

Leica MM Count Nuclei and Cell Scoring powered by MetaMorph®

Analysis Software Drop-in for Leica MM AF

- Ideal for two-wavelength experiments
- Count nuclei of most cell types
- Adaptive background correction™ for improved segmentation
- Cell-by-Cell measurements

Two popular and robust application modules are available together in Leica MM AF to facilitate easy and fast segmentation analysis.

The Leica MM Count Nuclei Application Module for the Leica MM AF is designed to automate accurate counting of nuclei of most types of cells.

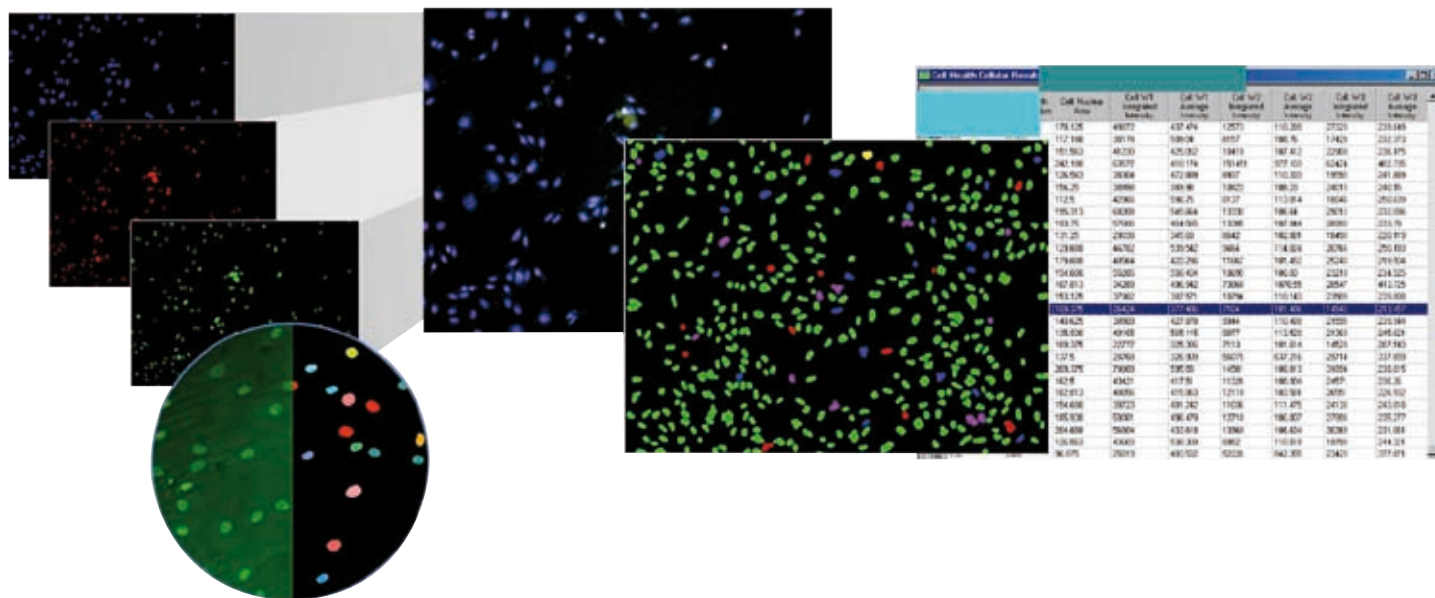
The module counts nuclei even when the background is uneven, providing superior segmentation compared to simple thresholding.

The Leica MM Cell Scoring Module for the Leica MM AF is designed for the identification of two subpopulation of cells.

The module is an ideal tool for two-wavelength experiments. Using a fluorescent marker for all nuclei and an addition marker for cells of interest, each wavelength is segmented and measured separately. The second stain can label the nucleus, cytoplasm or both.

The modules include Adaptive Background Correction, adapting the cell detection algorithm to the local intensity ranges outside the cells to provide the most robust segmentation available. This technique enables cell detection even with highly variable background fluorescence within a single image.

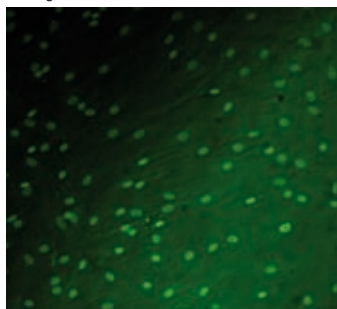
A simple interface minimizes setup efforts and settings can be saved for future use or customized to fit your experiment.



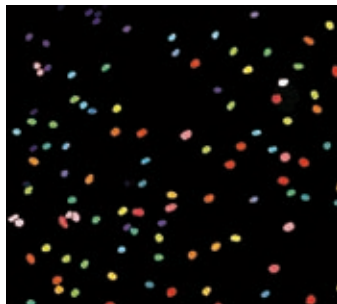
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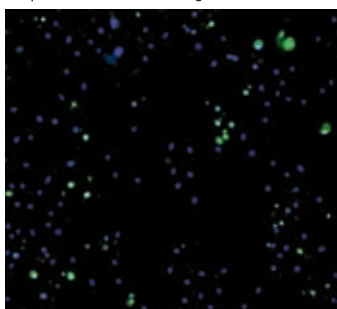
Count nuclei analysis configuration
Select a sample image to configure your settings



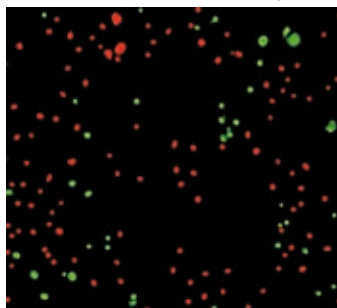
Count nuclei image analysis
Nuclei are identified, taking into consideration nuclear size and varying background



Cell scoring acquisition
Acquisition of two wavelengths



Cell scoring image analysis
The module identifies the two different probes



Easy configuration for analysis

Count Nuclei setup is just two steps:

1. Select minimum and maximum nuclear size
2. Set the sample intensity level above the local background

Cell Scoring setup involves a few easy steps:

1. Select the image of interest
2. Specify the size range of cells
3. Set the intensity above background
4. Choose the second image containing the positive marker stain
5. Select the stain area (nucleus, cytoplasm or both)
6. Specify the size range of cells and intensity above background
7. Optionally configure the data log

Interactive data display

Once the module is run, the Cellular Results table allows you to interactively view an individual cell's data. Clicking one or multiple cells in the image highlights the data for the selected cell(s) in the table.

Customization through journaling

Journals are sophisticated and powerful macros that record and perform a series of tasks without the need for a programming language. The modules can be incorporated into a Leica MM AF journal to increase the customization and automation of your analysis.

Multi-parameter analysis

Measurements for Count Nuclei include:

- Count of nuclei
- Integrated and average intensity
- Total and mean area

Measurements for Cell Scoring include:

- Count of negative and positive cells
- Percentage of negative and positive cells
- Total and mean nuclei area of negative and positive cells
- Wavelength-specific integrated and average intensity of negative and positive cells

Powerful data export

All measurements can be directly exported to a text file or Microsoft® Excel® for further analysis.

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