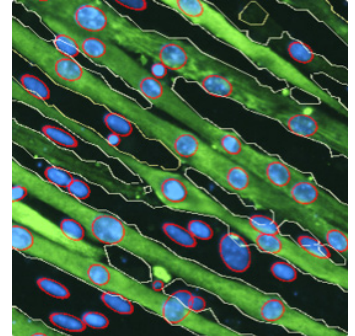


Nuclei FL Area (1F)

GENERAL PURPOSE

Nuclei FL Area (1F) is a two channel fluorescence application which uses a nuclei staining (e.g. Hoechst or Dapi) to locate all cell nuclei and one additional fluorescence staining to detect the cell cytoplasm. The image analysis calculates, inter alia, the ratio of the detected cell area to the number of detected cell nuclei. It can be used to track cell shrinking as an indicator of toxicity, e.g. for investigating cancer immunotherapy. For healthy cells the ratio of the cell area to the number of cell nuclei would be bigger than for affected cells. The fluorescence marker for the cytoplasm can be chosen according to your biological demands.



RESULT TABLE

Nuclei Count	Number of all detected cell nuclei
Sum of Nuclei Sizes	Total area of all detected cell nuclei in μm^2
Cell Area Fluo 1	Detected cell area of the additional fluorescence channel (Fluo 1/CH1) in mm^2
Cell Area Count Fluo 1	Number of detected cell areas of the additional fluorescence channel
Avg Nucleus Size	Average size of a cell nucleus in μm^2
Avg Nucleus Fluorescence Intensity BC	Average fluorescence intensity of a nucleus over background level
Cell Confluence Fluo 1	Percentage of the cell area of the additional fluorescence channel related to evaluated area
Avg Fluo CH1 Intensity BC	Average fluorescence intensity of all detected cell areas
FL Area 1F/#Nuclei	Ratio of the detected cell area to the number of detected cell nuclei in μm^2

EXAMPLE

This example shows eGFP producing cells in a toxicity study. The cell nuclei are stained with DAPI and the GFP in the cytoplasm emits in green. The higher the ratio of the fluorescent cytoplasm area to the number of nuclei (FL Area 1F/#Nuclei) the healthier are the cells.

Marked red: Detected cell nuclei

Marked yellow: Detected cell area

