

Leica MM Granularity powered by MetaMorph®

Analysis Software Drop-in for Leica MM AF

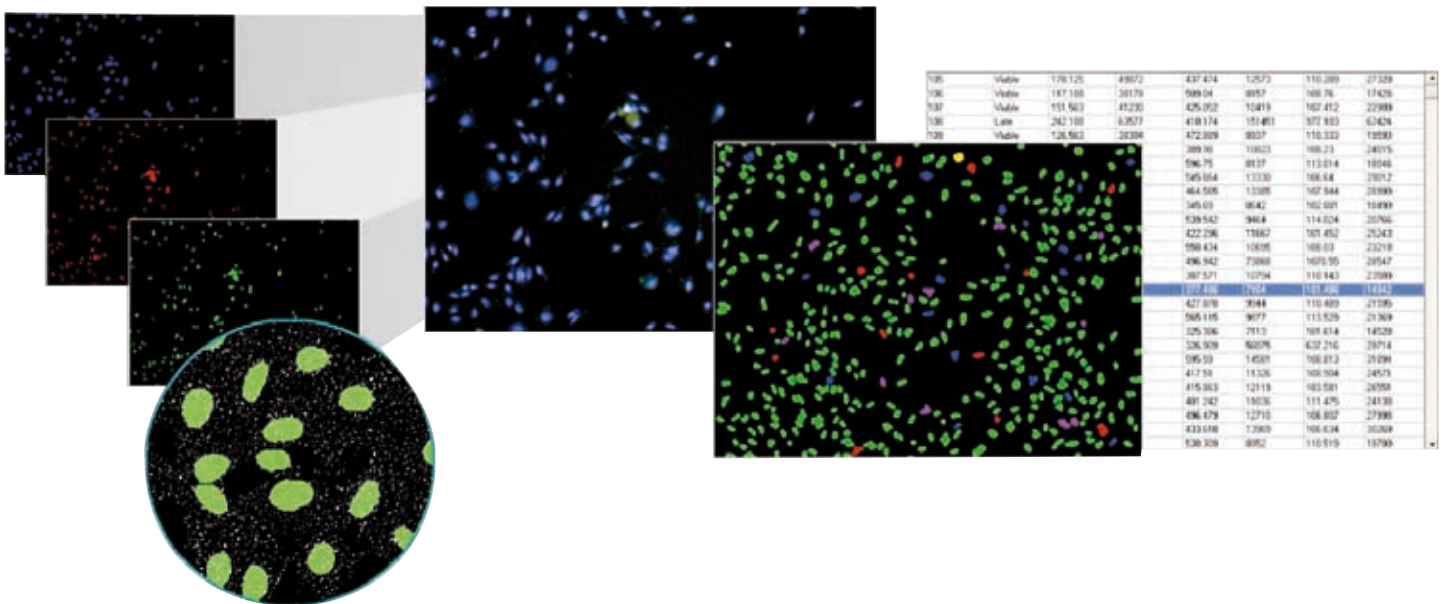
- Counts nuclei and punctate
- Adaptive Background Correction™ for improved cell quantitation
- Choice of six granularity indices
- Field and Cell-by-Cell data logging

The Granularity Application Module for the Leica MM AF software from Leica Microsystems is designed to facilitate the segmentation and quantitation of punctate. This module can be used to analyze images from common experiments such as studying intracellular structures, receptor internalization or clustering target molecules.

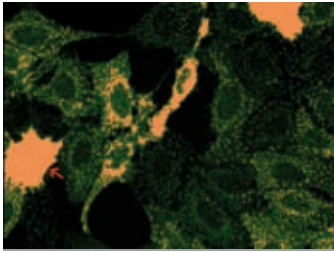
The user can select from six granularity indices, choosing the one that best suits the cell and receptor type, cell density and other experiment parameters. The granule count, area and intensity per-cell as per-image can be captured.

The module utilizes Adaptive Background Correction adapting the cell detection algorithm to the local intensity ranges between and within cells to provide the most robust segmentation available. This technique enables granule detection even with highly variable background fluorescence within a single image.

A simple interface minimizes setup efforts and at the same time enables users to customize the settings and measurements to obtain the best possible results specific to the type of cells used in the experiments.

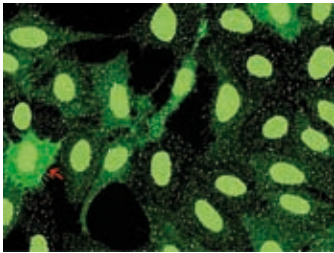


Living up to Life



Adaptive Background Correction™ for improved segmentation

Using standard thresholding can result in incorrect grain counts (orange), Adaptive Background Correction improves grain quantitation even in cells with high background (red arrow). Assay kit: Molecular Probes, Vybrant Assay Kit #7.



Pits (white) and nuclei (green) can be simultaneously segmented, saving analysis time. Grains are accurately identified even in cells with high background (red arrow).

Configuration for analysis

- Step 1. Select the granule image.
- Step 2. Specify the size range of punctate and intensity above local background.
- Step 3. If using a nuclear stain, select the nuclear image, size range of nuclei and intensity above local background.
- Step 4. Optionally set reporting parameters

Interactive data display

Once the analysis is run, the Cellular Results table allows you to interactively view individual cells' 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

The Application Module can generate a number of field or cell-by-cell parameters, including:

- Granule and Nuclear Count
- Granule and Nuclear Total and Mean Area
- Granule and Nuclear Integrated and Average Intensity

The module can determine and log the following six granularity indexes:

- Texture Index
- Cellular Texture Index
- Gradient Index
- Cellular Gradient Index
- Laplacian Index
- Cellular Laplacian Index

Powerful data export capabilities

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

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