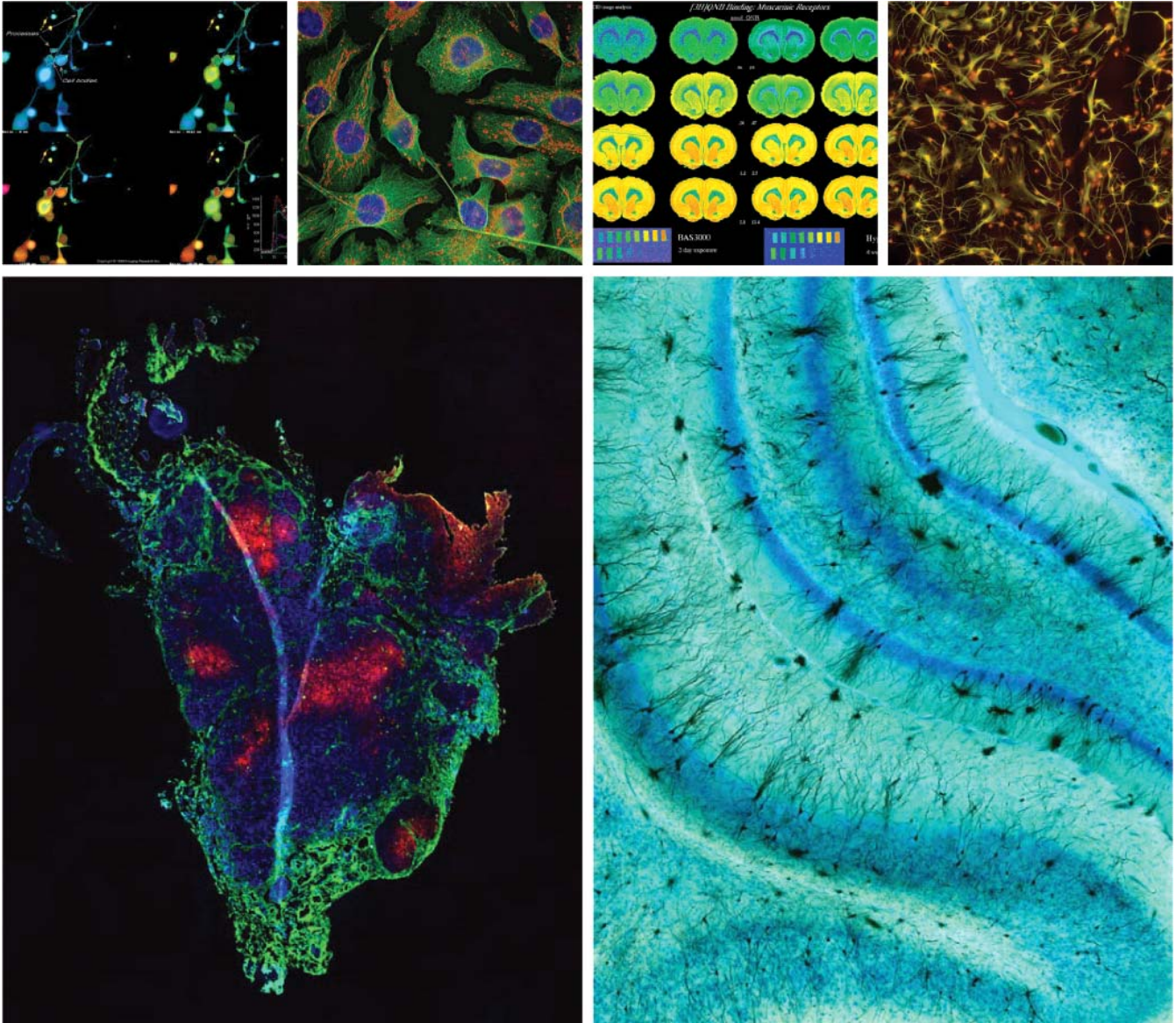


MCiD™

What can it do for you?



AUTOMATED IMAGE STITCHING, GEL/BLOT ANALYSIS, MORPHOMETRY, QUANTITATIVE REGIONAL AUTORADIOGRAPHY

FLUORESCENCE IMAGING, STEREOLOGY, GRAIN & CELL COUNTING, WHOLE BODY AUTORADIOGRAPHY

InterFocus
imaging

WWW.MCID.CO.UK

EMAIL.SALES@MCID.CO.UK





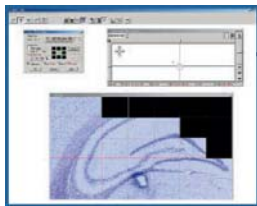
State of the Art Image Analysis and Quantification

MCID™ is a powerful imaging platform, incorporating many years of development, MCID™ is in use at hundreds of the world's most top research laboratories.

In addition to functions for image editing, annotation, enhancement and archiving, MCID™ offers fully configured functions for fluorescence microscopy, automated image stitching, quantitative and whole-body autoradiography, gel/blot analysis, grain & cell counting and stereology. The system supports a broad variety of CCD cameras, automated microscope stages, shutters, filter wheels and other peripherals. An object orientated macro editor simplifies operation in repetitive tasks.

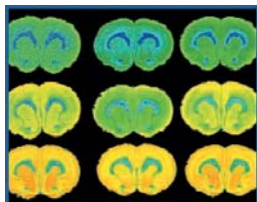
MCID™ is ideal for a core imaging facility. It is a simple matter to create a distributed image analysis environment in which you can analyse images at any computer. In this unified imaging environment, the software tools need only be learned once, and exchange of images and data between systems is completely transparent.

Applications Overview



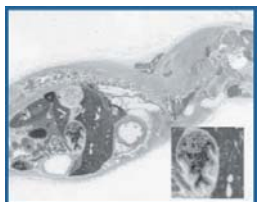
Automated Imaging Stitching

Produce ultra-high resolution images with any camera and visualize structures of interest within a larger biological context. Motor stage and Z-axis controls are integrated with positioning, focusing, convolution / deconvolution and edge-matching algorithms to create seamless montages of any size. Define the region of interest and montage creation is automatic. Automated Image Stitching is an optional software module for MCID.



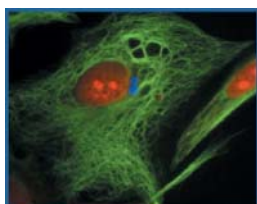
Quantitative Regional Autoradiography

Functions include precise calibration to radiolabel standards, with curve fitting, extrapolation (improves precision of calibration extremes) and algorithms that make data comparable across detection technologies (e.g. film and phosphor plate). Use for regional receptor binding and functional mapping. Operational equations for cerebral glucose utilization, protein synthesis rates, and blood flow are included.



Whole Body Autoradiography

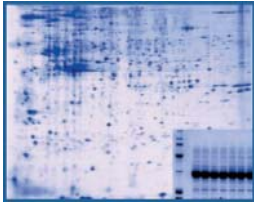
Accepts digital images from any phosphor imager, or film images from cameras and scanners. Automated sampling tools simplify data gathering. Excellent support for very large image files.



Fluorescence Imaging

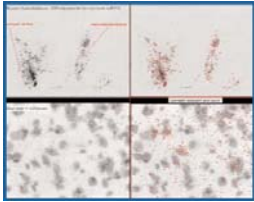
There is support for monochrome and color integrating cameras, and for ultra-low light cameras. Extensive image fusion functions (including flexible adjustment of color, intensity, and transparency of each discrete fluorochrome) combine images of different fluorochromes. Digital confocal functions deconvolve using nearest-neighbour or no-neighbor algorithms. Image-stitch fluorescence images. Use any of the MCID measurement functions to quantify fluorescence signal.





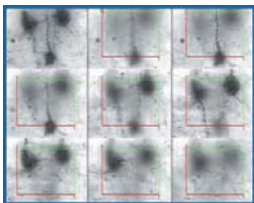
Gel/Blot Analysis

Acquire, annotate, archive and print using almost any gel scanner or CCD based acquisition system. Analyse lanes or thin layer chromatographs. Includes linear and nonlinear calibration in two dimensions (e.g. to molecular weight and pH), corrections for gel artifacts, automated and manual lane and peak detection, and flexible baseline subtraction.



Grain & Cell Counting, Particle Analysis

This generic counting mode is applicable to cells, grains and other discrete objects. Valid targets are discriminated from background using intensity, color and spatial criteria. Image transformation and combination functions assist in discriminating difficult targets (e.g. particulates overlapped with cells).



Stereology

Includes commonly used procedures and parameters for unbiased stereology. A semi-automated optical fractionator for unbiased cell counting is included (requires a motorised X,Y,Z microscope stage). Stereology is an optional module for MCID.

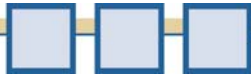
Easy Intuitive Interface

Target	Dens - ROD
1	0.4022
2	0.3758
3	0.3494
4	0.3163

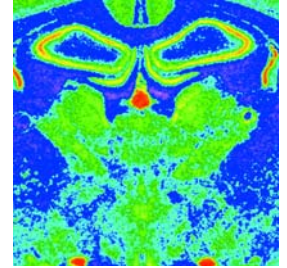
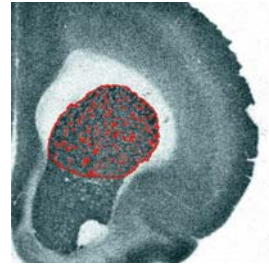
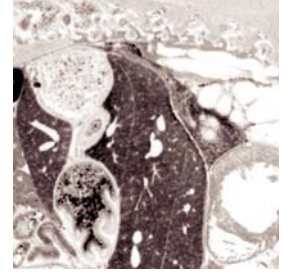
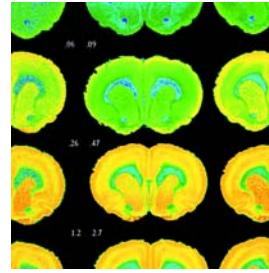
Mean	SD
0.3609	0.0393

nCi/g
1069
869
678
485
310
152
76
40
0





DIGITAL DENSITOMETRY



The MCID Densitometry System has served thousands of scientists for more than 15 years. The system includes calibrations and corrections which are easily applied to yield precise quantitative and semiquantitative data. The MCID Densitometry System can be used with a wide variety of cameras, scanners and phosphor images.



Features

- Calibrate to any concentration or density standards
- Automatic data optimization functions include thresholding and variance based pixel selection
- Operational Equations convert optical density values to rates of local cerebral glucose utilization, protein synthesis, or blood flow
- Real time alignment of autorad with NSB or stained section
- Automated sampling tools
- Multiple image operations

Benefit

- Fully quantitative analysis
- Advanced measurement of clipped and saturated pixels for improved data quality
- A complete solution for densitometry
- Easy redirected sampling and subtraction of NSB
- Use one software package for all your densitometry needs
- Fast and easy
- Simple application to multilabel studies

Digital Densitometry System

DEN-MCB-001 includes:

- MCID Software
- QICAM Mono 12bit Camera
- Macro Accessory Package

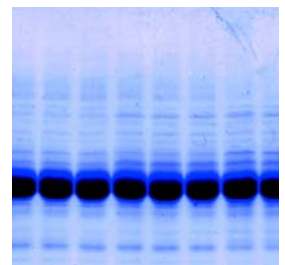
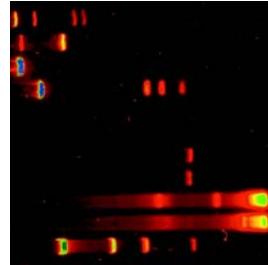
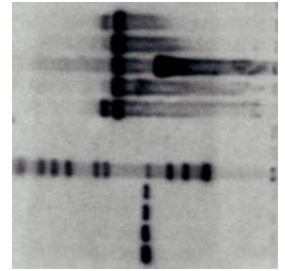
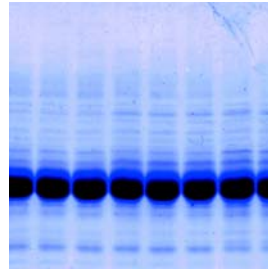
Software and Hardware (minimum) Requirements:

- Windows® 2000 or Windows XP
- Pentium® IV, 512MB RAM and





GEL & BLOT ANALYSIS



MCID acquires, annotates, archives, prints and quantifies images of your gels and blots. Use MCID as a simple archival system or take advantage of the extensive list of analysis functions. Digitize your specimens with any input device, including scanners, and video or digital cameras.

QUALIFY AND QUANTIFY SAMPLE PEAK DATA FROM MULTIPLE GEL AND BLOT FORMATS

Features

- Analyse radiolabelled, stained, luminescent and fluorescent gels and blots
- Includes linear and non-linear calibrations
- Apply corrections for gel artifacts
- Automated and manual lane and peak detection
- Automated baseline subtraction
- Full annotating, viewing and editing functions

Benefit

- Sample versatility
- Calibrate to molecular weight and pH
- Improved data quality
- Easy to use
- Simple background corrections for improved data quality
- All your gel documentation needs in one package



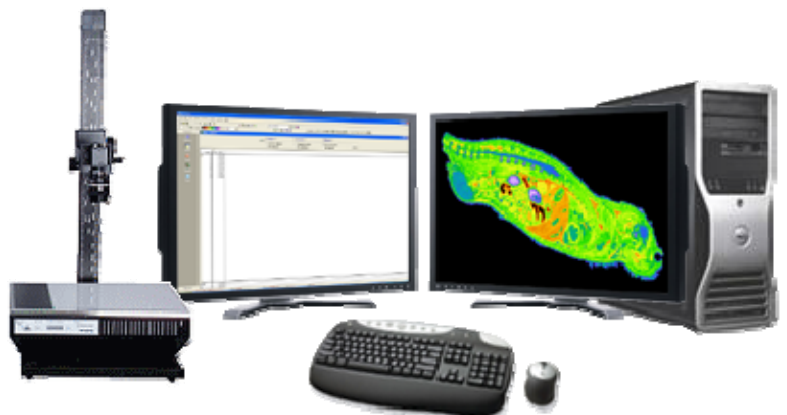
Digital Gel Blot System

GBD-MCB-001 includes:

- MCID Software
- QIC CAM 12 bit Mono
- Macro Accessory Package

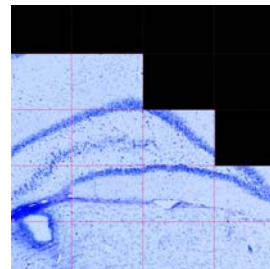
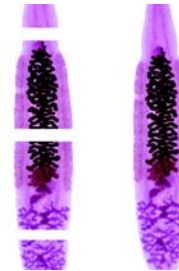
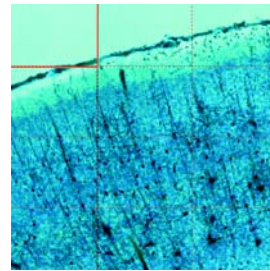
Software and Hardware (minimum) Requirements:

- Windows® 2000 or Windows XP
- Pentium® IV, 512MB RAM and a 100MB hard drive





AUTOMATED IMAGE STITCHING



The MCID Basic Image Stitching System automatically merges multiple fields of view into a single, large image. The montage is seamless, sharply focused and has high resolution. Create spectacular, high quality images. Ideal for visualizing details within a larger biological framework and for high quality publication.

OPTIMIZED FOR THE AUTOMATED CREATION OF ULTRA-HIGH RESOLUTION DIGITAL
IMAGES TO ENABLE VISUALIZATION OF BIOLOGICAL STRUCTURES OF ANY SIZE.

Features

- Automated alignment and autofocus algorithms
- Color and shading error corrections
- Automated image combination in the Z axis
- Fast, unattended image acquisition
- Image stitching within any modality, fluorescence, luminescence, bright field
- Full functions for viewing, analysing, printing, and managing large

Benefit

- Seamless, sharply focused images
- No intensity or color variations between images
- Combines any number of focal planes into one
- Montage extremely large images (greater than 200 fields of view)
- Image any specimen labelled or unlabeled
- A complete solution for large images with the ability to create

Digital Image Stitching System example 1

MCD-ISA-001 includes:

- MCID Software
- QICAM Mono or Color Camera
- Image Stitching Module
- XYZ Motorised Stage (Prior)

Software and Hardware (minimum) Requirements:

- Windows® 2000 or Windows XP
- Pentium® IV, 512MB RAM and a 100MB hard drive



Digital Image Stitching System example 2

MCD-ISA-002 includes:

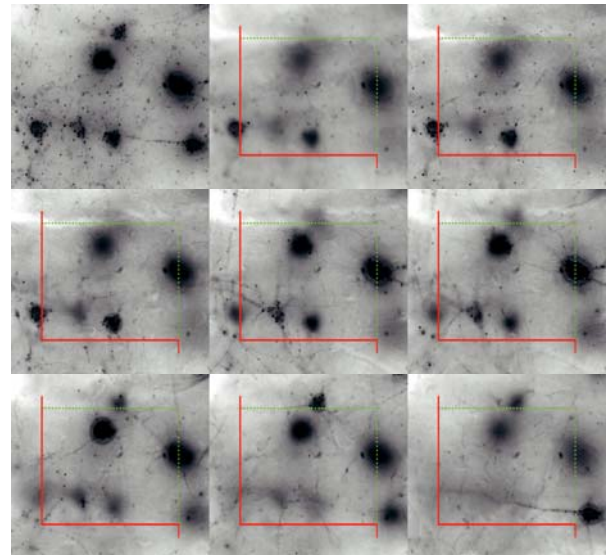
- MCID Software
- RETIGA Mono or Color Camera
- Image Stitching Module
- XYZ Motorised Stage (Prior)





STEREOLOGY

The MCID Stereology System applies commonly used stereological measures including volume, surface area, length and counts to your images. Integrate stereology within the broad function set of your MCID image analyzer. The MCID Stereology System is available with a selection of cameras and motorized microscope stages & focus drives.



OPTIMIZED AND UNBIASED CELL COUNTING PERFORMED WITH OUR AUTOMATED FRACTIONATOR PROCEDURE

Features

- Includes commonly used stereology measures
- Controls motorized microscope stage
- Motorized Z-axis control
- Region definition at low magnification
Automatic sampling at high magnification
- Computer generated sampling grids and frames
- Flexible target detection algorithms

Benefit

- Flexible measurement parameters
- Implements automated optical fractionator
- Automates serial image acquisition
- Easy and efficient positioning
- Automated grid placement
- Accurate and automated target detection

Digital Stereology System

STE-MCB-001 includes:

- MCID Software
- QICAM 12bit Mono or Color Camera
- Stereology Module
- Optional motorised XYZ stages

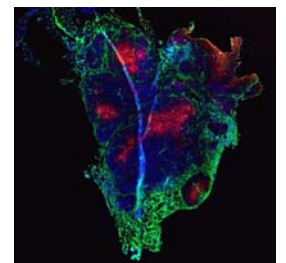
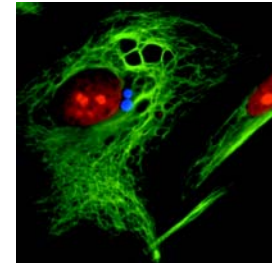
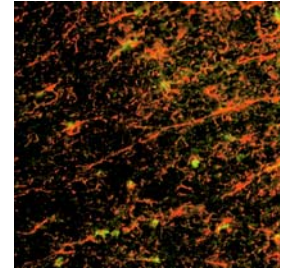
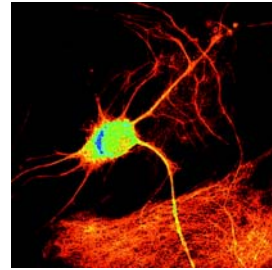
Software and Hardware (minimum) Requirements:

- Windows® 2000 or Windows XP
- Pentium® IV, 512MB RAM and a 100MB hard drive





FLUORESCENCE IMAGING



The MCID fluorescence system captures, analyzes and manipulates fluorescence images with ease. You can easily measure label intensity, combine discrete fluors, use for co-localization and clarify using digital deconvolution. The MCID Fluorescence System supports video and digital cameras, color or mono, standard, cooled or cryogenic.

IDEAL FOR DECONVOLUTION, IMAGE FUSION, CO-LOCALIZATION AND FLUORESCENCE INTENSITY MEASUREMENTS

Features

- Broad range of cameras supported
- Extensive image fusion functions
- Image registration and alignment
- Digital deconvolution algorithms
- Calibration and normalization functions
- Computer control of filter wheels and shutters

Benefit

- Versatility in image acquisition by application
- Visualize co-localization of labels, with absolute control of image quality
- Compensate for possible filter cube misalignment
- Remove out-of-focus fluorescence for improved image quality
- Accurate fluorescent signal quantification
- Versatility and ease of use

Digital Fluorescence Imaging System

FLR-MCB-001 includes:

- MCID Software
- QICAM 12 bit Mono or Color
- Optional Filter wheels
- Motorized Stages

Software and Hardware (minimum) Requirements:

- Windows® 2000 or Windows XP
- Pentium® IV, 512MB RAM and a 100MB hard drive

Digital Fluorescence Imaging System

FLR-MCB-002 includes:

- MCID Software
- RETIGA 12bit Mono or Color
- Optional Filter wheels
- Motorized Stages





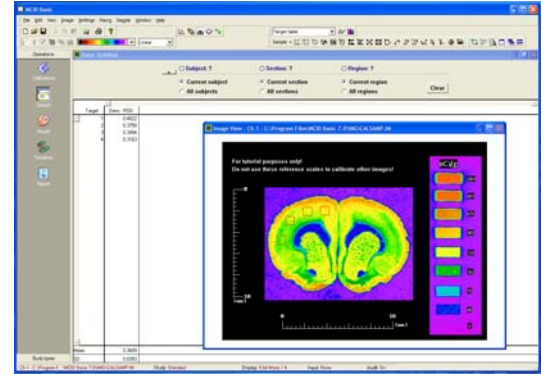
FEATURES

MCID

MCID is a modular applications based acquisition and image analysis software. MCID Basic is easily optimized and configured for single applications based on specific user requirements.

Display

MCID uses a single monitor, and displays the acquired image and the analysis data in the same window. Therefore, we recommend a high resolution display, typically 1280 x 1024 pixels x 24 bits (16 million colors). Larger monitors at 1600 x 1200 pixels are also available. MCID can also support dual view technology via a suitable graphics card.



Independent image channels

MCID offers multiple, independent image channels. Each channel can contain a discrete, calibrated image. Use the multiple image channels to align stained sections and autoradiographs, or to display images acquired at different fluorescence wavelengths.

Image input / saving functions

MCID accepts and exports images in a variety of formats, including monochrome and color TIFF, MCID, and in the native formats of many cameras and scanners. For other file formats, a general-purpose image format editor is supplied as standard. You can easily create your own image file format specifications, and integrate them within MCID.

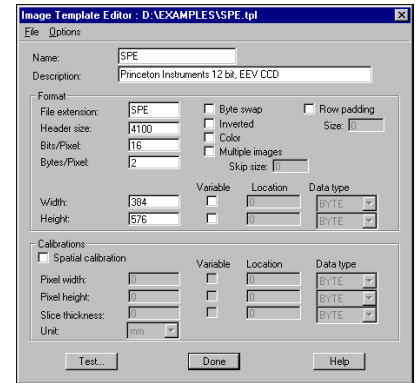


Image Manipulation

Images can be of any size. Use MCID Basic to analyze, edit, trim, process, and publish large images.

Image acquisition

With the addition of a compatible PCI image capture board MCID Basic supports a number of analog video CCD and digital CCD cameras.



Additional hardware

MCID Basic supports motorized microscope stages and Z-axis drives (LEP, PRIOR, ASI), as well as shutters and filter wheels (LEP and Sutter), for controlling illumination and excitation wavelengths, especially for fluorescence applications.



Calibration

Calibrate images to external density and spatial standards. Nonlinear calibrations (e.g. molecular weight) fully supported.





FEATURES

SUMMARY Continued

Image fusion

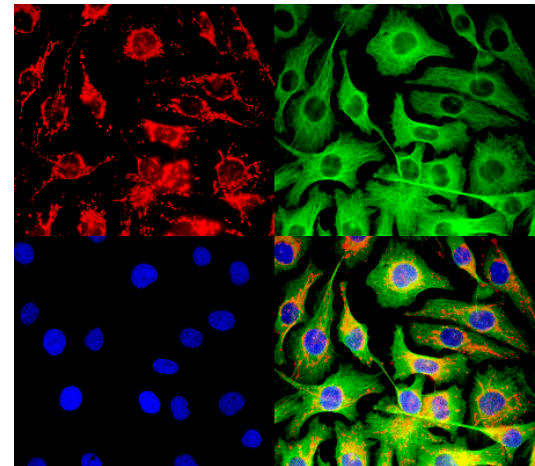
Collect any number of discrete fluor images. Fusion functions create 24-bit color images. Functions range from simple addition to weighted addition with layer-specific transparency.

Image processing and editing

Apply filters, logical operators, image arithmetic. Edit images to remove artefacts, or to create image montages.

Easy report generation

Report generator creates summary reports including numerical data, profile graphs, and image. Print reports with one command.



Gel/Blot analysis

Nonlinear calibrations in X and Y dimensions.

1D mode.

1D mode for TLC.

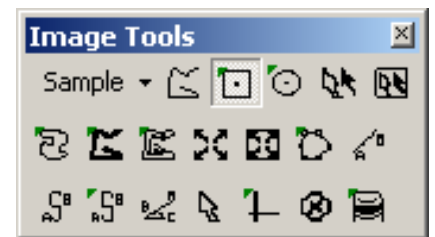
Corrections for bent or stretched lanes, smiling.

Vertical, horizontal, rotatable, and user-traced lane definition tools.

Display and analyze multiple lanes, simultaneously, or one at a time.

Manual or automatic peak detection.

Manual or automatic baseline correction.



rectangle

template

distance

circle

paint

angle

trace

polygon

pixel report

Powerful profile tools

Vertical, horizontal, rotatable, and user-traced lane definition tools.

Display and analyze multiple profiles, simultaneously, or one at a time.

Zoom in on any portion of the profile for high-resolution display.

Fully automatic target detection

For grain counts, and other feature distribution analyses, fully automated target detection is supported. Multiple density thresholds can be combined with logical criteria (e.g. area) to separate targets from background.

Sampling tools

Sampling tools are probes used to gather data from images. Tools can be sized and rotated by the user.

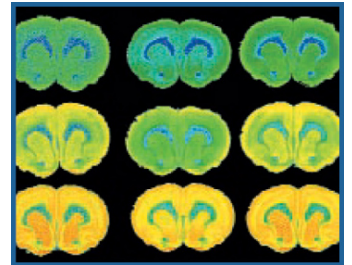




**POWERFULL
OFFLINE ANALYSIS SOFTWARE**

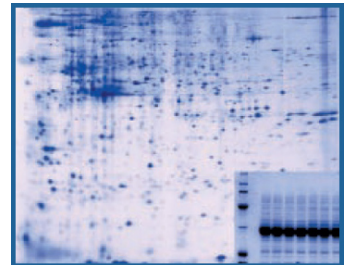
MCID Analysis

MCID Analysis has been designed as an image analysis software solution for offline analysis of images. MCID Analysis is ideal for images where image capture is not required. MCID Analysis includes all the powerful analysis tools of MCID but without the hardware and capture support. MCID Analysis is an ideal solution for Phosphor Imagers and other capture systems.



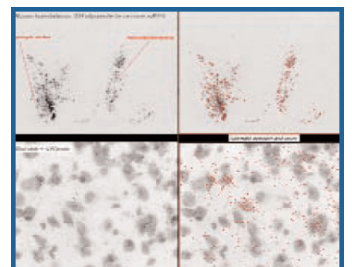
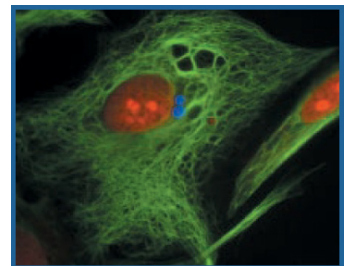
MCID Analysis Server Edition

MCID Analysis Server Edition is based on concurrent user licensing (min 3 concurrent users). The Server edition with concurrent licensing offers a cost effective way of providing powerful offline analysis software to your departmental or company wide user base.

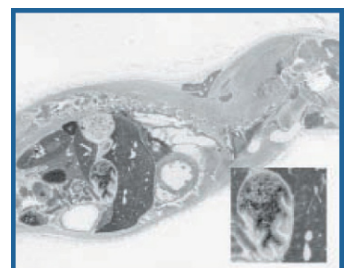


Software and Hardware (minimum) Requirements:

- Windows® 2000 or Windows XP
- Pentium® IV, 512MB RAM and a 100MB hard drive
- Server Edition requires license manager to be installed on Windows® 2000 or Windows 2003 Server Edition.
- Turnkey packages with pre-configured



Distribute a powerful suite of analysis tools across your company / departmental network, easy and cost effective.





How to contact us

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Pentagon Business Park

Cambridge Road

Linton

Cambridge

Email & Web

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US & Canada (8am-5pm EST)

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Fax: 1-917-591-9130

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WWW.MCID.CO.UK



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