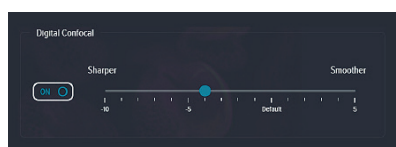




Digital Confocal 2D Real-Time Deconvolution

For the ImageXpress Pico System CellReporterXpress Image Acquisition and Analysis Software

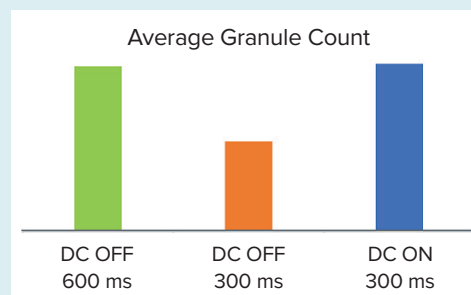
Designed for the ImageXpress Pico Automated Cell Imaging System, and utilizing CellReporterXpress® Image Acquisition and Analysis Software, the Digital Confocal* Option provides 2D on-the-fly deconvolution and helps to restore the image by mathematical deblurring of the image by reversing the point spread function. The Digital Confocal Option for CellReporterXpress enhances contrast of images during acquisition, allowing you to decrease exposure time more than two-fold while maintaining assay quality. Alternatively, assays with low Z'-factors can be improved more than 25%.



The speed and convenience offered by the new module delivers a real advantage for scientists as it provides the user with on-the-fly deconvolution without the need to post-process the images. Simply adjust the slider bar to get the desired image restoration. The numerous optical parameters required for the calculation are pre-entered into the module.

Benefits

- Enhance image contrast on-the-fly during acquisition
- Decrease exposure time while maintaining assay quality
- Improve object segmentation

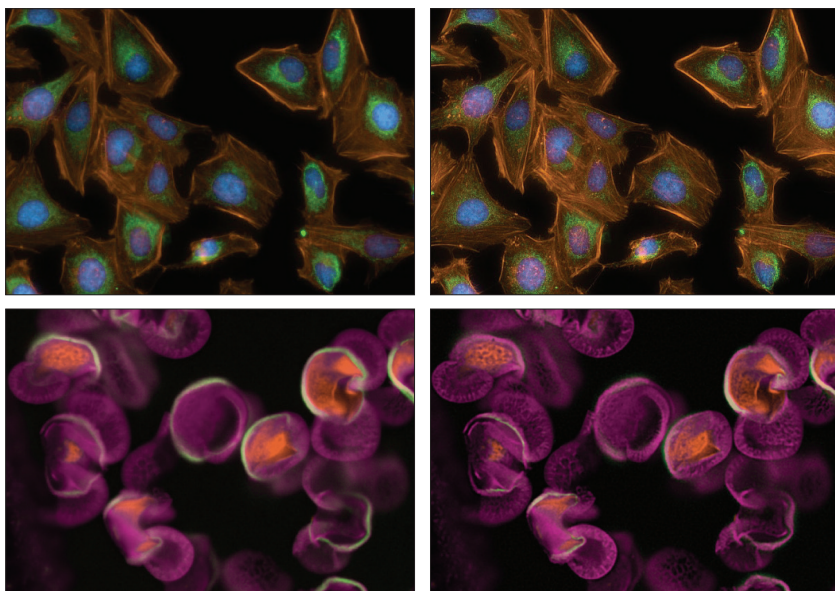


Mitochondrial granule count as a function of acquisition settings

The Digital Confocal Option allows you to maintain assay quality while reducing acquisition exposure times.

No Digital Confocal

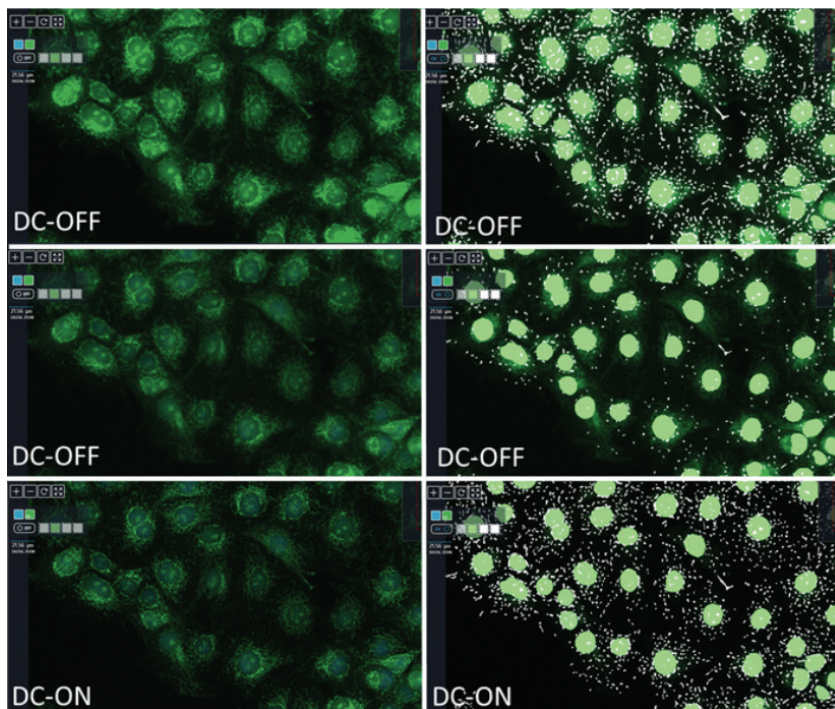
With Digital Confocal



Images with Digital Confocal Option enabled during acquisition (right) show cell structures more clearly than without (left), enabling more robust image analysis.

Mitochondria fluorescent channel

Segmentation mask



FITC 300 ms

With the baseline condition of Digital Confocal off, a mitochondrial granularity count was performed with a 300 ms exposure in the FITC channel.

FITC 150 ms

For sake of comparison, the exposure time was cut in half resulting in a significant loss in the mitochondrial granule count.

FITC 150 ms

By turning on the Digital Confocal feature and keeping the shorter exposure time, the mitochondrial granule count is restored.

*ImageXpress Pico Digital Confocal uses AutoQuant 2D Real Time Deconvolution

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