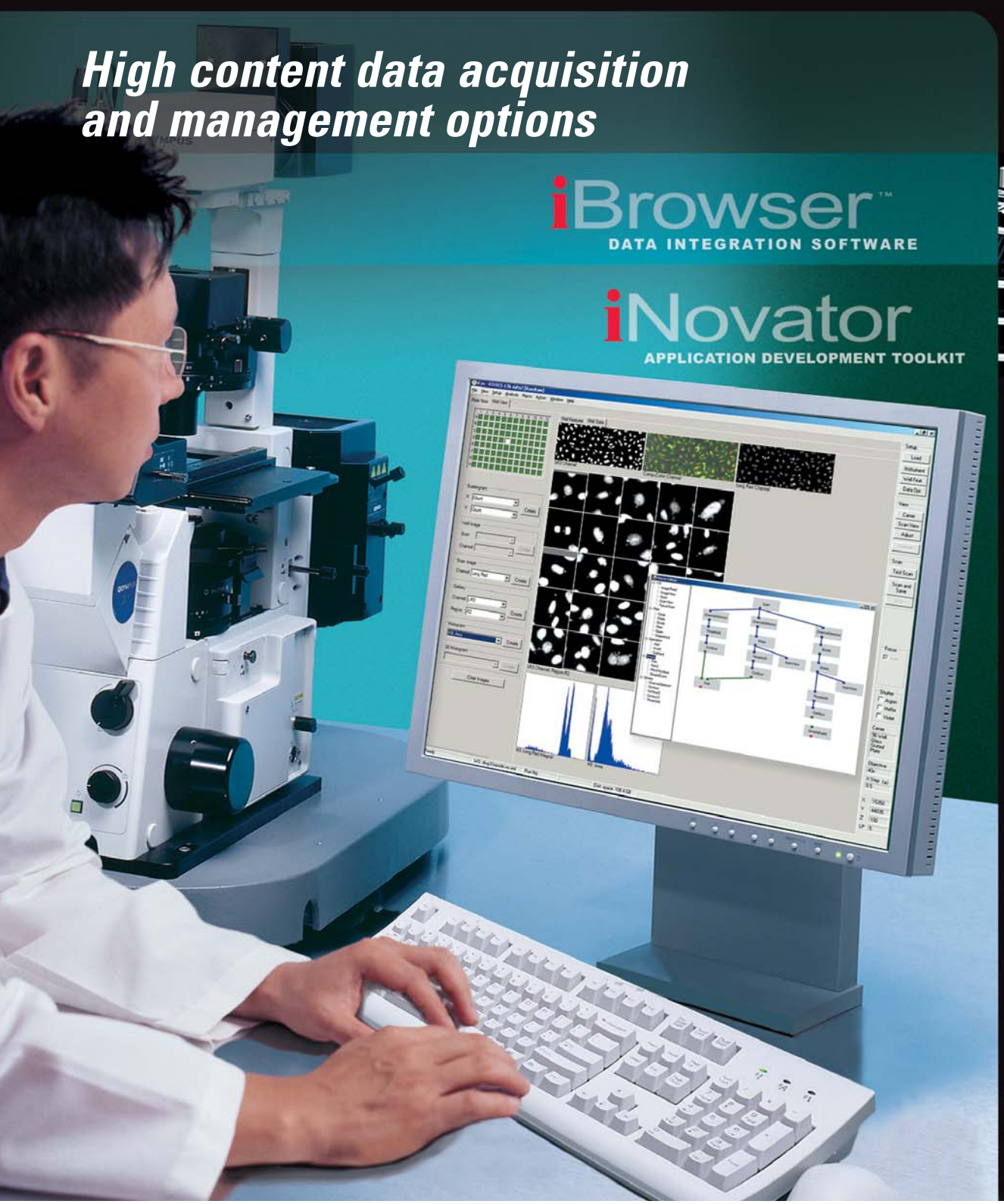
High content data acquisition and management options

CompuCyte

iBrowser™
DATA INTEGRATION SOFTWARE

iNovator
APPLICATION DEVELOPMENT TOOLKIT



Superior tools for high content data acquisition, analysis, and review

Enhance the capabilities of your laboratory by adding powerful software options to your iCyte™ or iCys™ system.

iNovator Application Development Toolkit opens new possibilities for image manipulation and event segmentation. Automated multipass scanning, watershed segmentation, filters for image enhancement, and many other features are easy to apply to specimen scans using a highly visual user interface.

iBrowser™ Data Integration Software brings manageability to the wealth of disparate data output elements of high-content experiments. Browse through entire runs, compare data across the wells of a plate, compile imagery and cell data from specific wells or tissue sections: The iBrowser desktop provides a convenient workspace for top-down or bottom-up characterization of data from whole plates, mulitple slides, Petri dishes, individual wells, or groups of tissue elements.

iNovator

APPLICATION DEVELOPMENT TOOLKIT

Automated image cytometry for:

- TISSUE ANALYSIS
- CFP/YFP FRET ANALYSIS
- TOXICOLOGICAL PANELS

...and more

Powerful image processing to augment CompuCyte's quantitative cytometric capabilities

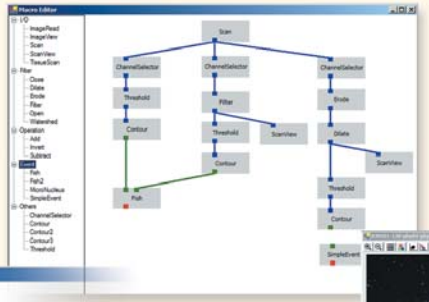
iNovator Applications Development Toolkit is an add-in for iCyte or iCys Cytometric Analysis Software, offering a set of high-level tools for developing new application protocols and experimental systems. With a distinctive user interface and a broad menu of tools for specimen handling and image processing, iNovator opens up additional possibilities in high-content cellular and tissue analysis.

Ease of use is a key feature. A graphic macro editor format connects interacting analysis elements in a flowchart form. The modules link together in sequential and parallel paths, with color codes indicating related and compatible functions.

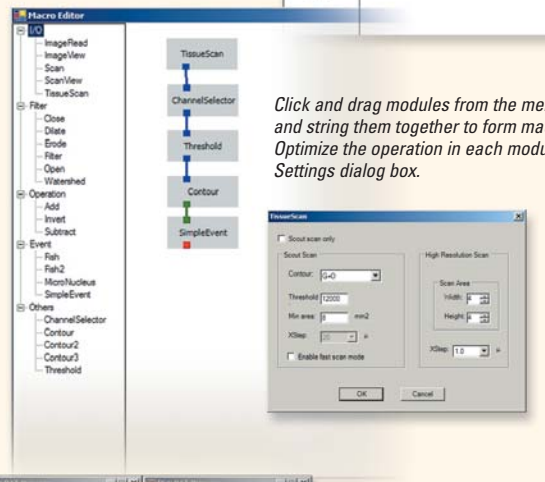
Included in the toolkit are scan-controlling routines, image processing algorithms, and the ability to create "virtual channels" for fluorescence compensation on a pixel-by-pixel basis. Customizable image processing filters enhance scanned images; erosion, dilation, and watershed routines provide building blocks for sophisticated automation of the segmentation process; event-fusion functions multiply the possible levels of segmentation – these and many other features are easy to combine to suit the special characteristics of the specimen and experiment.

Creating and storing custom macros expands the variety of applications and sample conditions available for automated analysis. The added flexibility of the iNovator Toolkit allows you to design ever more sophisticated analyses that integrate into your laboratory with a simple, routine workflow.

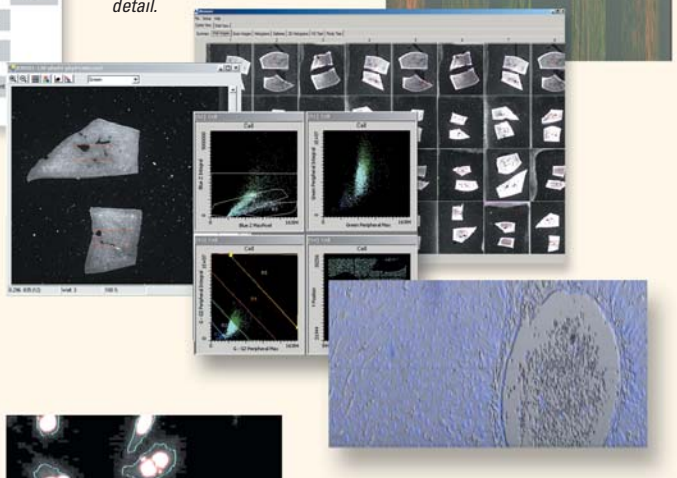
Building macros that perform high-level functions on the specimen or image is highly visual. Related modules are color-coded, making them easy to assemble quickly and simple to edit.

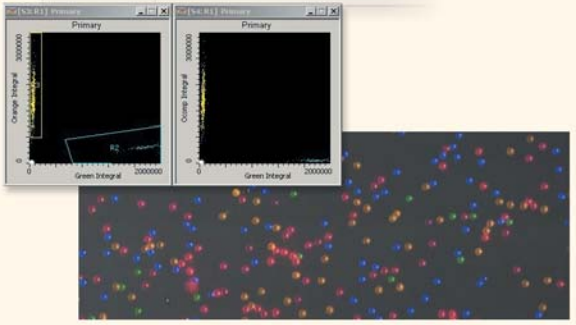


Determine areas of interest in automated tissue analysis with high-speed, high-sensitivity prescanning. iNovator modules automatically set scan areas and then rescan at high spatial resolution for maximum specimen detail.

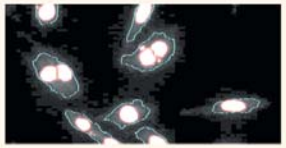


Click and drag modules from the menu and string them together to form macros. Optimize the operation in each module's Settings dialog box.



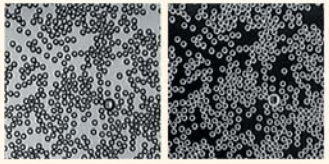


Virtual channels correct for spectral overlap directly in the laser scanned images.



Watershed segmentation separates closely spaced objects into individual objects, such as binucleate cell nuclei in the Cytochalasin B Micronucleus assay.

There are no limitations on the number of primary and secondary event types.



Filtering and inverting absorption signals yields a new segmentation parameter.

Graphic filters allow partial deconvolution of the effects of beam spread for sharper scan images.

CompuCyte

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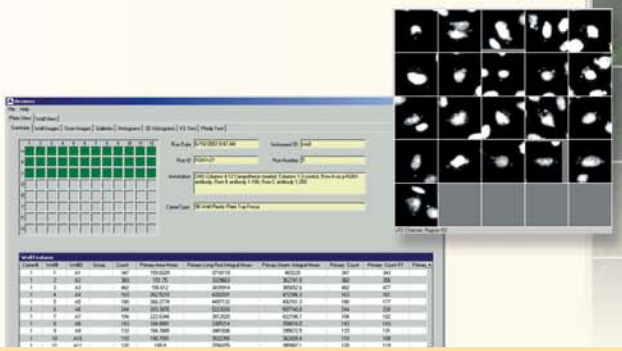
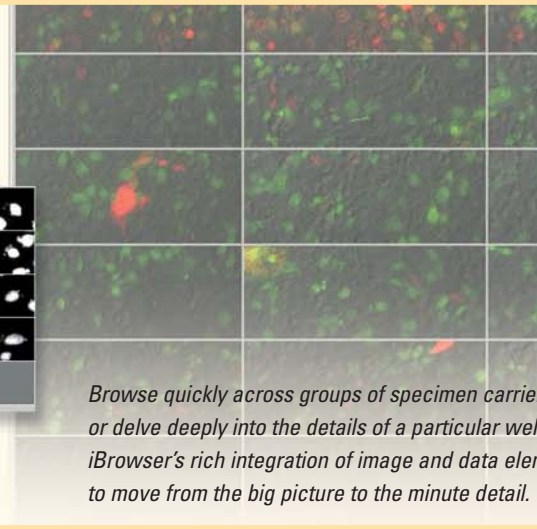
iBrowser™ DATA INTEGRATION SOFTWARE

Browse

Whether your experiment consists of a single plate or an overnight run of multi-slide tissue arrays, the high-content output can be a daunting combination of event data, images, histogram files, galleries, well features, and more. Brought together in iBrowser's intuitive interface, all of the elements of the experimental data are at your fingertips.

The iBrowser desktop provides a canvas where diverse data elements – well features, galleries, histograms, and others – can be reviewed and integrated to characterize whole plates or groups of slides.



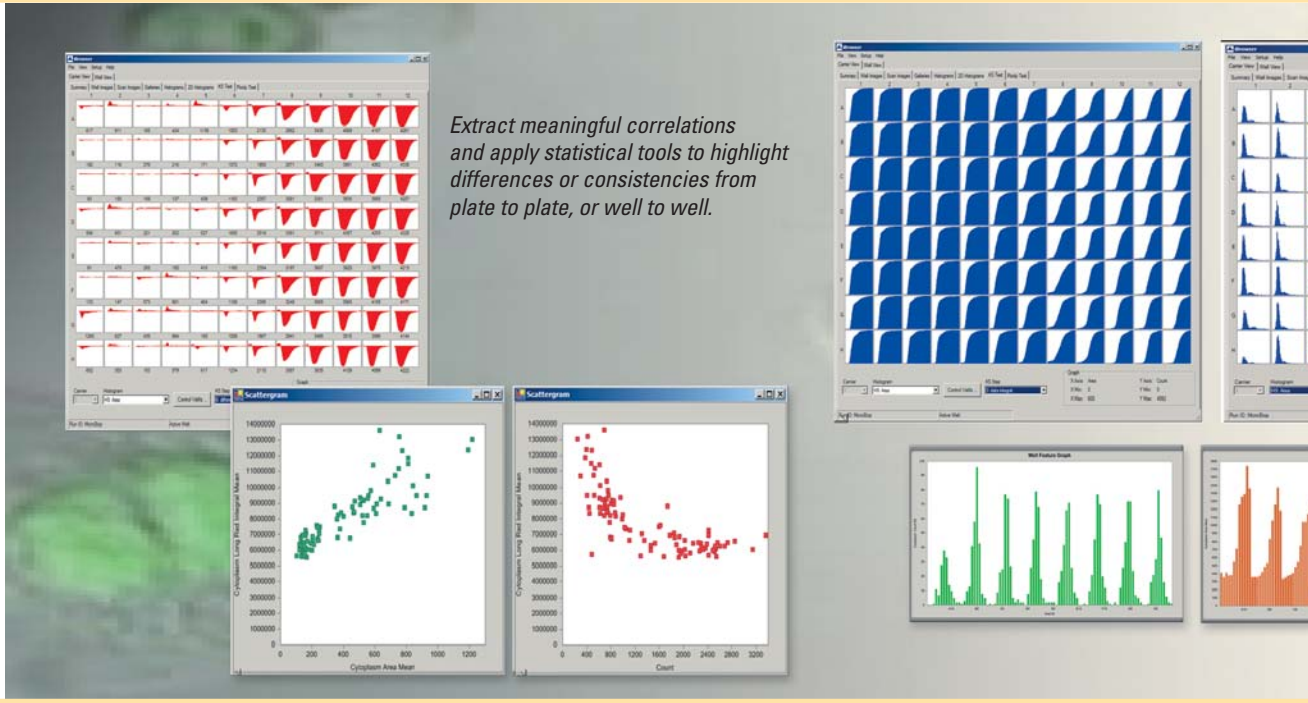


Browse quickly across groups of specimen carrie or delve deeply into the details of a particular wel iBrowser's rich integration of image and data ele to move from the big picture to the minute detail.

Analyze

Search for meaningful trends and correlating morphology. With iBrowser, you quickly and easily connect the quantitative with the visual. View well features and representative galleries of events together. Identify the wells – and therefore the experimental conditions – where biological effects occur.

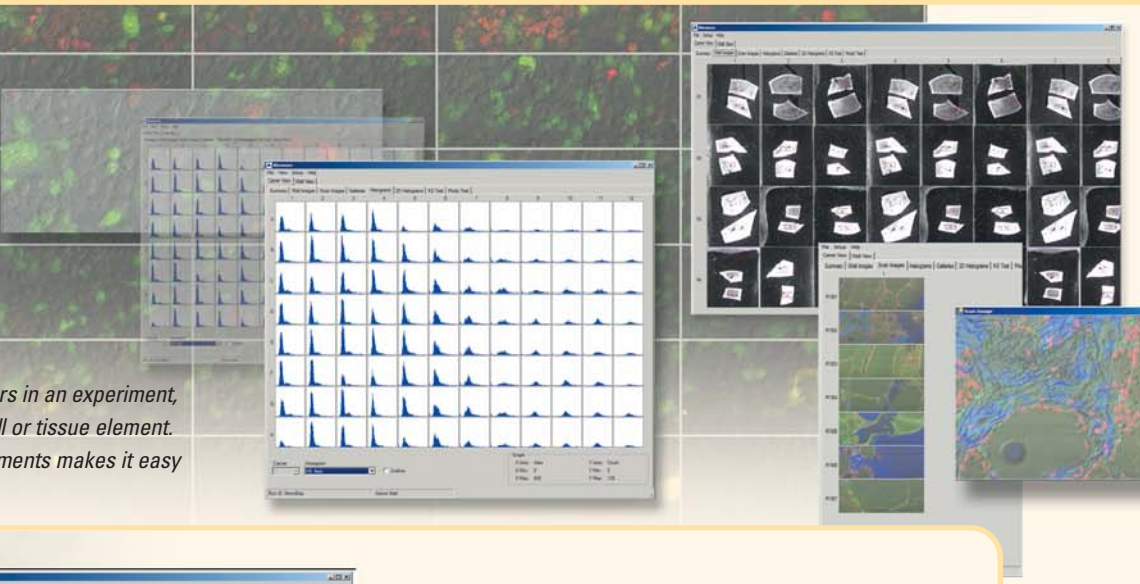
Extract meaningful correlations and apply statistical tools to highlight differences or consistencies from plate to plate, or well to well.



Automated image cytometry for:

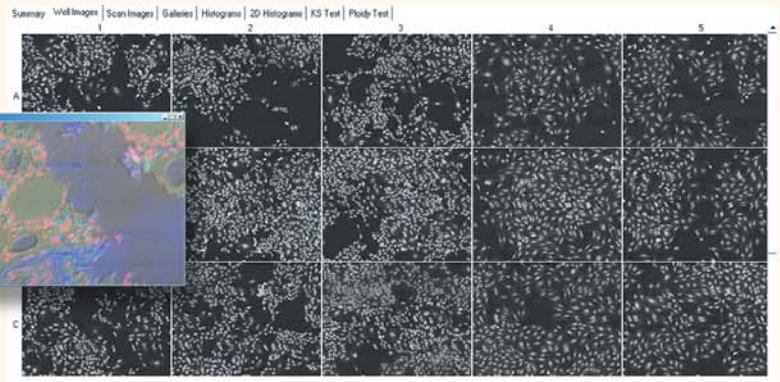
■ DNA AND THE CELL CYCLE ■ CONSTITUENT TRANSLOCATIONS ■ LIVE CELL ANALYSIS ■ TISSUE ANALYSIS ■ CFP/YFP FRET ANALYSIS

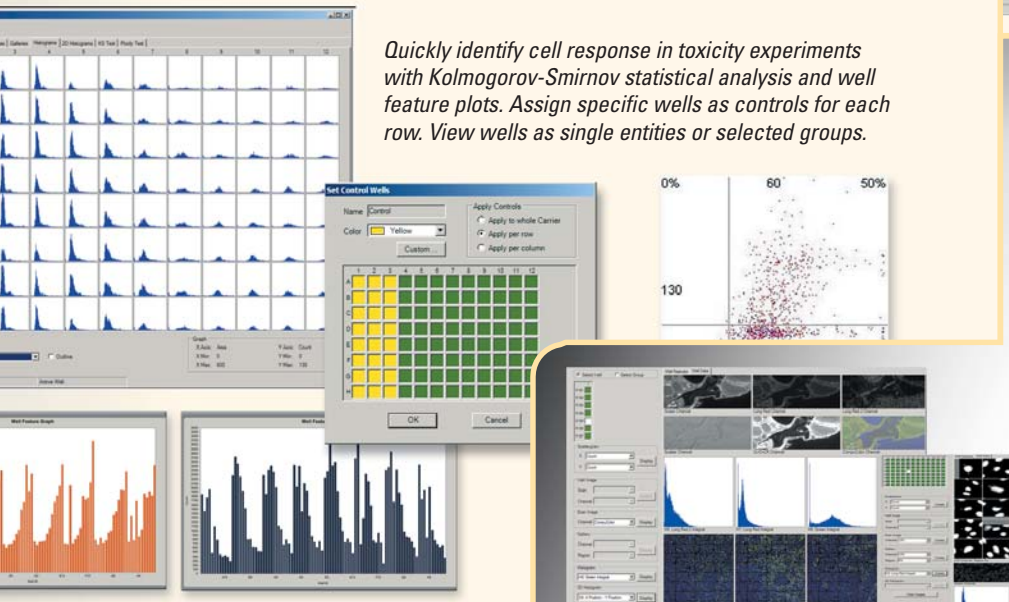
...and more



rs in an experiment,
ll or tissue element.
ments makes it easy

Easily switch between low- and high-resolution images of multipass tissue scans, to zoom in on key elements.

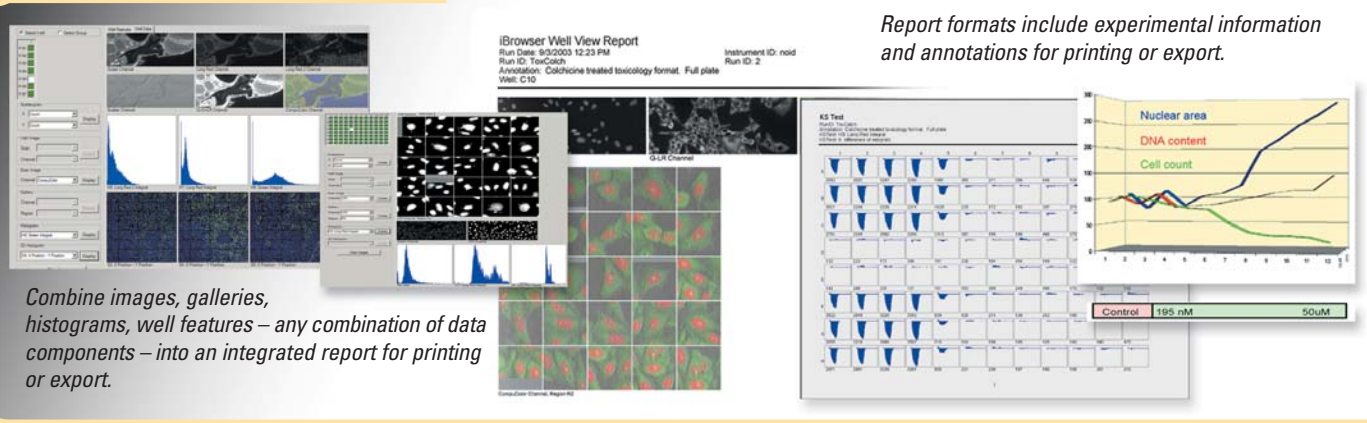




Quickly identify cell response in toxicity experiments with Kolmogorov-Smirnov statistical analysis and well feature plots. Assign specific wells as controls for each row. View wells as single entities or selected groups.

Report

Report results in the most compelling way. Add the relevant elements to the report with a click, then format and save or print. High-quality specimen images complement histogram and well feature data in reporting formats that are as flexible as you need.



Report formats include experimental information and annotations for printing or export.

Combine images, galleries, histograms, well features – any combination of data components – into an integrated report for printing or export.