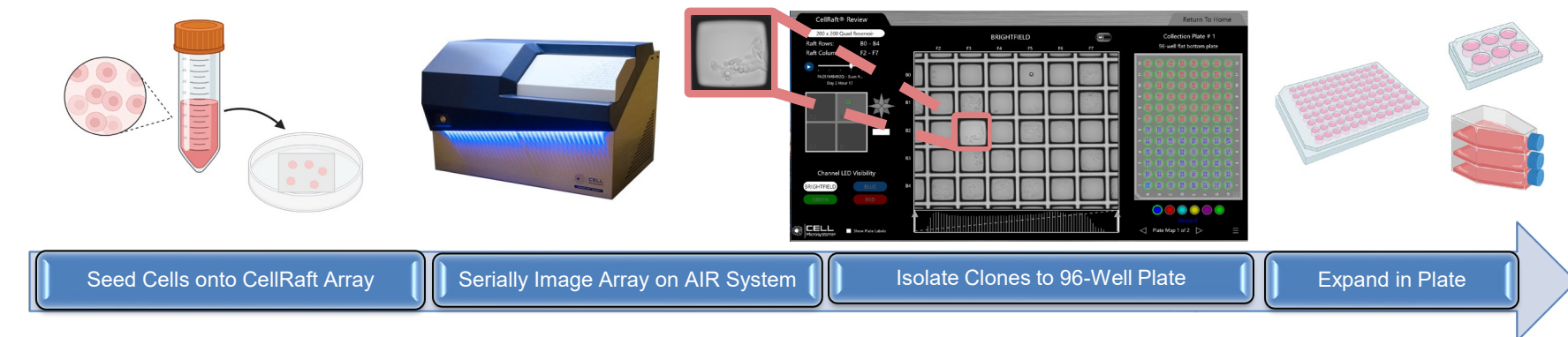


Key Questions

- How can I **reduce** the time to create a cell bank?
- What is the **quickest** way to get **single cell colonies**?
- What is the **best** way to **isolate** colonies?
- How can I **increase** the **viability** of **monoclonal colonies**?
- How can I do get **image-based proof of monoclonality**?

CellRaft AIR® Workflow



Easily Track-and-Trace Monoclonal Colony Growth on the CellRaft® Array

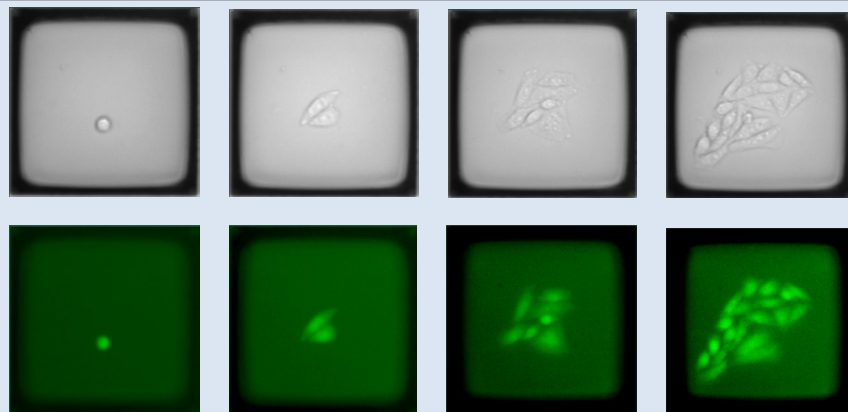


Figure 1: Monoclonal Expansion of a Single GFP+ CHOK1 Cell on a CellRaft. Single cells were serially imaged on the CellRaft AIR System daily. Monoclonal colonies were identified using CellRaft Cytometry until ready for isolation into a 96-well collection plate.

The CellRaft Array Improves Formation of Colonies from Single Cells

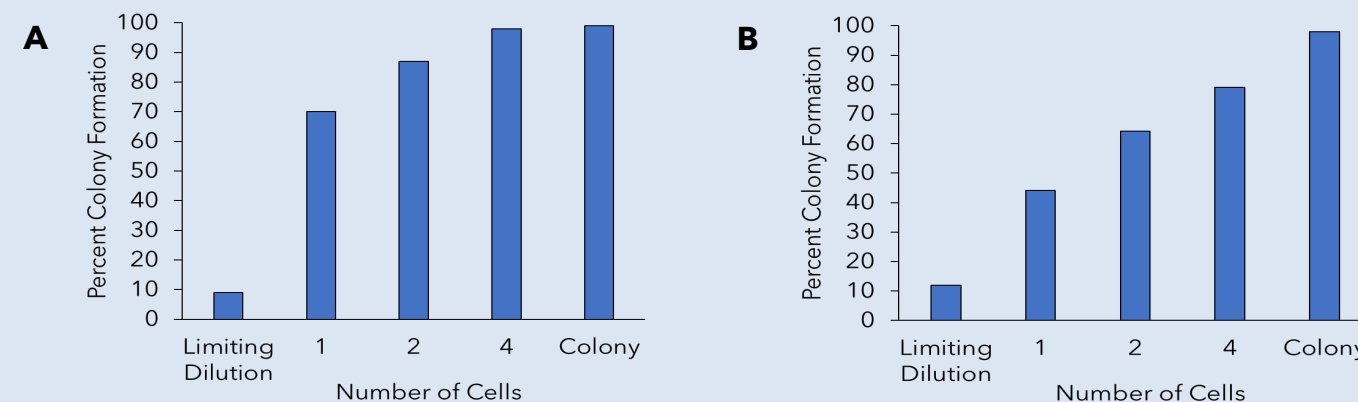


Figure 3: Colony Formation of Single Cells on the CellRaft Array vs Limiting Dilution. CellRafts containing different number of cells were isolated, and the percentage of wells with viable colonies was calculated compared to the number of wells with a single colony in limiting dilution A) CHOK1 cells demonstrate clonal outgrowth even from a single cell. B) Isolation of 293T cells at the colony stage dramatically improves outgrowth.

Rapid Growth of Monoclonal Colonies after CellRaft Isolation

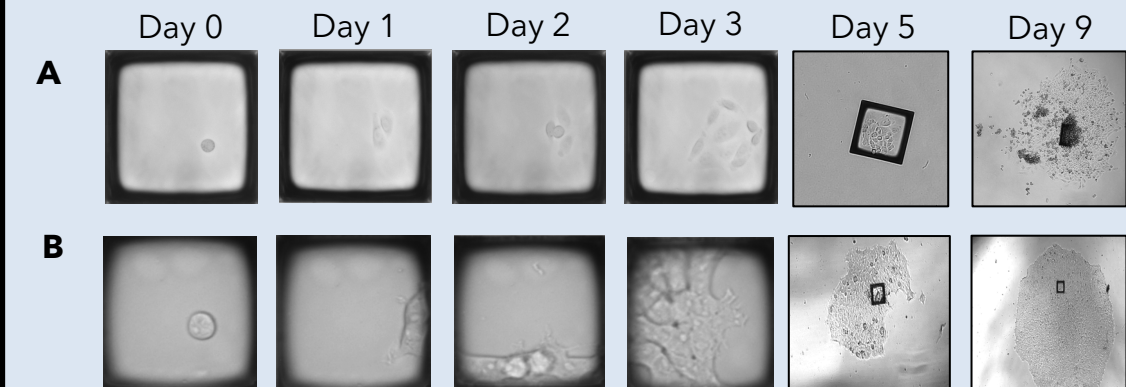


Figure 5: Colony Outgrowth from Isolated CellRafts. Colony expansion off-raft was imaged on a bench microscope 7-10 days post-isolation. Colony formation for various cell lines: A) CHOK1 cells on 200uM CellRaft Array B) 293T on 100uM array. Cells grow off raft without enzymatic or physical dissociation and can be passaged per standard protocols once colonies reach a sufficient size.

CellRaft Cytometry™ Identifies CellRafts Containing Clones

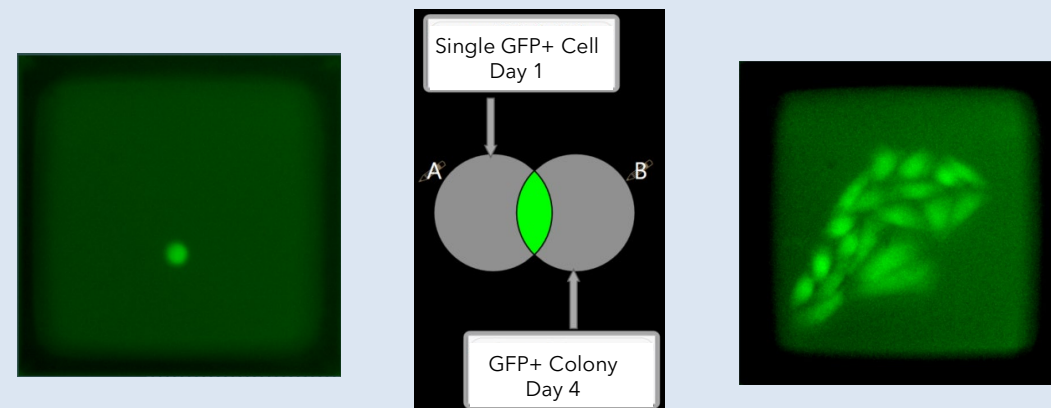
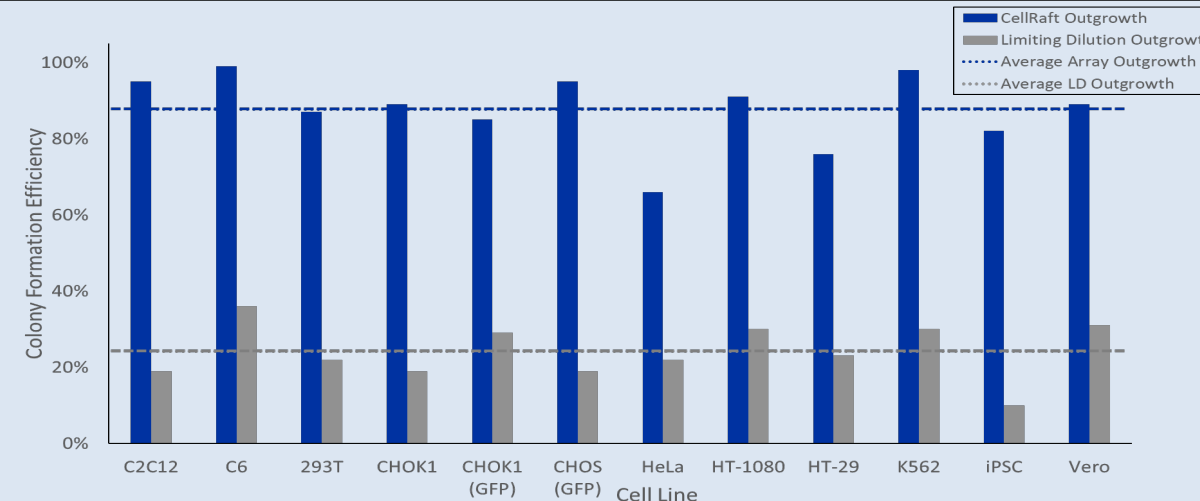


Figure 2: Identification of GFP+ Monoclonal Colonies Using CellRaft Cytometry™. Two population sets, fluorescent single cells on day 1 and confluent colonies on day 4, are intersected to identify CellRafts containing monoclonal colonies.

4X Improvement in Colony Formation on the CellRaft Array Compared to Limiting Dilution

Figure 4: CellRaft Array Improves Colony Growth Compared to Limiting Dilution. Isolated single cell colonies from CellRafts had a mean colony formation efficiency of **88%** in comparison to Limiting Dilution which had 24% colony growth.



Highlights

- Limiting dilution is costly, labor-intensive, and time-consuming for often feeble outcomes.
- The most **efficient** and **effective** method to obtain single cell colonies is to create an easily accessible microenvironment with flask-like conditions.
- The **CellRaft Array** features microwell segregation and shared media to enhance single cell colony formation.
- With the **CellRaft AIR System**, image, isolate and retrieve fully validated, intact clones.
- From HEKs to iPSCs, more than **100 cell lines** have been tested with **CellRaft Technology**.