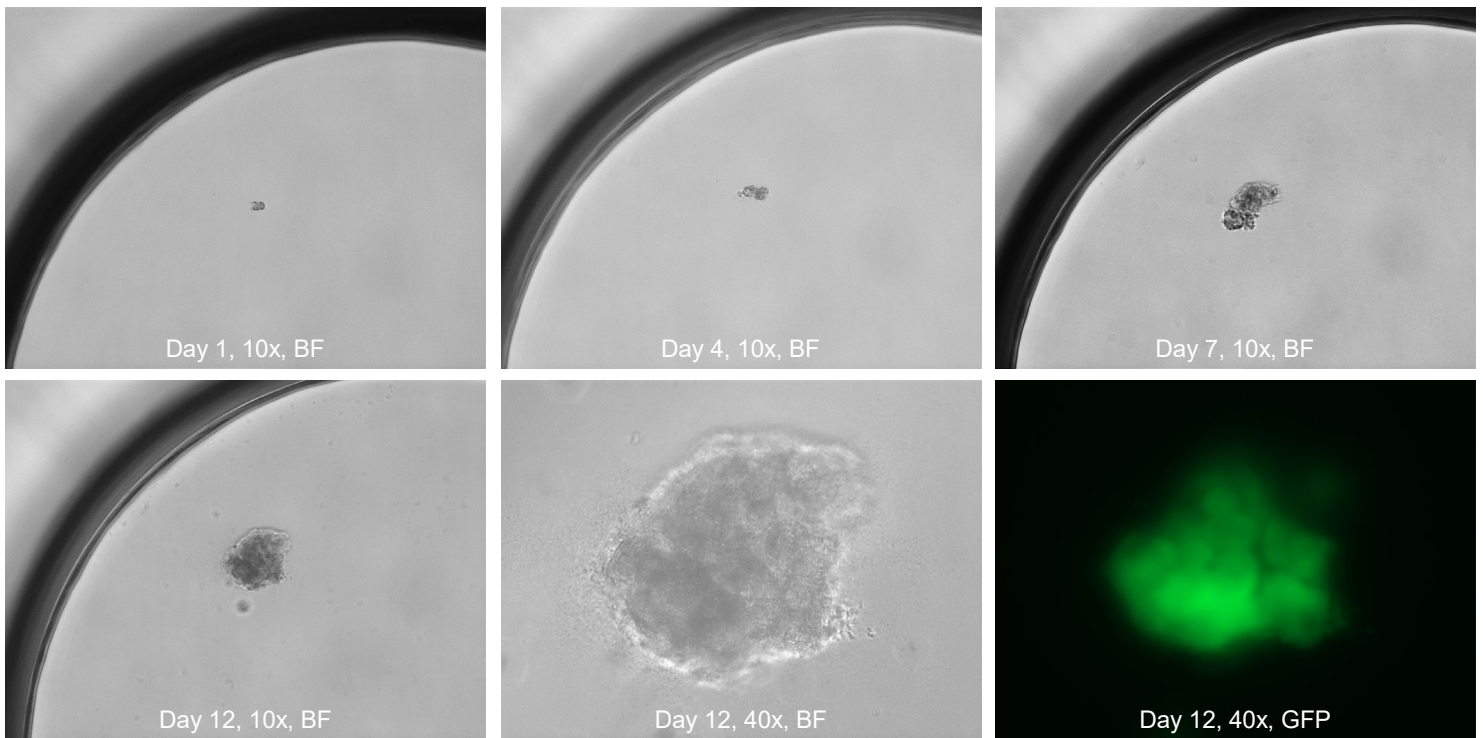
Cat. No. K2-SCTD-KIT

Performance Highlights	1CellAssay <sup>®</sup> 3D Cloning Kit	96-Well Plate-based Method
<b>Anti-Clog &amp; Anti-Contamination</b>	YES, patented 1CellPlate <sup>®</sup> -96well	NO, complex FACS-based system
<b>Easy Single-Cell-Hydrogel Isolation</b>	YES, patented microfluidic channels	NO, labor-intensive limiting dilution
<b>Rapid Single-Cell Identification</b>	YES, in a single field-of-view microscope image	NO, require microscopy image stitching
<b>Stable Hydrogel-Liquid Interface</b>	YES, innovative well-in-well design	NO, easy to disrupt during liquid exchange
<b>Low Hydrogel Consumption</b>	YES, 0.22 mL of hydrogel for 96 wells	NO, 3.2 mL of hydrogel for 96 wells

# Workflow from Single-Cell Isolation to 3D Cell Cloning



## Generation of Single MDA-MB-231/GFP Cell-Derived Spheroid



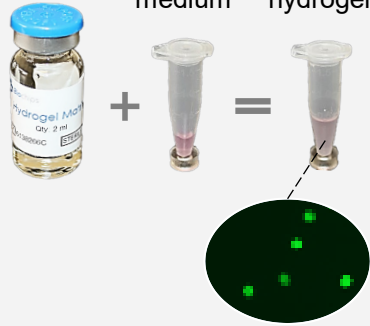
## Kit Components and Description

Components	Description
1CellPlate <sup>®</sup> -96well	5 devices (Standard 96-well plate format; flat polystyrene well bottom; ~ 30 single cells per device)
Inlet Adaptor	5 each (Compatible with 20-200 $\mu\text{L}$ pipette to aliquot liquid from 1 Inlet Port to 32 Outlet Wells)
Hydrogel Matrix	2 mL (Xeno-free, biological functional hydrogel, support a wide range of cell types and applications)

# Easy Single-Cell Isolation by 1CellPlate®-96well

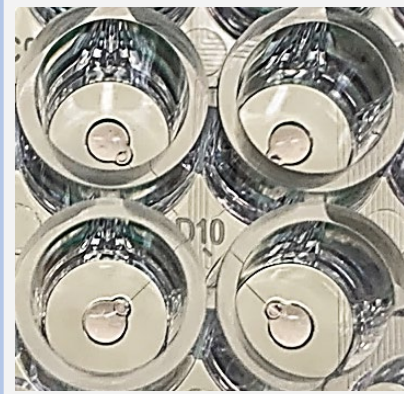
## Mix Cells & Hydrogel

Hydrogel + Cells in medium = Cells in hydrogel



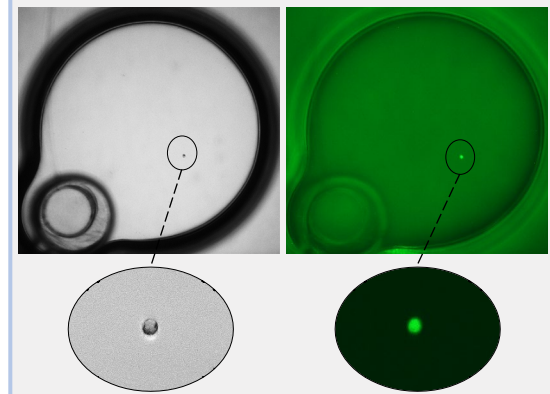
Mix 120  $\mu\text{L}$  of cell suspension (650-900 cells/mL) with 240  $\mu\text{L}$  of the xeno-free hydrogel

## Isolate Single Cells



Aliquot the cell-hydrogel mixture into 96 small wells with 2.8  $\mu\text{L}$  of hydrogel per well in 1 minute

## Identify Single Cells



Identify desired single cells in 2 mm diameter of wells by microscope with bright field or fluorescence imaging

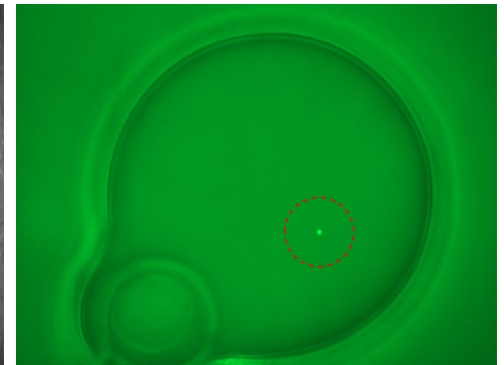
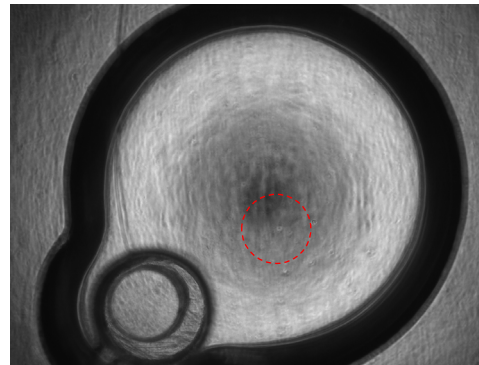
## Convenient Single-Cell Identification in Small Wells

Bright Field

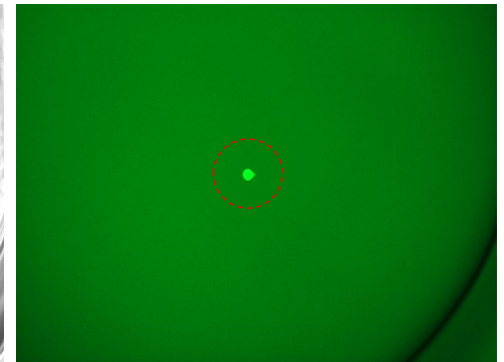
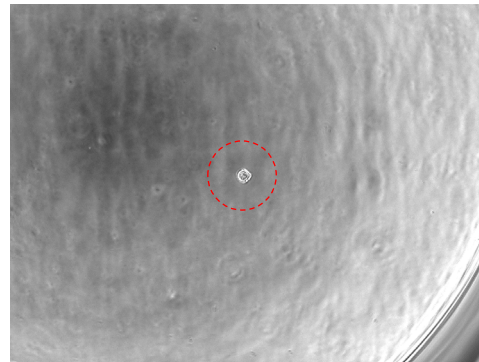
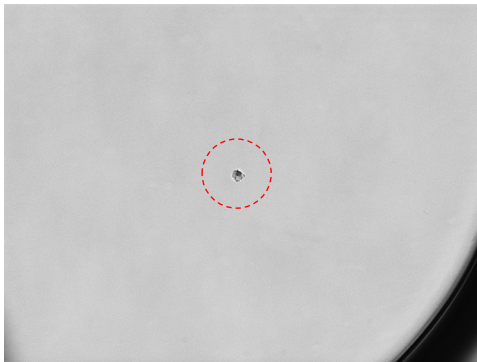
Phase Contrast

Fluorescence

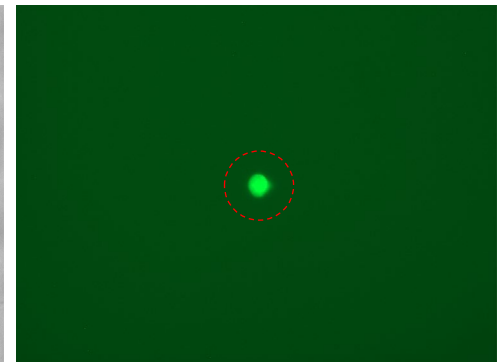
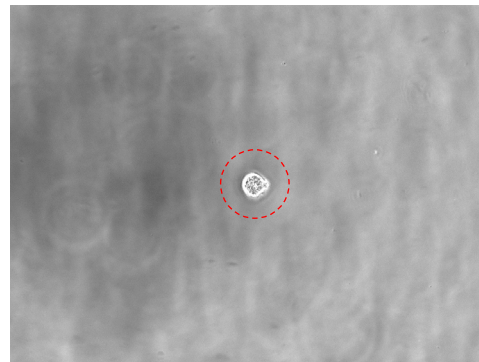
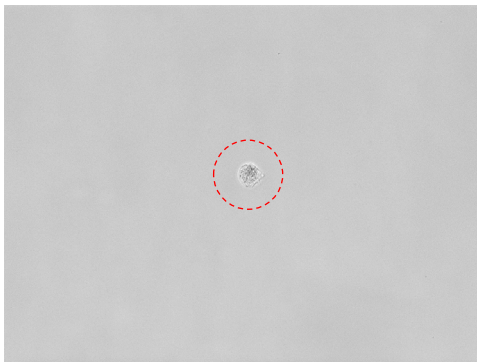
4x



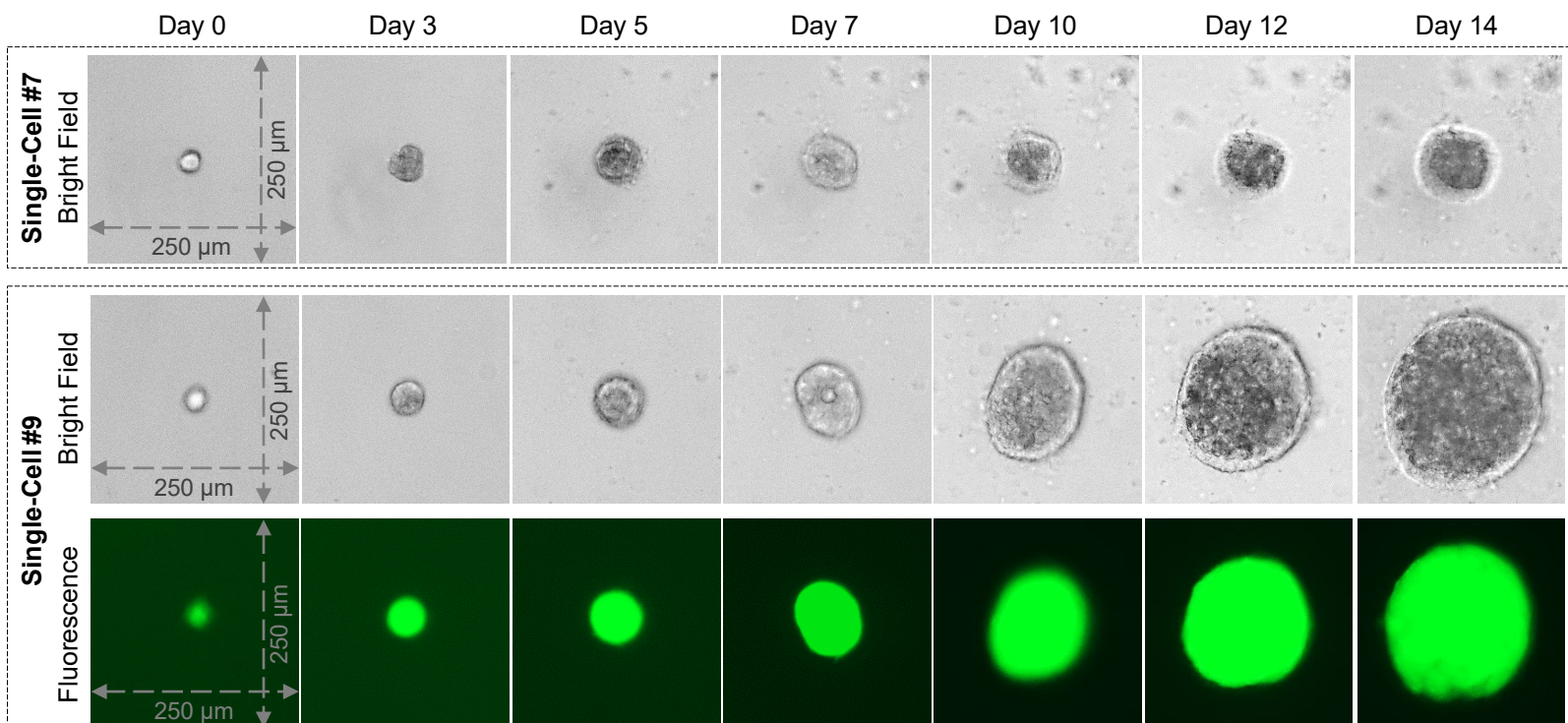
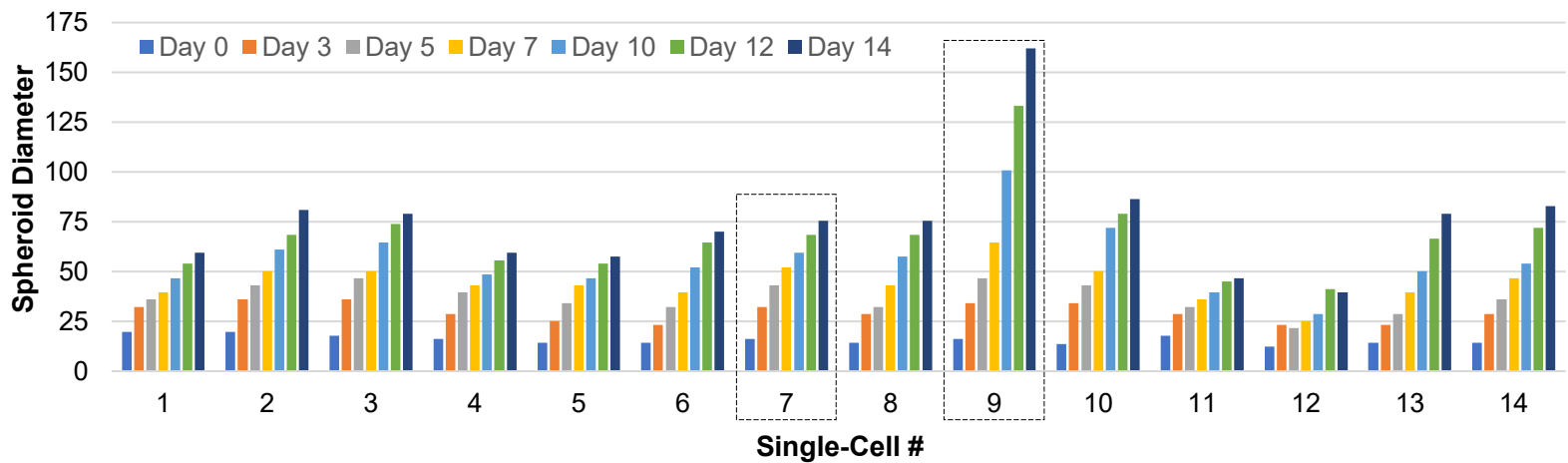
10x



20x



# Growth Tracking of 3D Clonal Spheroids Generation



**Note:** MDA-MB-231/GFP breast cancer cells are individually isolated for 3D clonal cell culture.

## Features and Applications

### Features

- ✓ Easy operation by regular pipette in a sterile hood
- ✓ Gentle flow keeps high single-cell viability & integrity
- ✓ Compatible with cell size  $\leq 80 \mu\text{m}$  and numbers  $\leq 100$
- ✓ Isolate  $\sim 30$  single cells in one 1CellPlate<sup>®</sup>-96well
- ✓ No liquid backflow or cross-talk between wells
- ✓ No special equipment or operation skills are required

### Applications

- ✓ Single-cell isolation from cancer cells, stem cells, CRISPR-edited cells, and primary cells
- ✓ Single-cell 3D clonal culture in a small volume of xeno-free hydrogel
- ✓ Generation of clonal spheroids and organoids for drug toxicity testing and screening