

## High-Content Screening Station for Life Sciences with Deep Learning



The scanR modular microscope-based imaging platform provides fully automated image acquisition and data analysis of biological samples through deep-learning technology. The scanR high-content screening (HCS) station can handle many formats, including multiwell plates, slides, or custom-built arrays. Its flexibility and open design make it equally adept at routine and advanced imaging applications. The system provides powerful image analysis and advanced data evaluation, enabling it to tackle a broad range of standard and tailored assays.

# SELF-LEARNING MICROSCOPY ENABLES GROUNDBREAKING ANALYSIS

Fully automated image acquisition and processing for millions of cells

The scanR system features the IX83 high-end inverted microscope platform and an intuitive user interface for rapid, reliable image acquisition and flexible image processing.

[Live and interactive data analysis](#)

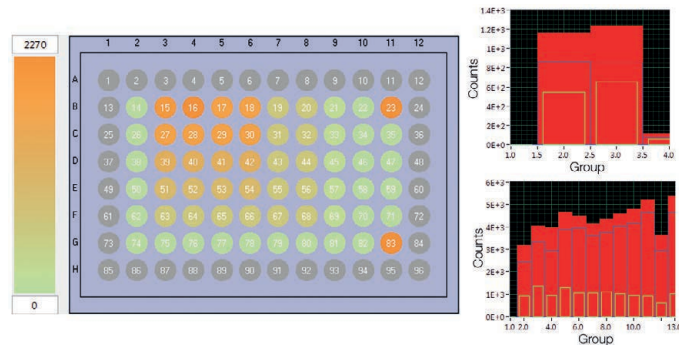
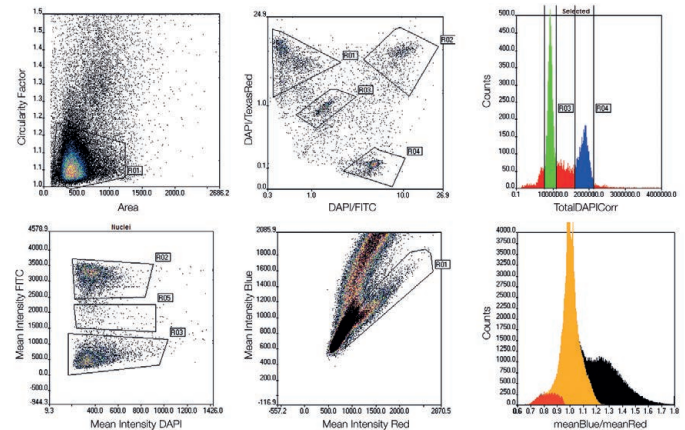
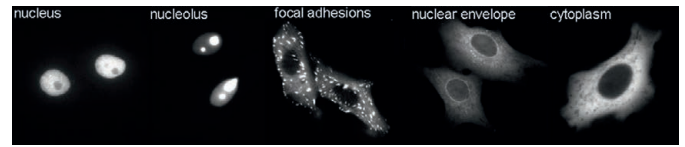
The scanR system excels in data analysis and evaluation—either offline or in parallel with the data acquisition. Object detection is easily carried out without user intervention using deep-learning, AI-based techniques. Powerful cytometry data analysis suits the specific demands of analyzing high numbers of cells. Bidirectional links from all data points and time curves to cell galleries and image data ease understanding the samples from the single cell level up to populations of millions of cells. The system makes it simple to set up reliable quantitative assays in minutes.

[The power of deep learning](#)

Through a one-time training phase, the scanR AI's deep-learning technology acquires and processes pairs of images to generate an analysis model. Incorporating the learned analysis protocol into its assay-based workflow, the scanR system automatically analyzes new data, providing robust results with improved accuracy.

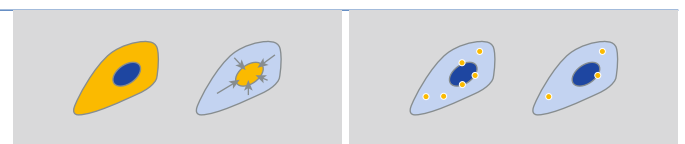
[Visual and quantitative result output](#)

Obtain the result visualization and export options needed to keep track of the sample results from gated population counting, parameter quantification, or kinetic data using various tables, bar charts, and multiwell plate heat maps.

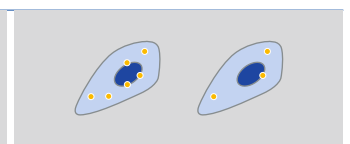


## Typical applications:

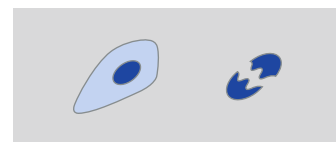
- Cell counting
- Gene expression
- Intracellular transport
- Translocation
- Cell proliferation
- Promyelocytic leukaemia (PML) body assay
- Bacterial infection assay
- Cell cycle analysis
- Protein localisation and co-localisation
- Live cell assays including kinetic analysis
- Gating on kinetic response curves
- Multi-coloured assays
- Rare event analysis
- Automated FISH analysis
- Fluorescence analysis in tissue sections
- Cell array screens
- Micronuclei and comet assay



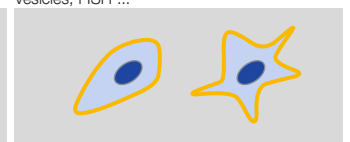
(Trans-)Location/Transport



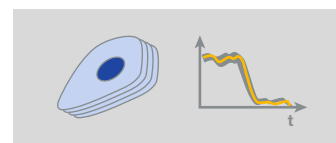
(Trans-)Location/Transport  
Endosomes, PML Bodies, Nuclear Foci, Vesicles, FISH ...



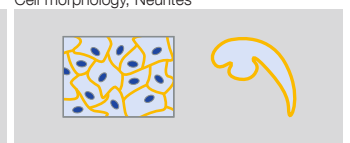
Cell Cycle



Changes in Shape and Size  
Cell morphology, Neurites



Dynamic Processes  
(patent pending Analysis)  
Mitosis, Calcium Kinetics, Cell motility



Tissue and whole-organism  
Zebrafish, C. elegans, ...

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