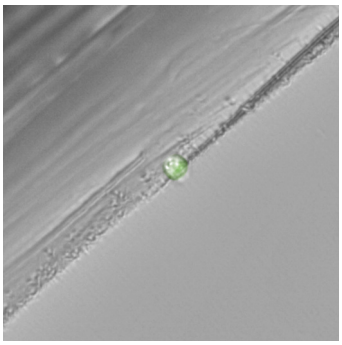
FASCC – Fluorescence Activated Single Cell Cloning

GENERAL PURPOSE



FDA requires more and more the image based proof of the monoclonality of your cell line. Methods have been established by using non-toxic fluorescent dyes, e.g. CellTracker® or Calcein-AM, to identify your potential clone from day one of seeding, to expedite the throughput by omitting subsequent colony monitoring. It has been shown that a resolution of 2 µm or worse (i.e. 4x magnification) might not separate two adjacent cells (doublets). Therefore a higher resolution is required, which takes a much longer scanning time for your sample carrier.

With SYNENTEC's NanoView in FASCC we combine high resolution imaging with fast pre-scanning to resolve your potential clones for an unambiguous documentation of your monoclonality without compromising throughput.

RESULT TABLE PRE-SCAN

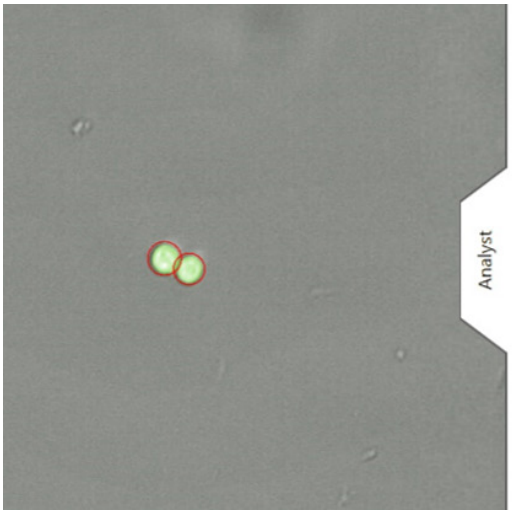
Total Number of Cells	Total number of cells found **in a well** (which is set as a filter selection for NanoView)
Total Number of Cells in Fluo Cluster	Number of cells resolved in a cluster using fluorescence signal

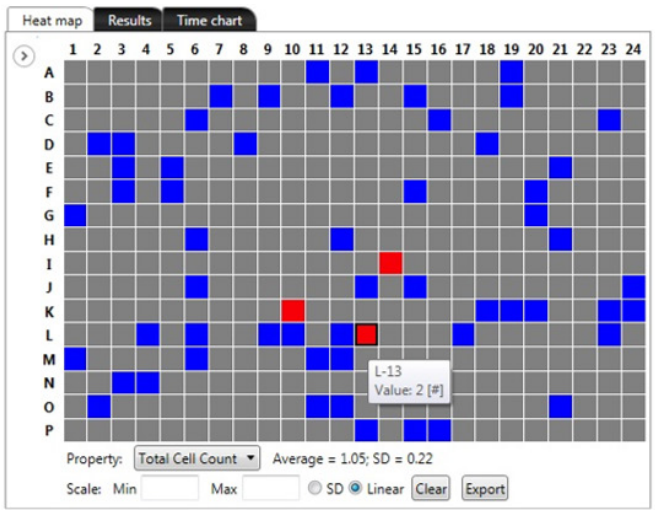
RESULT TABLE NANOVIEW

Total Number of Cells	Total number of cells found **in a well for a potential single clone**
Total Number of Cells Cluster Fluo	Number of cells resolved in a cluster using fluorescence signal
Total Number of Cells in Cluster BF	Number of cells resolved in a cluster using brightfield signal

RESULT TABLE SINGLE CELL CLONING

Colony Count	Number of seperate colonies
Cell Confluence	Percentage of the cell area on the evaluated area
Area of Colonies	Area covered by colonies per well in mm^2
Cell Area	Area covered with cells in mm^2

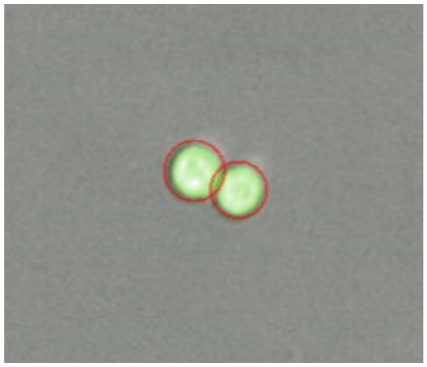




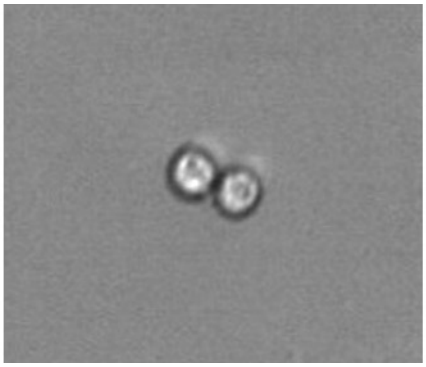
NanoView: Total cell count result overview

EXAMPLES OF DOUBLET IDENTIFICATION

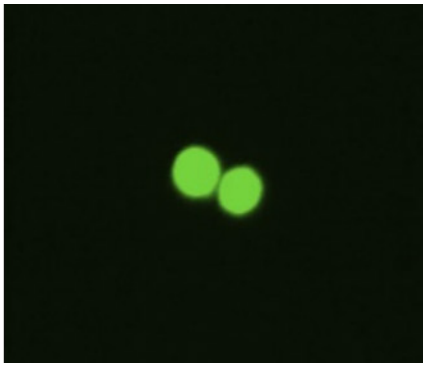
This example shows two cases where the NanoView mode resolved the doublets by using fluorescence and brightfield images.



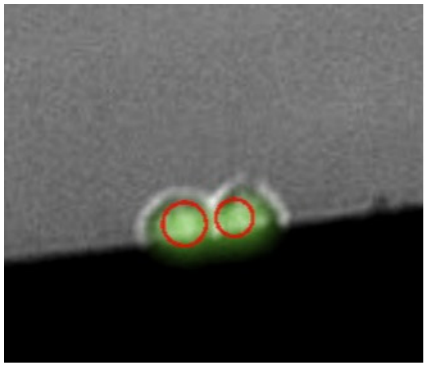
Overlay image of the brightfield and the fluorescence channel and it's detection

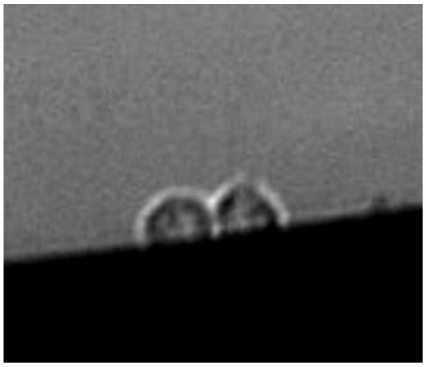


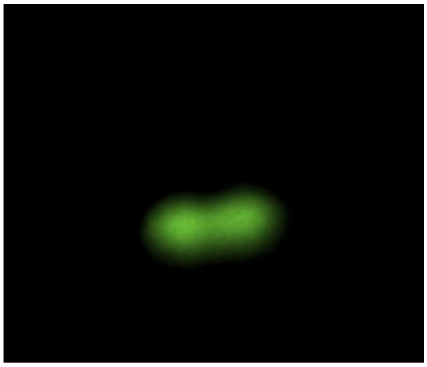
brightfield channel



fluorescence channel







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