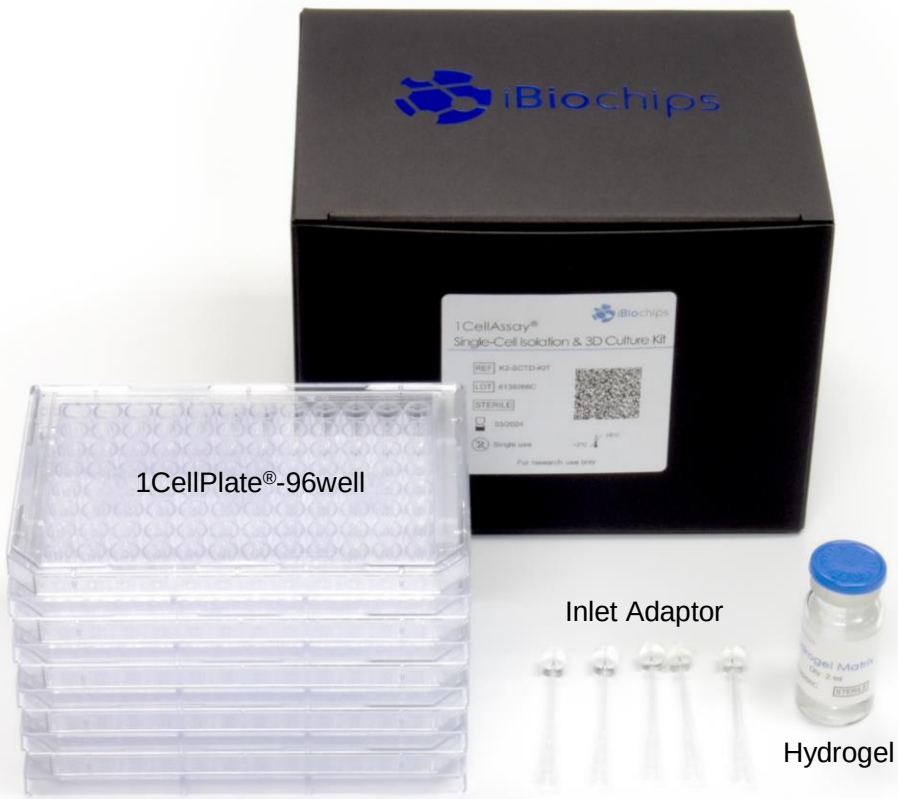
1CellAssay®
Single-Cell Isolation & 3D Culture Kit

1CellAssay® Single-Cell Isolation & 3D Culture Kit provides a complete solution from easy single-cell isolation by 1CellPlate®-96well to efficient 3D cell cloning in hydrogel for generating various spheroids and organoids.



Cat. No. K2-SCTD-KIT

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

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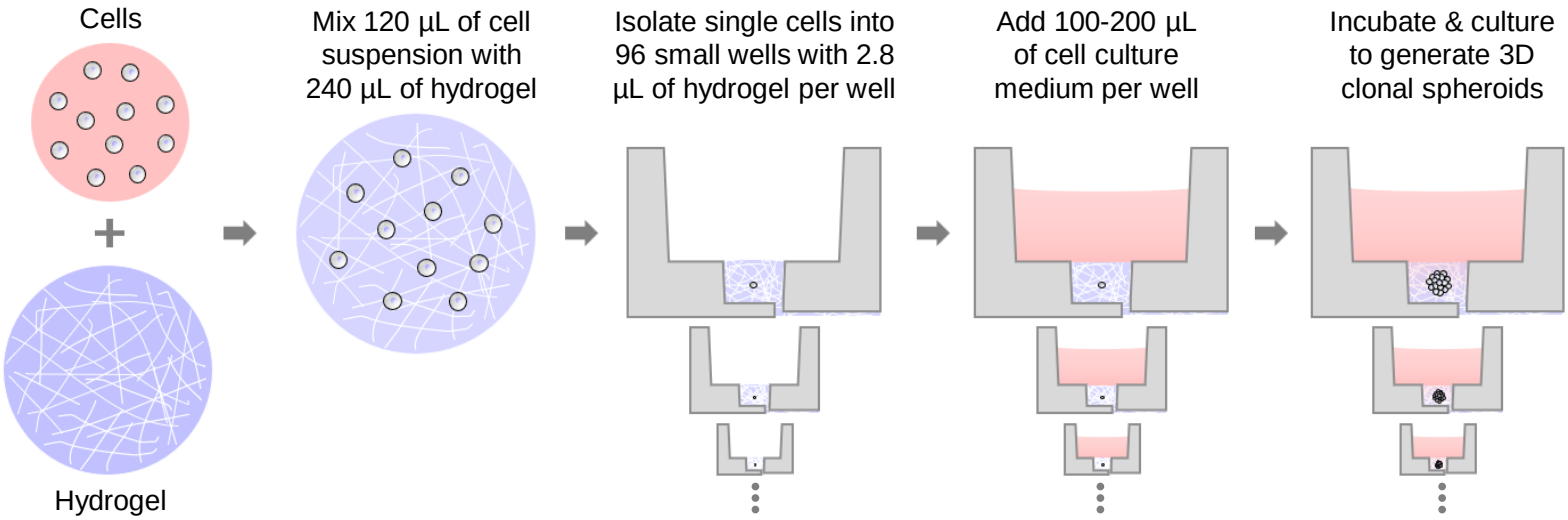
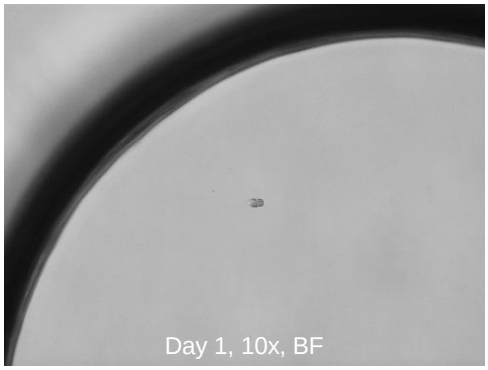
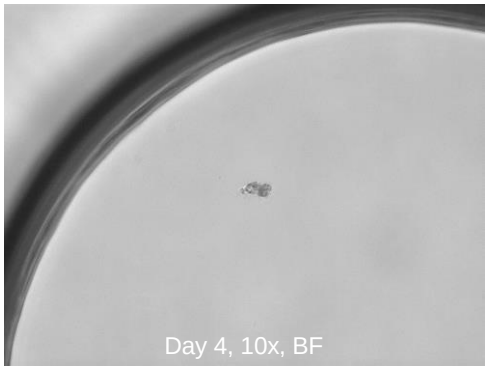
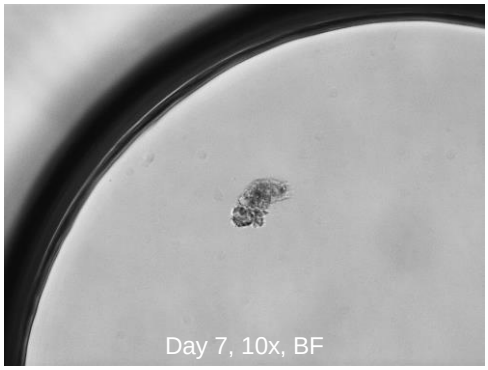
Workflow from Single-Cell Isolation to 3D Cell Cloning

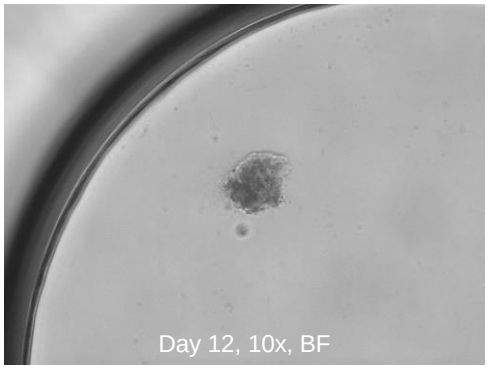


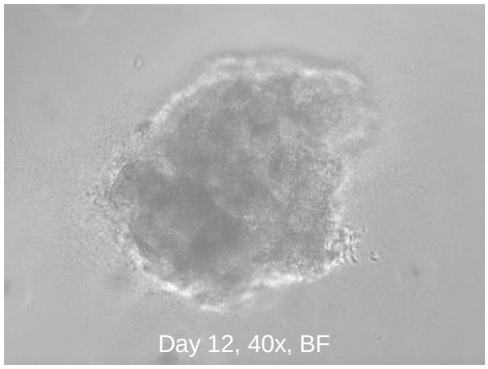
Generation of Single MDA-MB-231/GFP Cell-Derived Spheroid

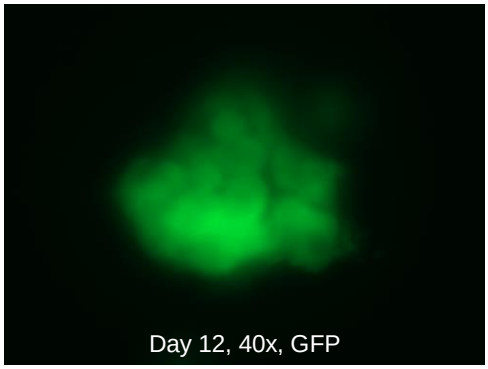












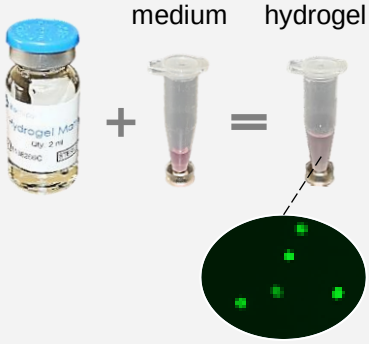
Kit Components and Description

Components	Description
1CellPlate®-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 µL 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

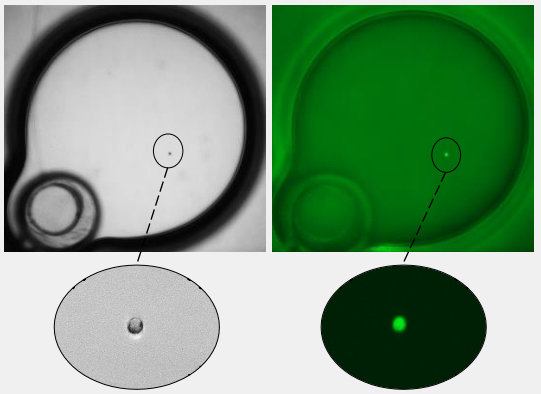


Mix 120 µL of cell suspension (650-900 cells/mL) with 240 µL of the xeno-free hydrogel

Isolate Single Cells

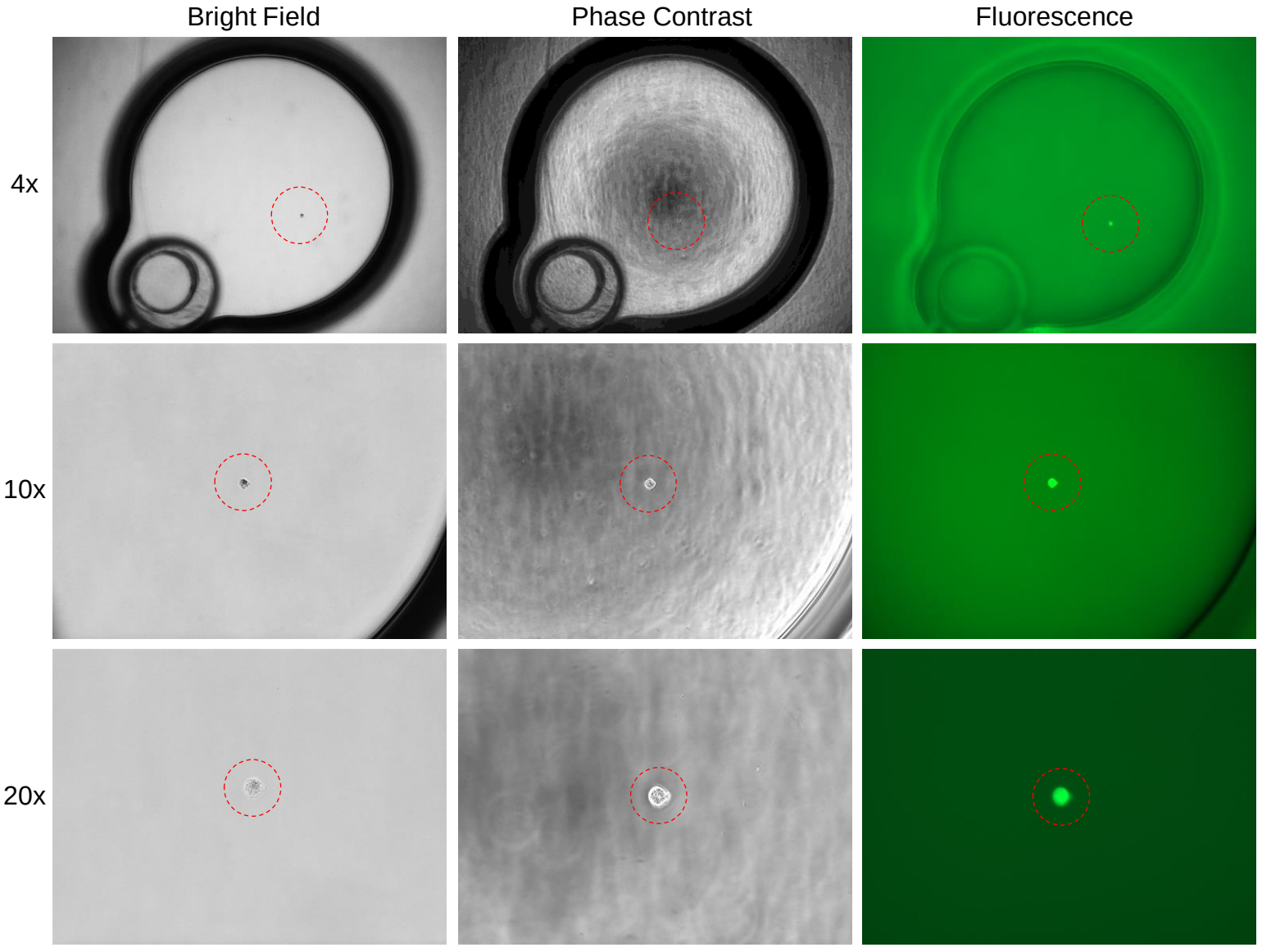
Aliquot the cell-hydrogel mixture into 96 small wells with 2.8 µL of hydrogel per well in 1 minute

Identify Single Cells

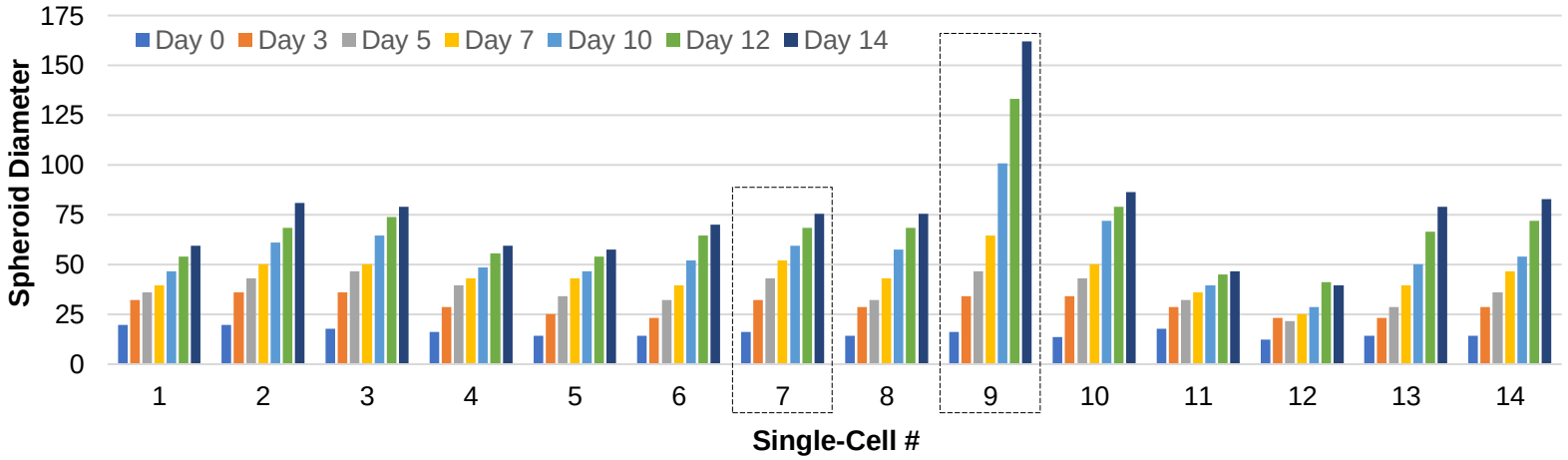


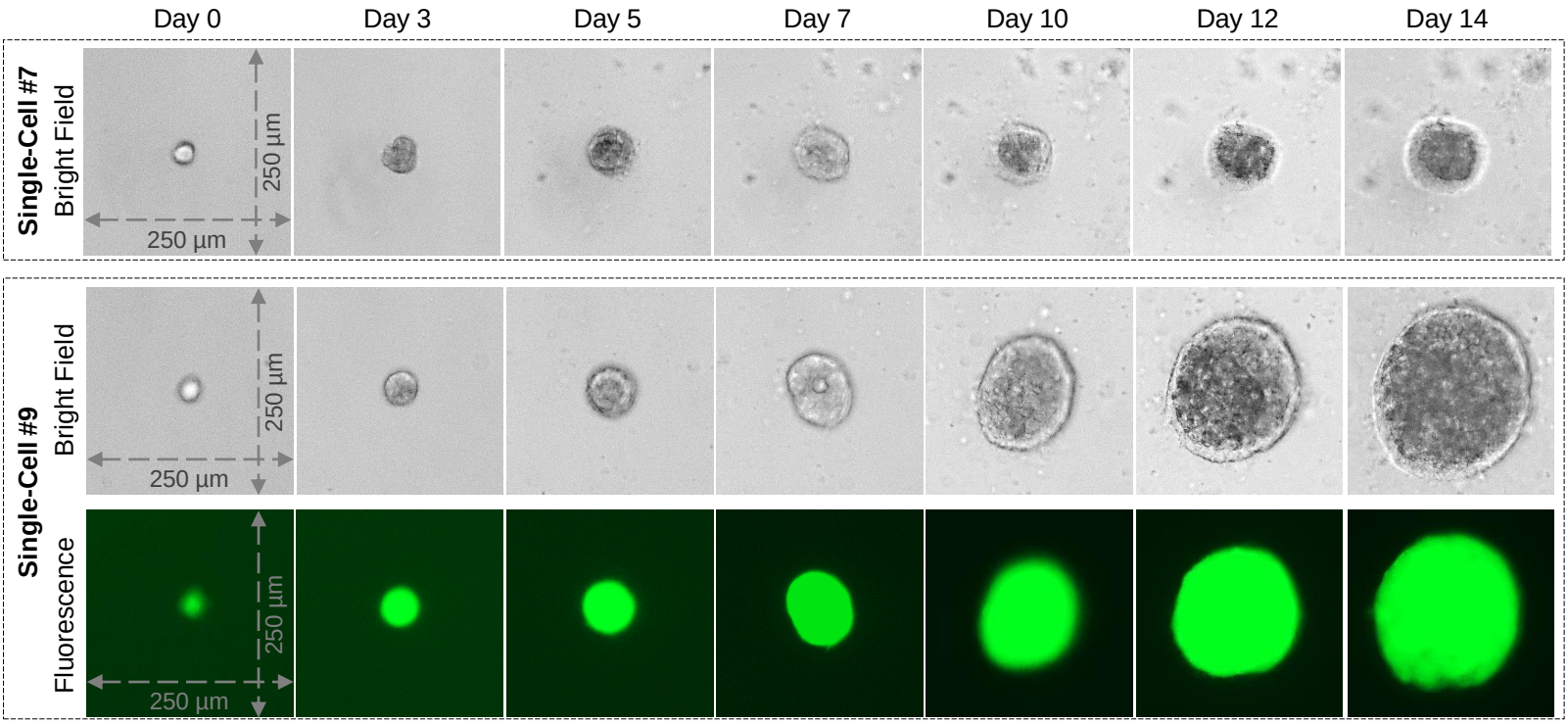
Identify desired single cells in 2 mm diameter of wells by microscope with bright field or fluorescence imaging

Convenient Single-Cell Identification in Small Wells



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 ≤ 80 µm and numbers ≤ 100
- ✓ Isolate ~ 30 single cells in one 1CellPlate®-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