

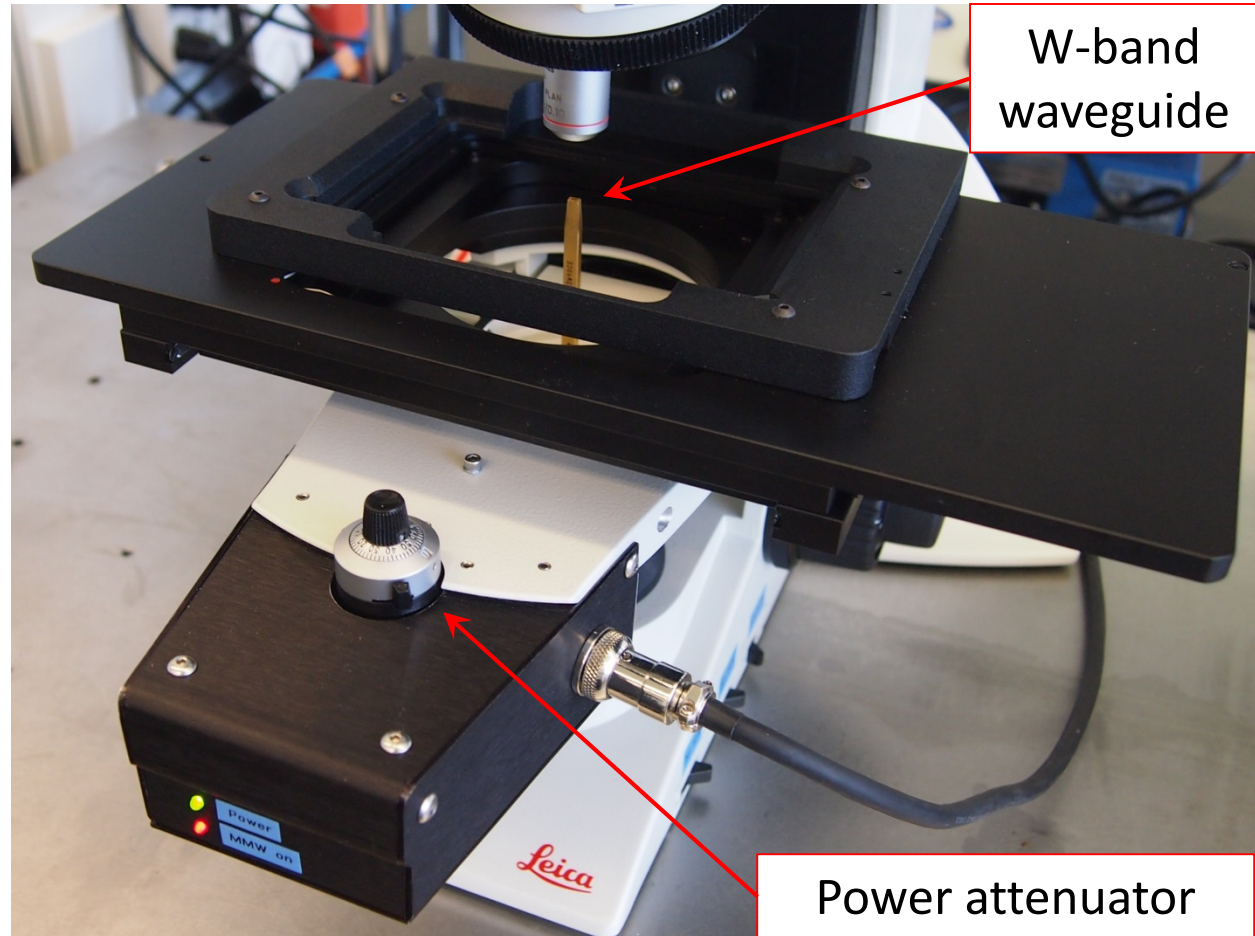
CellEraser™

- Compact microscope attachment for selective elimination of unwanted cells within adherent cell cultures
- Targets the unwanted cells with millimeter waves (MMW) in order to kill them by overheating
- Rapidly (1-2 s) heats a cell culture area of $\sim 500\text{ }\mu\text{m}$ in diameter using a low-power W-band (94 GHz) MMW source

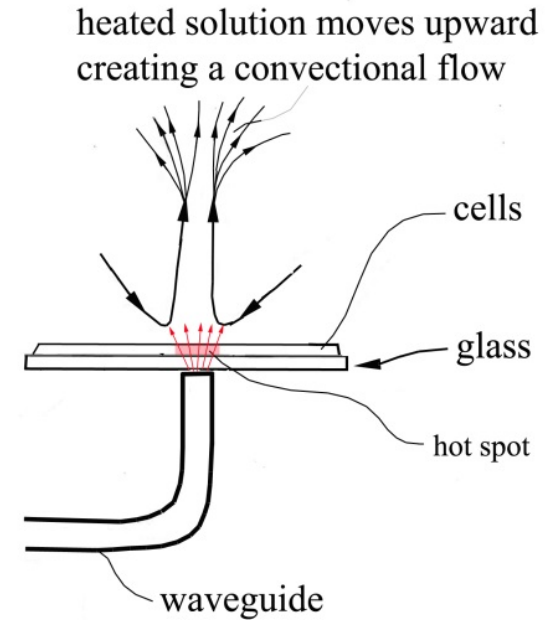
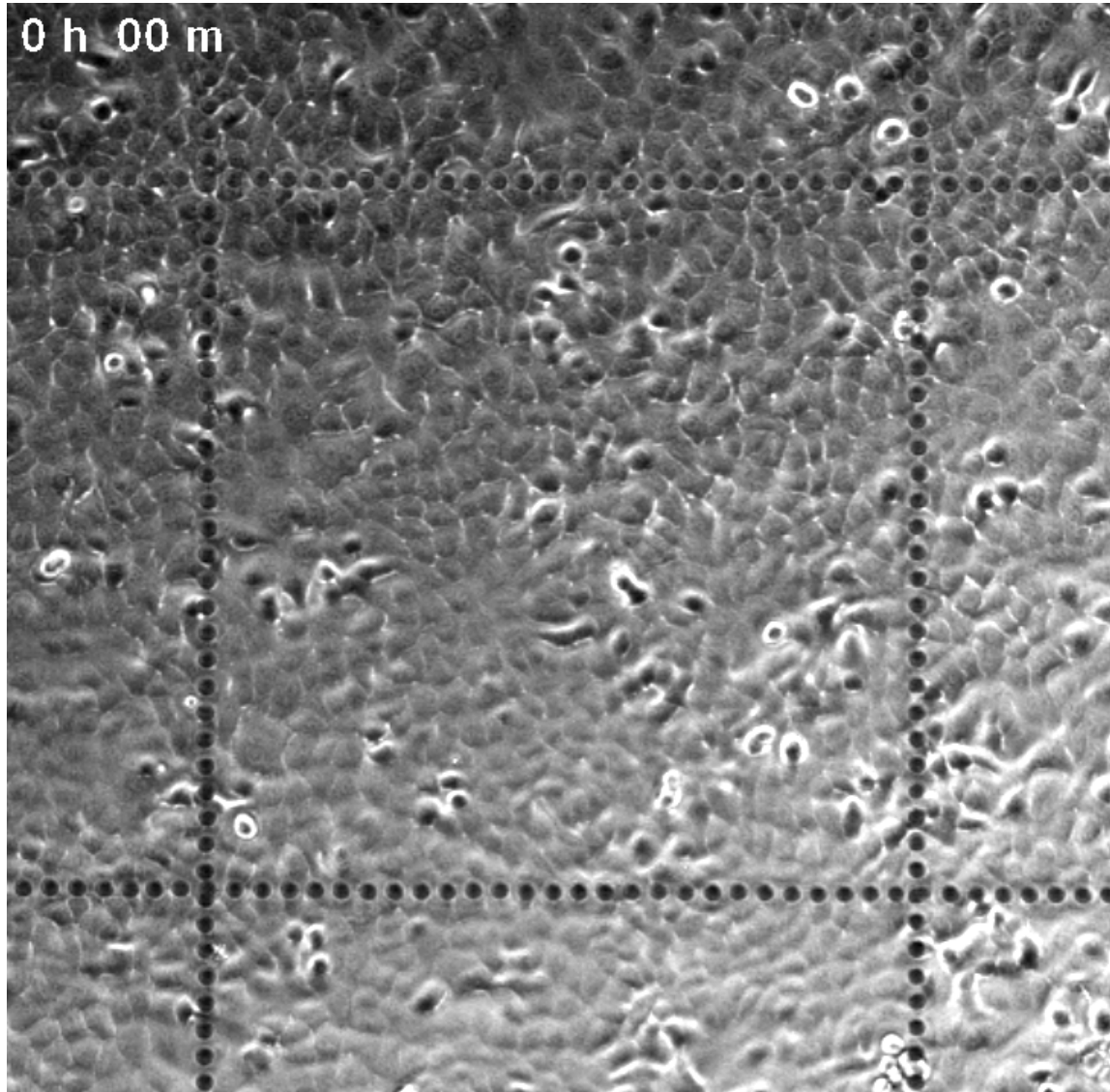


Upright microscope version
of the instrument on a
Leica DM2700

Inverted microscope version is also available

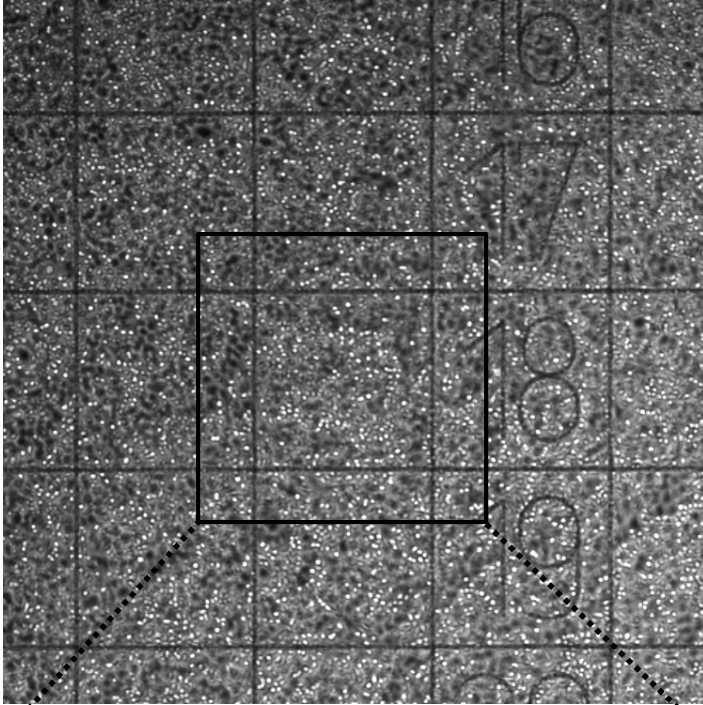


Local MMW heating to 50°C for 2 sec of a confluent A549 cell culture
with washout 2 hours later
10x objective, ibidi 8-well slide with 500 μm grid

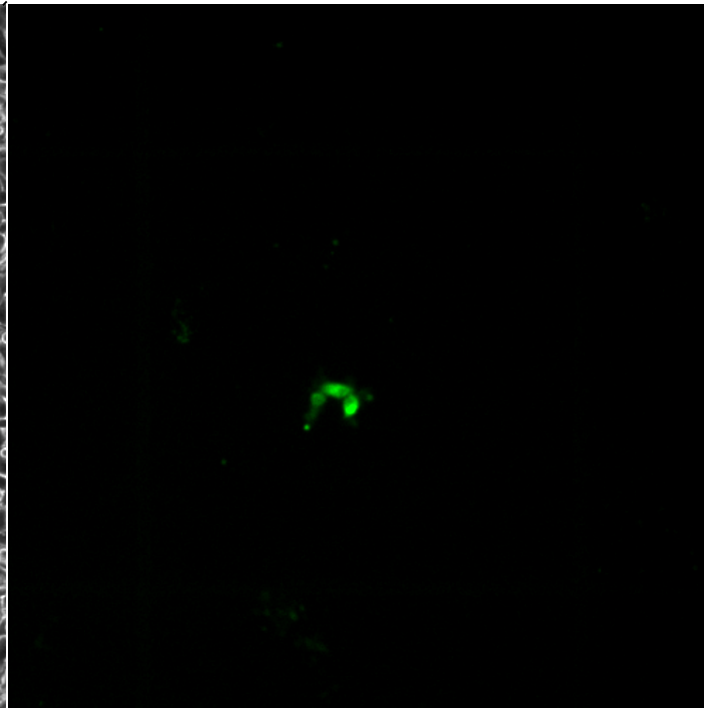
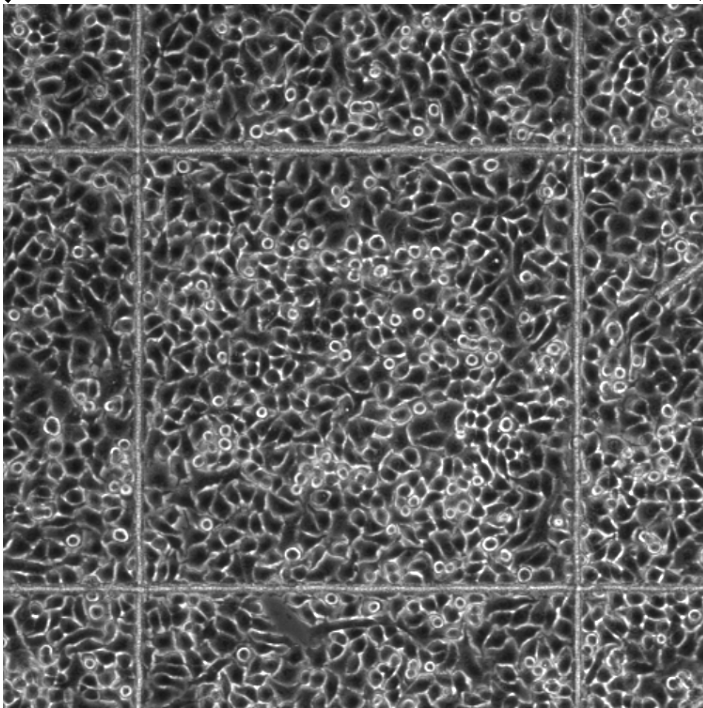


Isolation of GFP-expressing cells (A549):
before MMW heating

4x

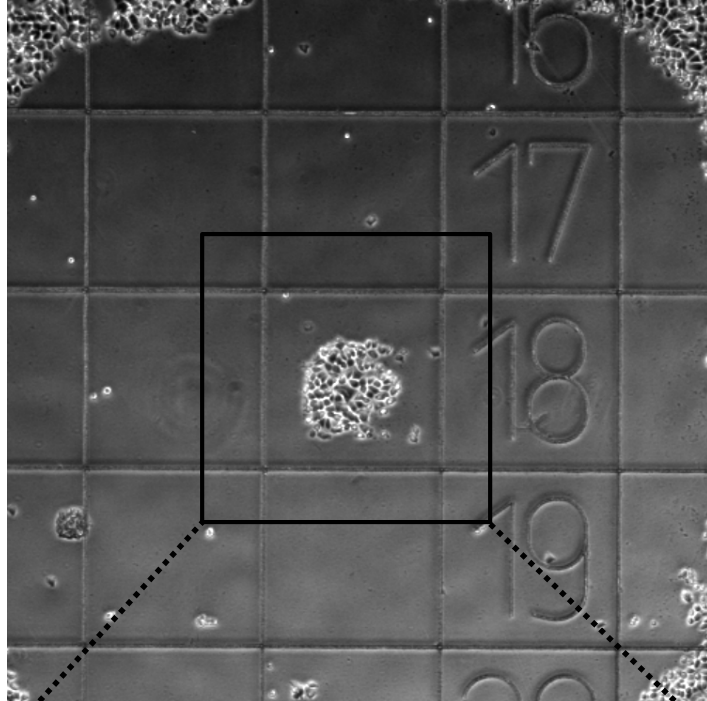


10x

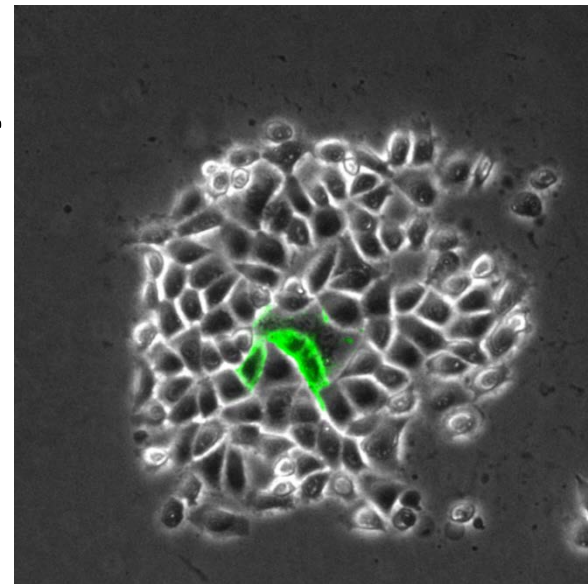


Isolation of GFP-expressing cells (A549):
after MMW heating and washout 1 hour later

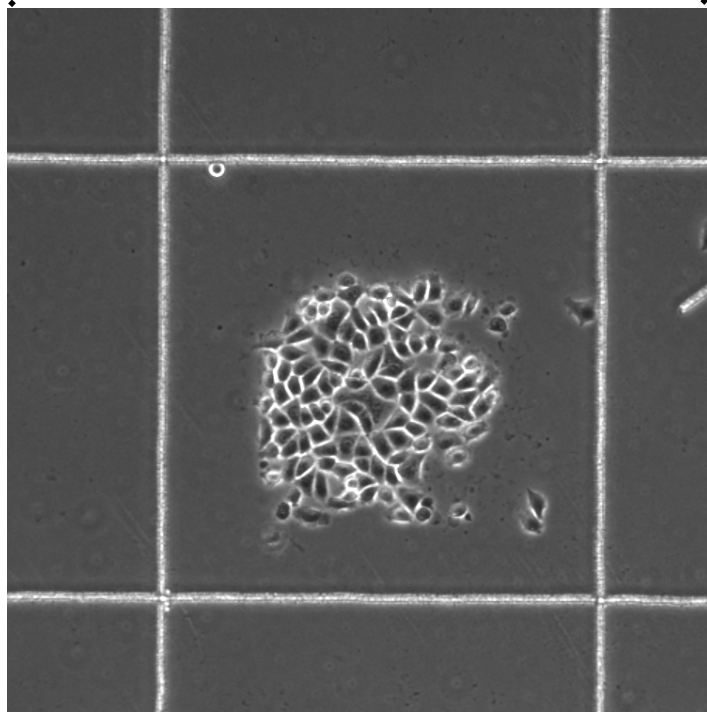
4x



20x overlay

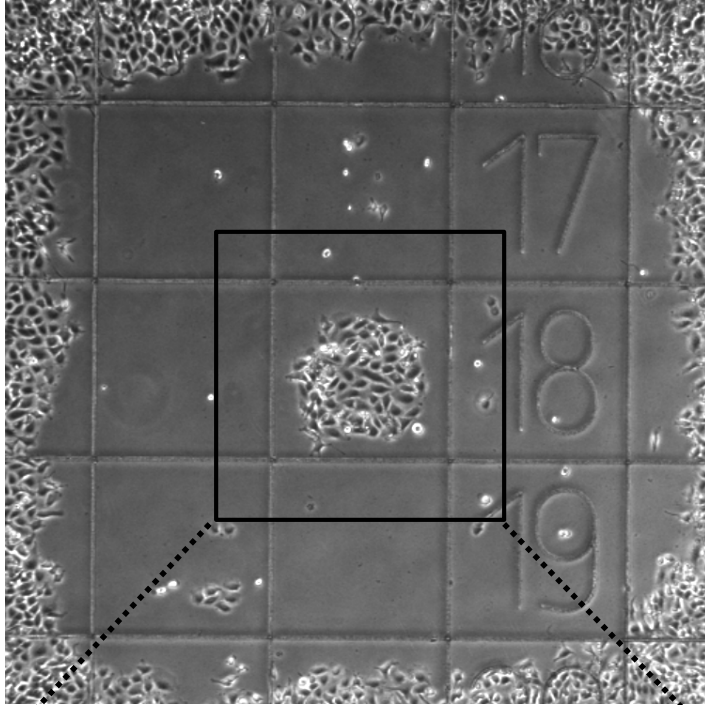


10x

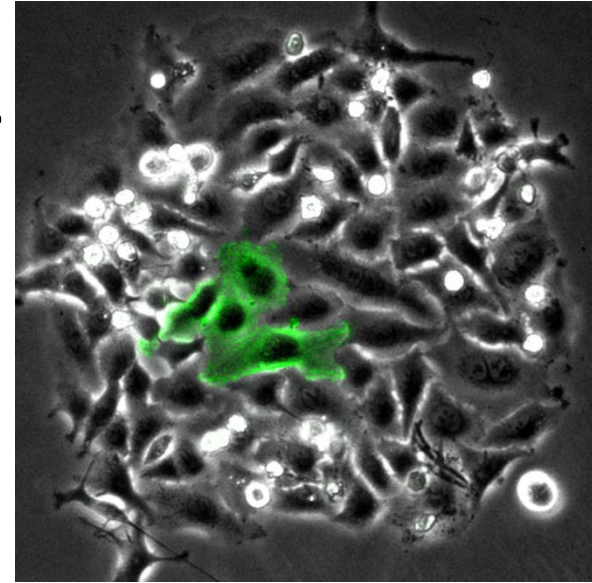


Isolation of GFP-expressing cells (A549):
next day after MMW heating

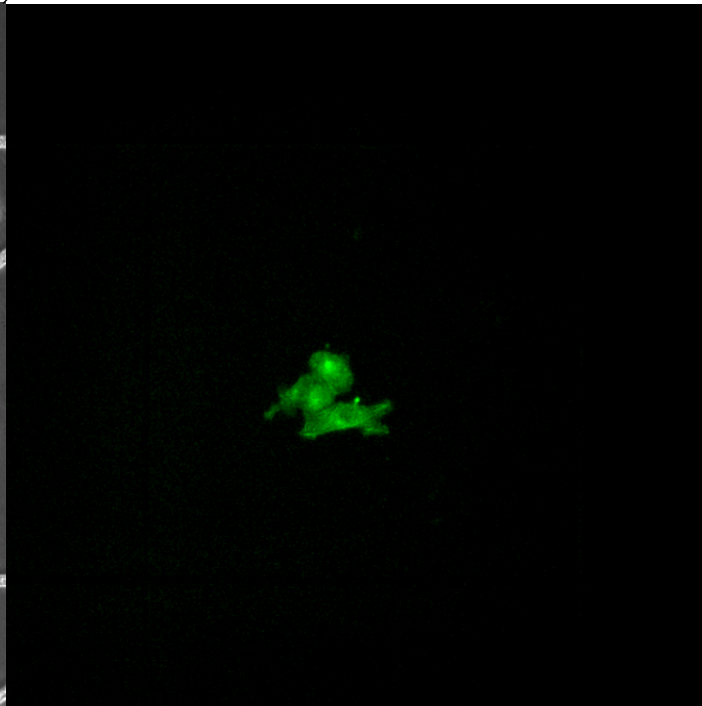
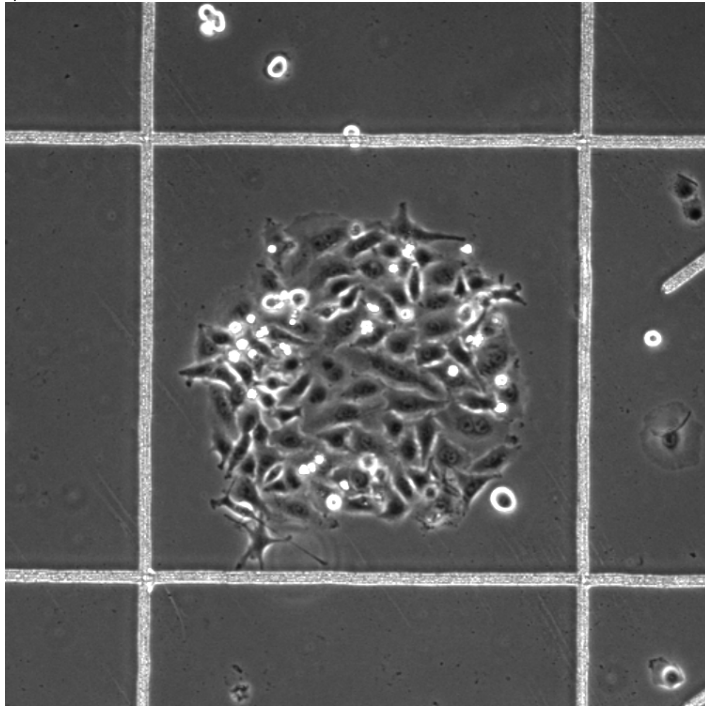
4x



20x overlay



10x



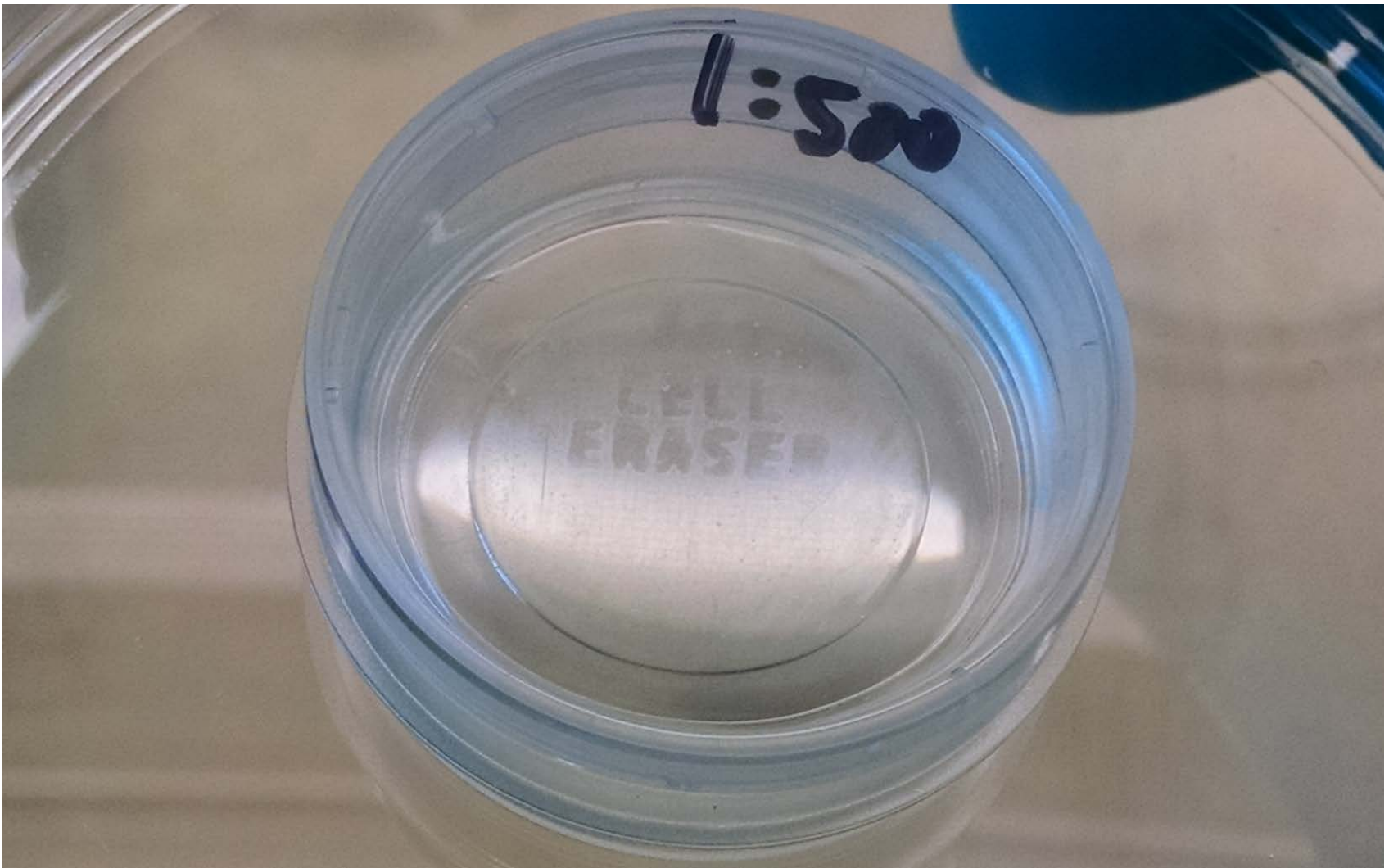
Ready for the
next round of
“erasing”

CellEraser's key features:

- Allows elimination of unwanted cells in the cell culture while it is propagating
- Does not compromise culture sterility
- Does not affect the desired cells (no shear stress, no lysis of the killed cells)
- Controls the temperature and the size of the heated spot (does not heat the bulk culture medium or the cultureware bottom)
- Inexpensive, quick and unique alternative to other cell isolation systems
- Safe for the user

Possible applications of the instrument:

- Isolation of extremely rare or fragile cells that could not be enriched by flow sorting
- Purification of induced pluripotent stem (iPS) cells and embryonic stem (ES) cells cultures from differentiating cells or isolation of differentiated cells
- Generation of tumor cell cultures originated from cancer patient tumor biopsies by removing the non-cancer cells
- If combined with a high content imager, the instrument could serve as an alternative to flow sorting
- 70C fixation, time stamping



**For more information please visit
www.celleraser.com**

patent allowed