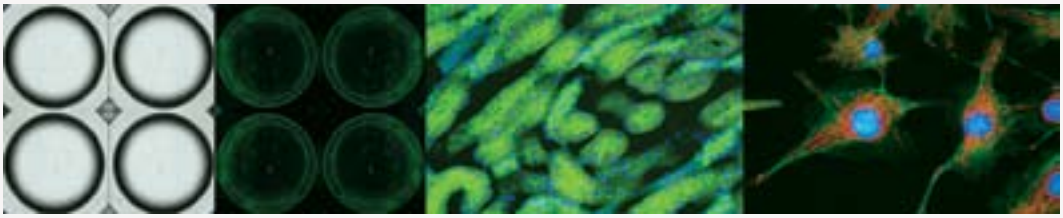
F1-CIS

Automated Cell Imaging System

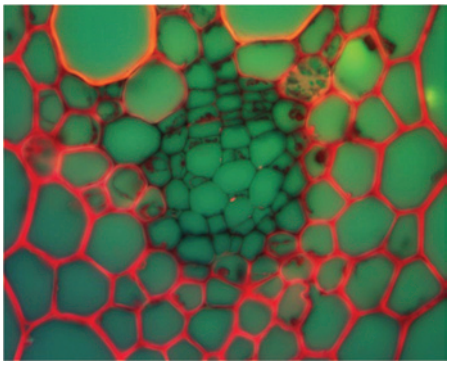


NANOSCOPE SYSTEMS

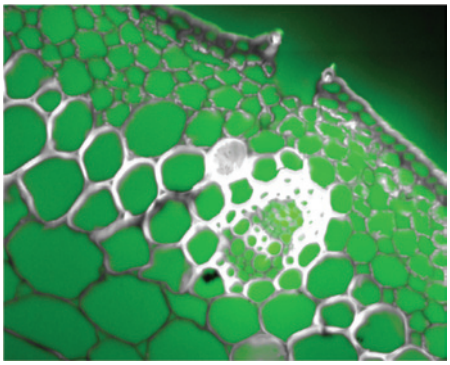
F1-CIS

F1-CIS is a digital fluorescence microscope, designed as all-in-one type and fully motorized configuration.
The microscope parameters such as light intensity, filter combination, and sensitivity, are set up and reflected in real time, and fully automated stages and revolving turret are controlled by convenient digital buttons.
The microscope images are displayed on a monitor, and saved as electric image files of standard formats.

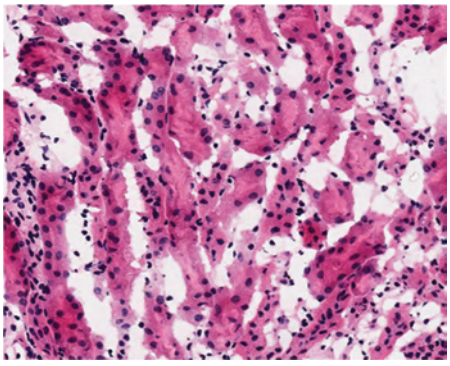
The various type of sample holding plates easily extends from a slide glass to a well plate. Convenient and easy microscope observation with F1-CIS will maximize the efficiency of your experiments.



Buttercup



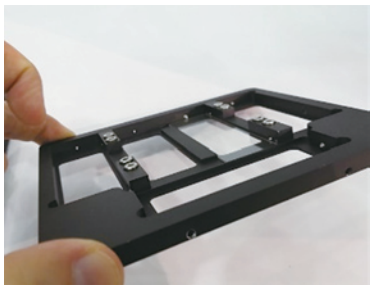
Plant cell

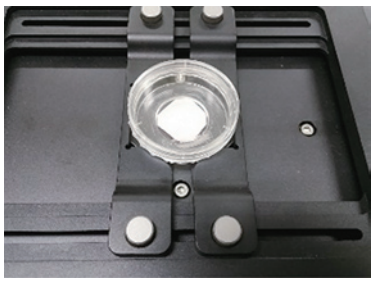


H&E stained tissue

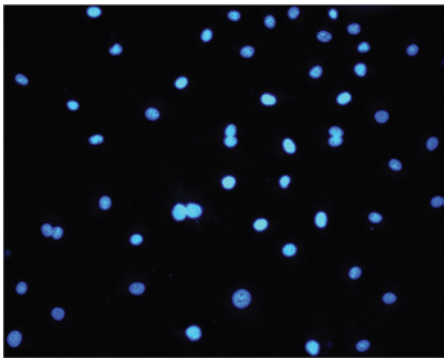
Features and Benefits

- Inverted fluorescence microscope
- Built-in dark room cover
- Well-plate whole scanning
- Multi-point monitoring
- Time lapse
- Z-stack
- 4 color fluorescence imaging
- Bright field imaging
- Phase contrast imaging
- Automated X, Y, Z stage
- Automated objective lens changer
- Automated filter changer
- Slide glass, Well plate, Petri dish compatible

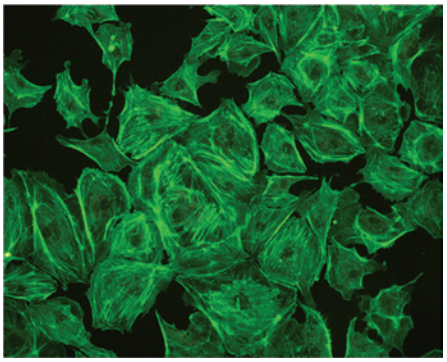




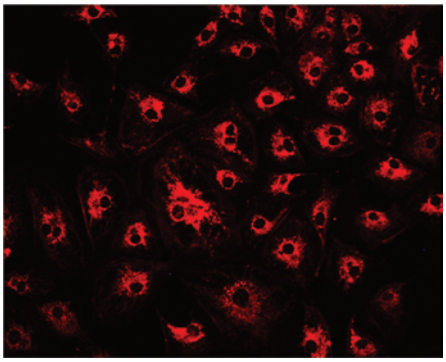
Various type of sample plates – customized plates can be provided



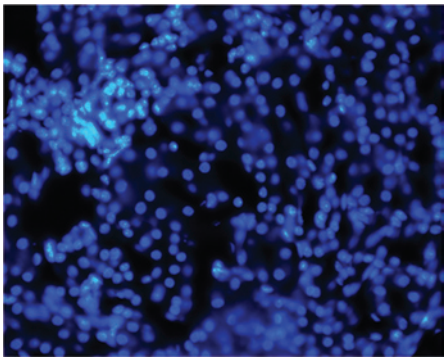
Cell, DAPI



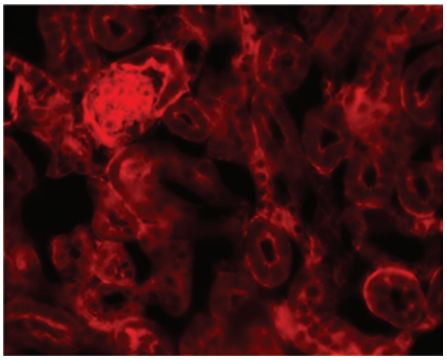
Cell, GFP



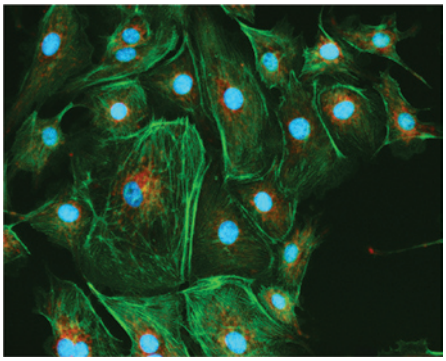
Cell, Cy5



Mouse kidney tissue, DAPI



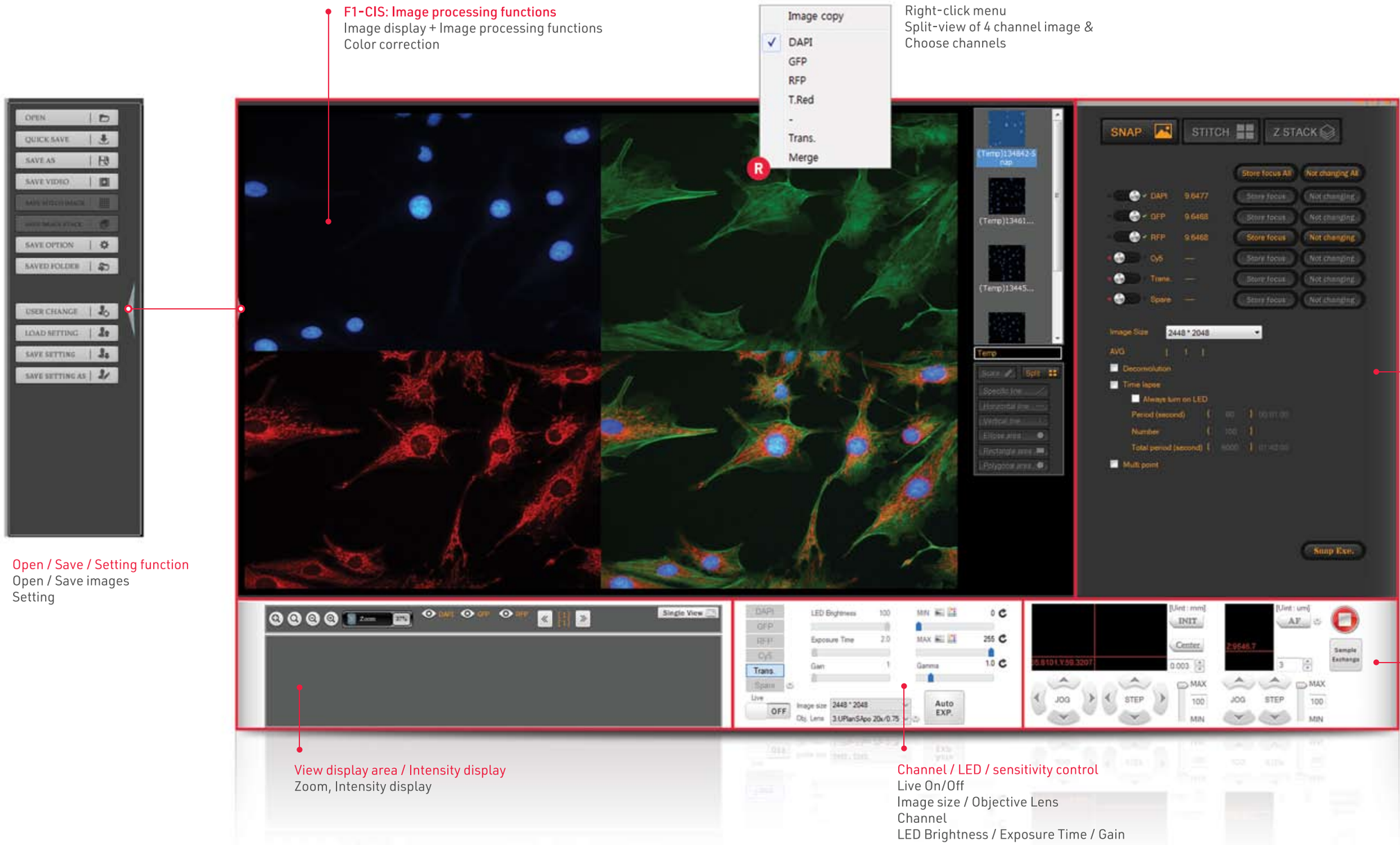
Mouse kidney tissue, Cy5



Cell, Merge

F1-CIS Operating / Analysis Software

F1-CIS's dedicated software controls all the opto-mechatronics components by the easy and intuitive user interface.
Pre-defined batch process is available.



F1-CIS: Image processing functions
Image display + Image processing functions
Color correction

Right-click menu
Split-view of 4 channel image &
Choose channels

Open / Save / Setting function
Open / Save images
Setting

Image acquisition
Snap, Stitch, Z stack

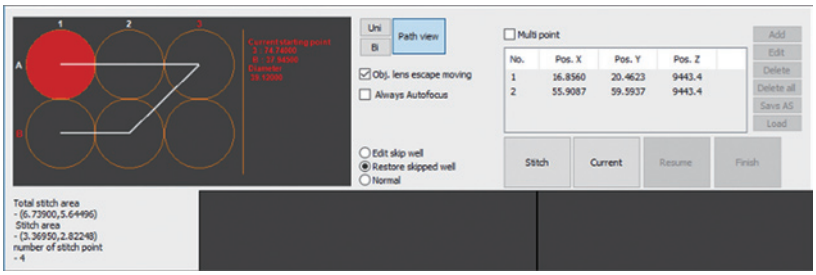
Stage control
X, Y, Z control
Imaging channel selection
Transmission laser selection

View display area / Intensity display
Zoom, Intensity display

Channel / LED / sensitivity control
Live On/Off
Image size / Objective Lens
Channel
LED Brightness / Exposure Time / Gain

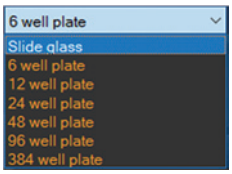
Automatic Well Plate Scanning

Automatic well plate scanning is a kind of large area stitching efficiently set for the well plate format.
It numbers wells automatically, and scans the circular well-areas only. Any standard well plates can be conveniently scanned.

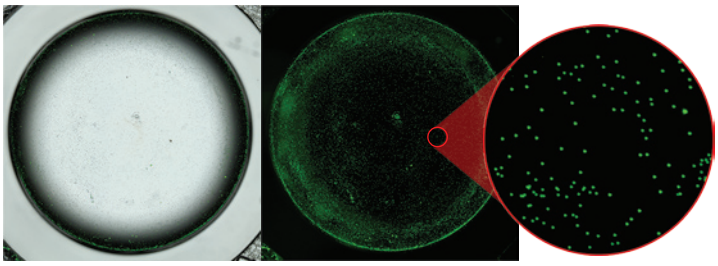


Numbering the wells automatically and selecting the target wells to scan

Scanning direction



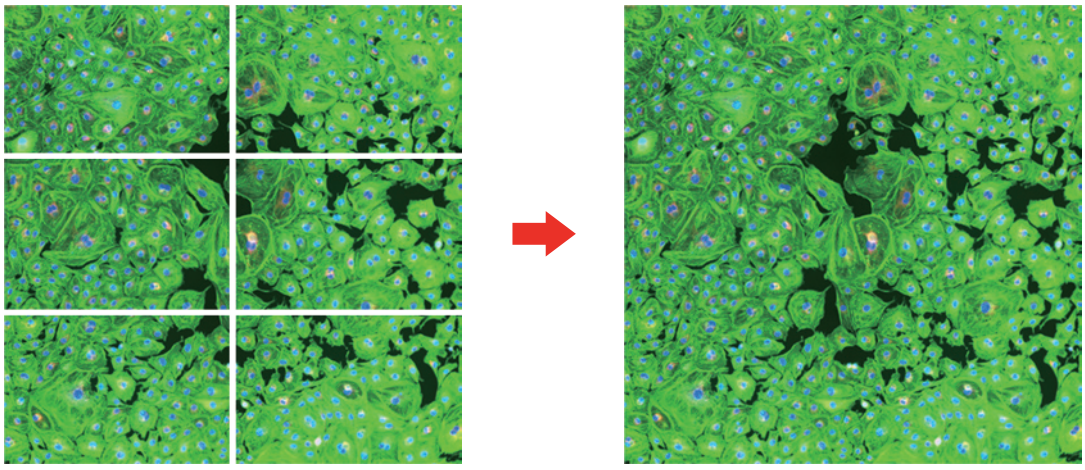
Type of standard well plates



Stitched image of a single well of 6 well plate

Image Stitching

The consecutive imaging of pre-defined area, and stitching of these acquired images will provide a lot of convenience for the wide range imaging of large samples. The stitched image can be analyzed as one single image, and/or the user can also observe original individual images to see specific segmentations of the stitched image in detail.
Slide glass imaging, or well-plate scanning is available with this function.



Array of multi-point images

Stitched image (with boundary processing)

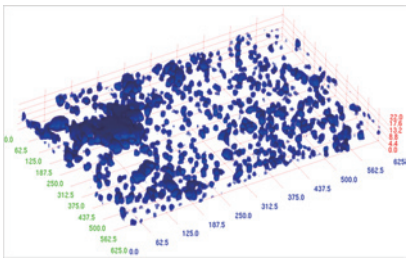
20x objective lens / 3 fluorescence color / Part of stitched area 3x2mm (6 images of 4x4 images)

Z-stack

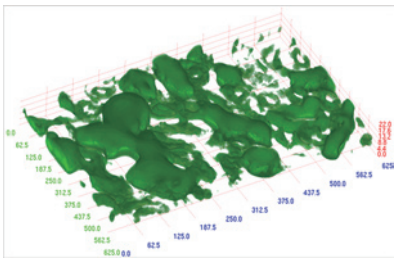
Z-stacking (also known as focus stacking) is a digital image processing method which combines multiple images taken at different focal distances to provide a composite image with a greater depth of field (i.e. the thickness of the plane of focus) than any of the individual source images. Z-stacked images can be reconstructed as 3D images by deconvolution algorithm.

Z-stack window

Reconstructed 3D image of cell nuclei and cytoplasm by 3D deconvolution algorithm



Cell nuclei



Cytoplasm

Specifications

Automated functions	Well plate scanning / Z-stack Time lapse / Multi-point stitching Full focus stitching / Auto focus (Image based)
Supported labware	Slide glass, Well plate (6 to 384 wells), Petri dish, etc.
Imaging method	Fluorescence, Bright-field, Phase contrast
Imaging channels	4 fluorescence and 1 bright-field, Motorized switching
Filter cube	DAPI, GFP, RFP, CY5, CFP, YFP, Cy7, TRITC, etc. Custom filters available
Objective lens	1.25X - 100X (Olympus high-grade lens)
Excitation source	High power LED with brightness control
Camera	5M pixels Scientific-grade color camera
Image output	2448 x 2048 pixels (5M pixels Scientific-grade color image) 24-bit color Tiff, PNG, or JPG Video: MP4
Motorized hardware	XY stage (120 x 75 mm, Covering full range of well plates) Focus stage (15 mm) Filter changer (4 fluorescence and bright-field) Objective lens revolving turret (6 positions) Condenser (70 mm, 5 positions)
Computer / Monitor	External PC / Internal PC (optional) / 27" monitor
Power	100-240 VAC, 150 W, 50/60 Hz
Size	36 x 47 x 53 [WxDxH] (cm)
Weight	32 kg

F1-CIS

Automated
Cell Imaging
System

NANOSCOPE SYSTEMS

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