DP72 specifications

Camera	Type	Single chip color CCD camera (Pixel shifting)
	Cooling system	Peltier device (max Ta-10°C)
Imaging sensor	Size	2/3-inch
	Effective pixels	1.45 megapixels (total :1.5 megapixels)
	Scanning mode	Progressive
Microscope camera mount		C-mount
Effective image resolution		4140 x 3096 (pixel shifting) 2070 x 1548 (pixel shifting) 1360 x 1024 (1 x 1) 680 x 512 (1 x 1) 680 x 510 (2 x 2) 340 x 250 (4 x 4)
Sensitivity		ISO 200/400/800/1600
A/D		12bits
Metering modes		Full image, 30%, 1%, or 0.1% spot metering (user-definable location)
Exposure control	Mode	Auto, Auto SFL, manual
	Time	23 µs to 60s
	AE lock	Available
	Adjustment	±2.0 EV, step:1/3 EV
Image integration	Mode	Integral/average
	Number	64 (maximum)
Display frame rates	Binning	2 x 2, 4 x 4
Color modes		Color/ standard gray scale/ custom gray scale
White balance	Mode	Range setting auto/manual
Black balance	Mode	Range setting auto/manual
Time-lapse photography	Interval duration	1s ~24 hr 59 min 59 s
	Number of images	3000 (max)
Image transfer time		Approx. 2.5 s* (Max resolution of 4140 x 3096, from start to display)
Motion image display		Max 15 frames/s (image size of 1360 x 1024)
Preview image quality mode		Standard/ Medium image quality/ High image quality
Dimensions & weight	Camera head	112(ø)x87.8(H) mm (not including attachment), approx. 1,150 g
	PCI interface board	181 (W) x 121 (D) x 21.6 (H) mm, approx. 200 g
	Camera interface cable	Approx. 2.7 m
	Trigger I/O cable	Approx. 0.2 m

* For exposure times ranging from 23 µs to 67ms, image acquisition time may take longer if several tasks are active in the background.
• Replacement parts are available for 5 years after purchase.

Recommended specifications for desktop PC

CPU	Intel Pentium 4 620 2.8 GHz or higher, Intel Core2 DUO 1.8 GHz or higher [Core2 DUO E6400 2.13 GHz or higher recommended]
Chipset	Intel 945 or later
RAM	DDR2/DDR3 512MB or more (1GB or more for Windows Vista) [PC2-4200 or greater, Dual-channel DDR2 1GB or more recommended]
HDD	Free space 500MB or more
Graphic	VGA card for PCI-Express x16 with display of 1280 x 1024 or better, 32-bits color per pixel *Onboard graphic also available
Extension slot	PCI-Express Rev.1.0a or later Compatible with half size or LowProfile PCIe board (106.7mmx174.6 mm)
OS	Windows Vista Business, Ultimate 32bit/64 bit, Windows XP Professional SP2 or later (Not compatible with x64 Edition)
Power supply	250 W or more (With CE marking)

Recommended specifications for laptop PC

CPU	Intel Core2 DUO series 1.8 GHz or higher [Core2 DUO T7300 2.0 GHz or higher recommended]
Chipset	Intel 945 or later
RAM	DDR2 512MB or more (1GB or more for Windows Vista) [PC2-5300 or greater, Dual-channel DDR2 recommended]
HDD	Free space 500MB or more
Graphic	Onboard graphic with display of 1280 x 1024 or better, 32-bits color per pixel
Card slot	ExpressCard 3/4
OS	Windows Vista Business, Ultimate 32bit/64 bit, Windows XP Professional SP2 or later (Not compatible with x64 Edition)

Dimensions

(unit: mm)

ø112
87.8
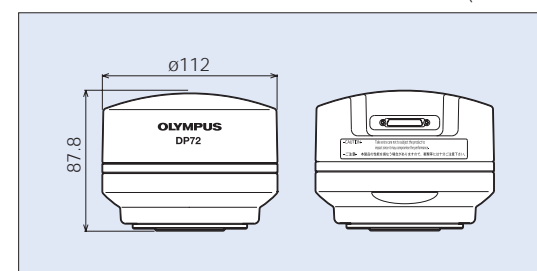
OLYMPUS
DP72

This product contains precision electronic components that can break or malfunction if subjected to strong vibrations or impacts. Please handle with care.
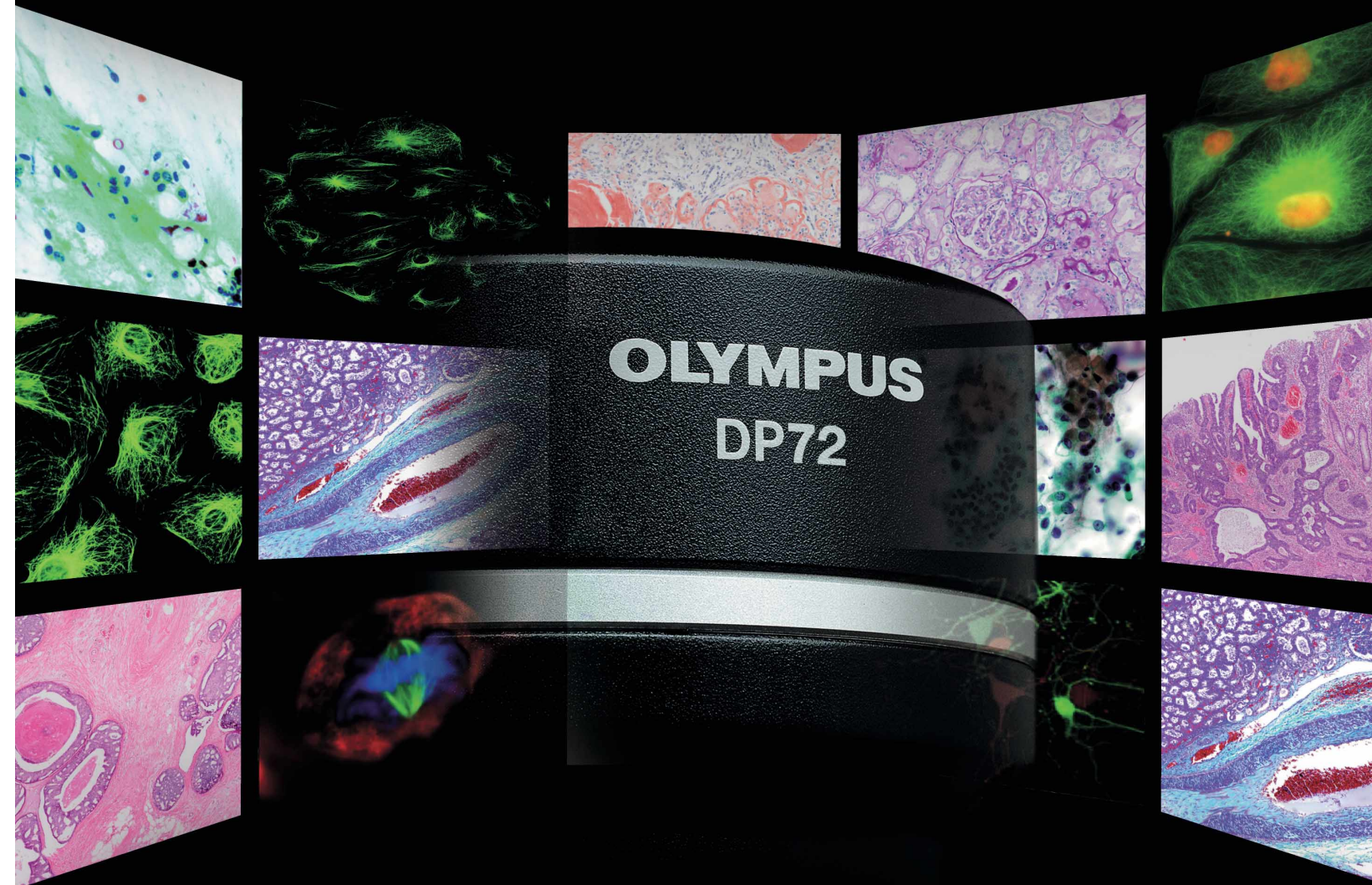

OLYMPUS®
DIGITAL CAMERA
DP72

Your Vision, Our Future

NEW

Further advanced digital micro-imaging

OLYMPUS
DP72

*All brands are trademarks or registered trademarks of their respective owners.

The highly advanced DP72

has been created

for analyzing microstructures;

detecting slight differences in color;

and for smooth imaging

BX51 configuration

IX71 configuration

High-resolution & High-fidelity color reproduction

High level of color fidelity recording of microstructure and slight differences in color enables accurate and quick examination.

Super high-resolution, equivalent to 12.8 megapixels

■ The application of pixel-shifting technology results in a 4140 x 3096 pixels maximum, 12.8 megapixels equivalent super high-resolution image. This enables highly accurate examination.
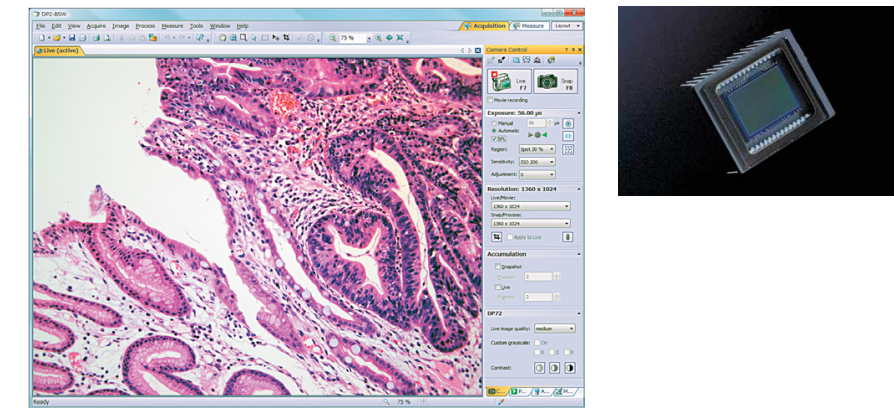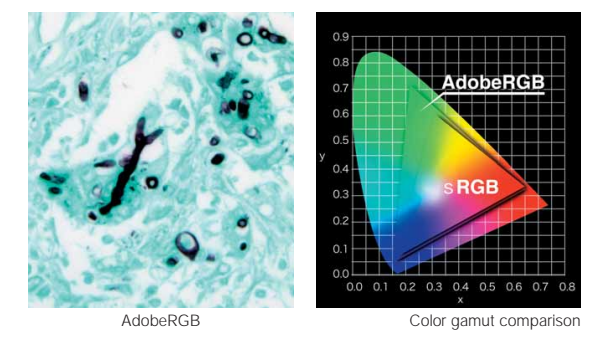
Unparalleled clear and sharp fluorescent imaging

■ The DP72's dedicated 2/3-inch CCD is cooled by a Peltier element to 10°C below ambient, to capture clear and low-noise fluorescent images. High-sensitivity and low-noise (equivalent to ISO1600) image capture, combined with the 2 x 2 and 4 x 4 binning function gives sharp, clear results with faint fluorescent signals at high speed.

Exposure time: 1/30
ISO: 1600

Exposure time:1/3
ISO: 200
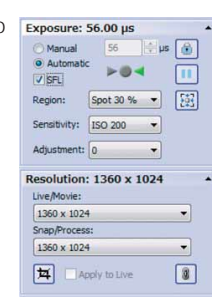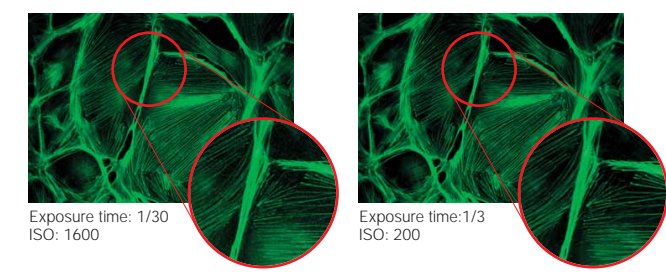
### Improved color reproduction fidelity by supporting AdobeRGB

■ AdobeRGB*, which provides a larger color gamut, is supported in addition to conventional sRGB, for higher-fidelity recording of slight differences in color in dyed specimens. In particular, green regions can be more clearly reproduced.
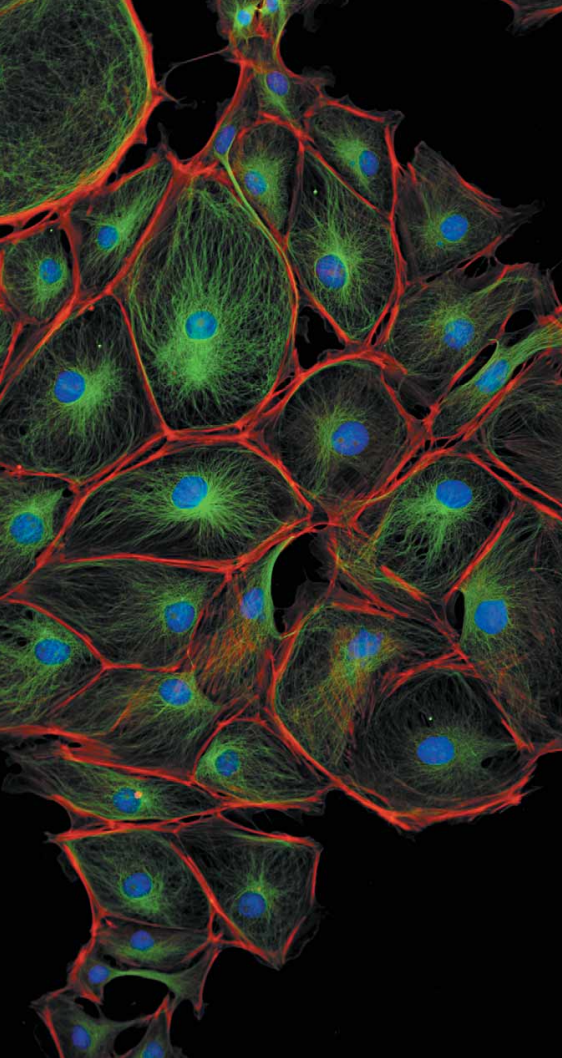
* Color reproduction fidelity also depends on monitor characteristics. To reproduce images recorded in the AdobeRGB mode accurately, use a monitor that supports AdobeRGB.

AdobeRGB

Color gamut comparison
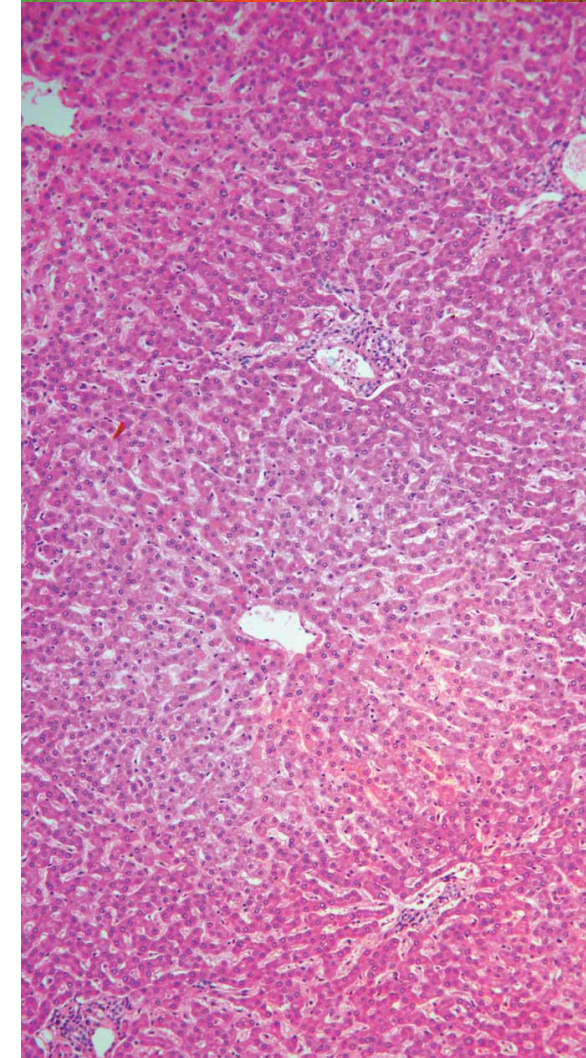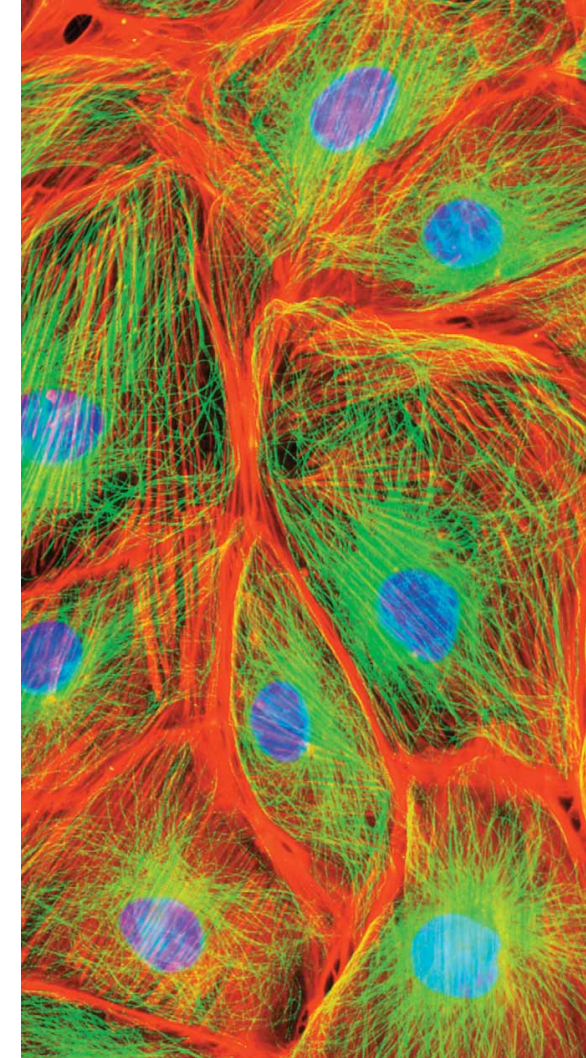
## High-quality live display & High-speed image acquisition

Seamless and high-quality live display, as well as high-speed image acquisition, allowing stress-free observation.
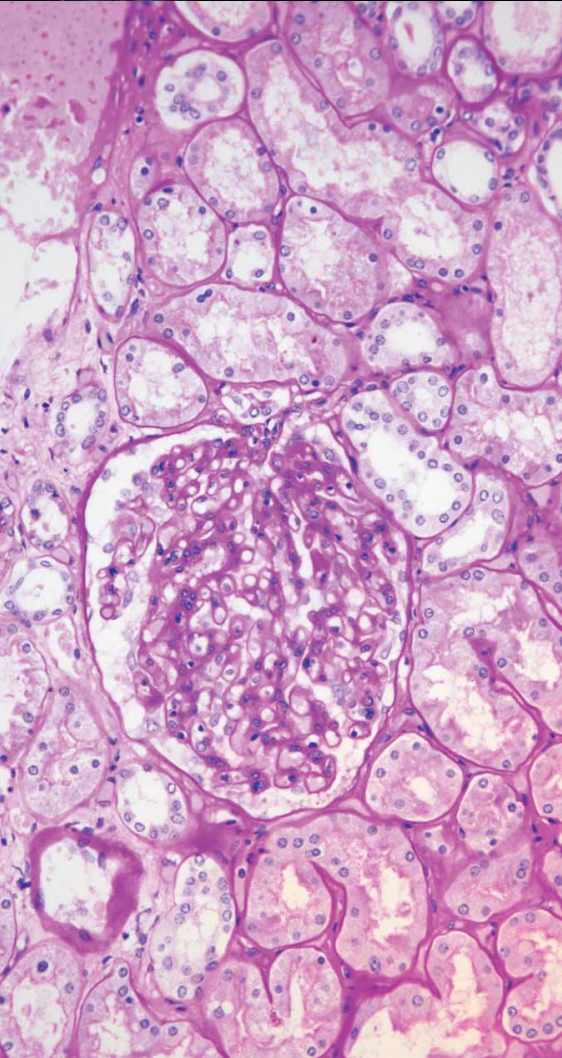
High-quality real-time live display

■ A high level of color fidelity along with fine levels of color graduation and detailed live display with RGB 24bit/1360 x 1024 pixels are provided in real time at 15 frames per second with no image compression. The high-quality and seamless live display with no time lag enables easy focusing and framing on the monitor.

■ Images are clear even in full-screen live display due to the image without compression from the camera.

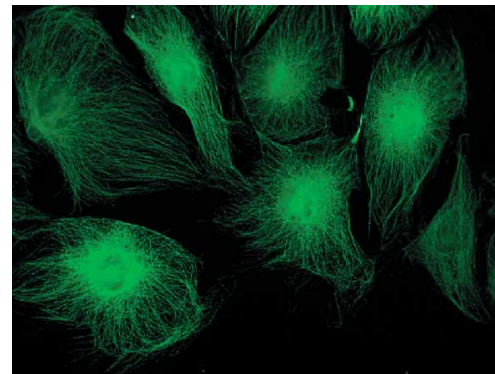1360 x 1024 pixels detailed live display without compression
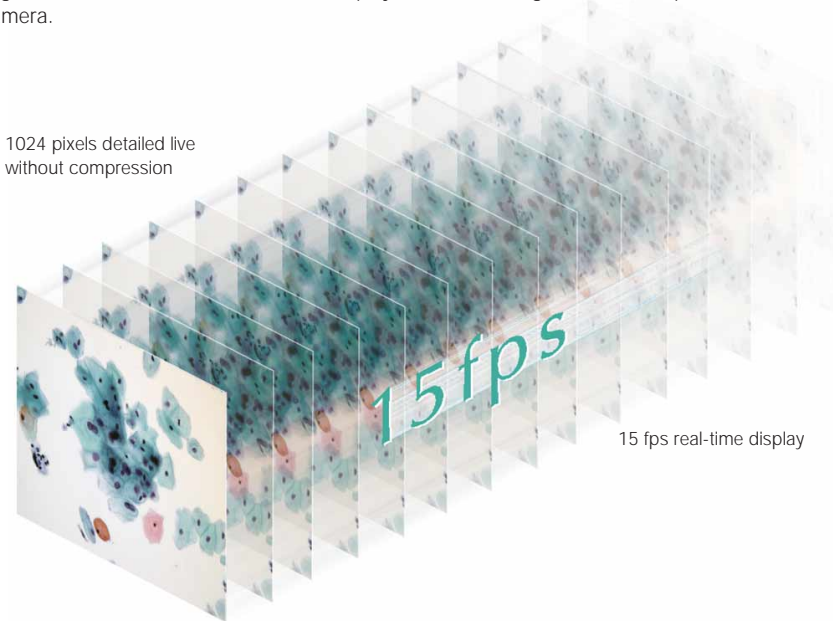
15 fps real-time display

Clear live display of fluorescence images

■ Bright and low-noise fluorescence images are displayed in real time. High image quality mode for live display delivers clear images without noise, even for dim fluorescent signals.

High image quality mode

Rapid image acquisition in only 2.5 seconds

■ High-speed RGB-24bit data transmission has been accomplished by adopting PCI-Express. A 12.8-megapixel super high-resolution image can be acquired in only 2.5 seconds* without any reduction in the number of pixels or number of colors, realizing stress-free accurately-reproduced specimen image acquisition.

* For exposure times ranging from 1/44,000 ~ 1/15 seconds, image acquisition time may take longer if several tasks are active in the background.

Excellent operability

Simple setting of shooting conditions enables optimal image recording.

Easy and accurate focusing

■ A focusing indicator function makes focusing in a live image easy: a line profile function lets you focus accurately on user-defined regions. Additionally, the region in focus can be magnified up to 16 times.
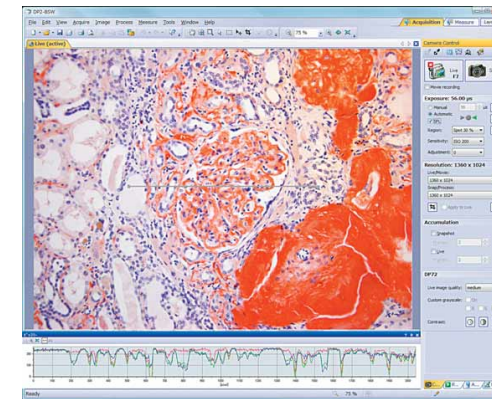

Line profile function

Accurate automatic exposure for different specimens

■ Three photometric metering options, of varying area sizes, are available to optimize specimen exposure: 30%, 1%, and 0.1%. The selected area can be moved freely, allowing the ideal exposure by eliminating frame changes caused by moving the specimen.

■ The SFL-automatic exposure mode, which enables automatic exposure for fluorescence specimens, supports fail-proof fluorescence image acquisition.
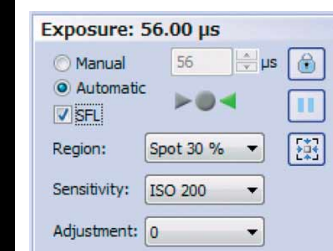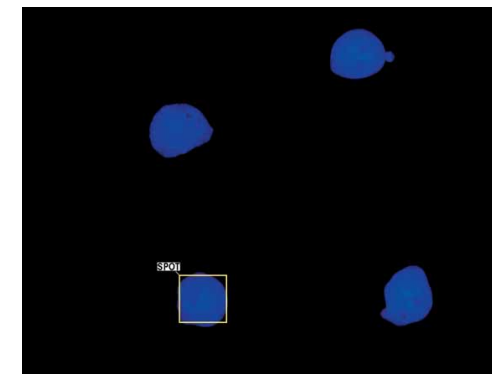

Automatic file naming and saving

■ Adds serial numbers, dates and other details to respective file names designated by users, and automatically saves the images with designated information. Especially convenient for streamlining workflow during continuous/serial image acquisition.

Connectibility with laptop computer

■ The DP72 can be connected with a laptop computer equipped with an ExpressCard slot. (Please contact your local Olympus representative or dealer for details.)
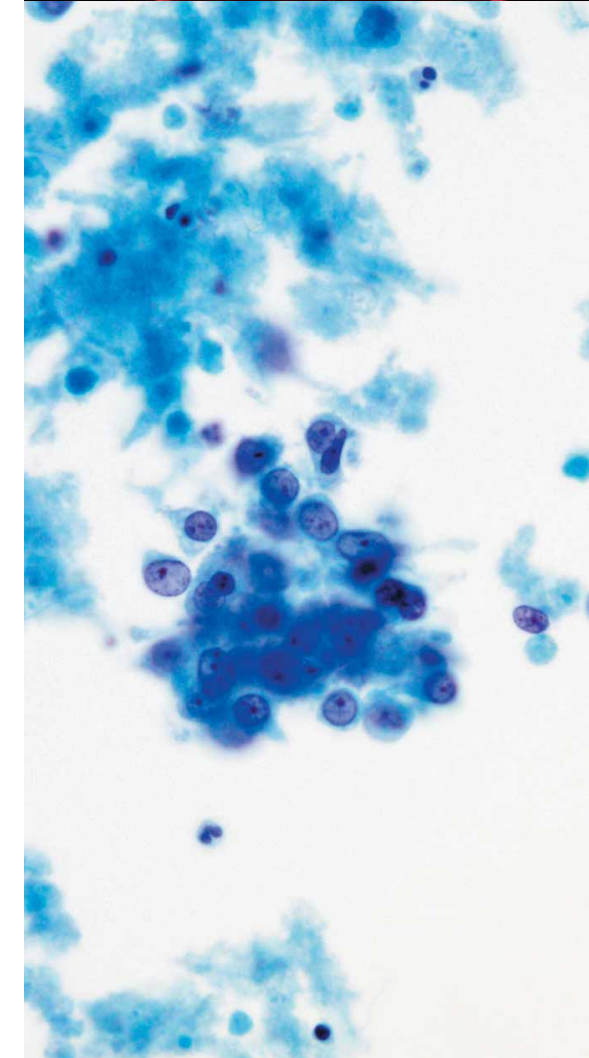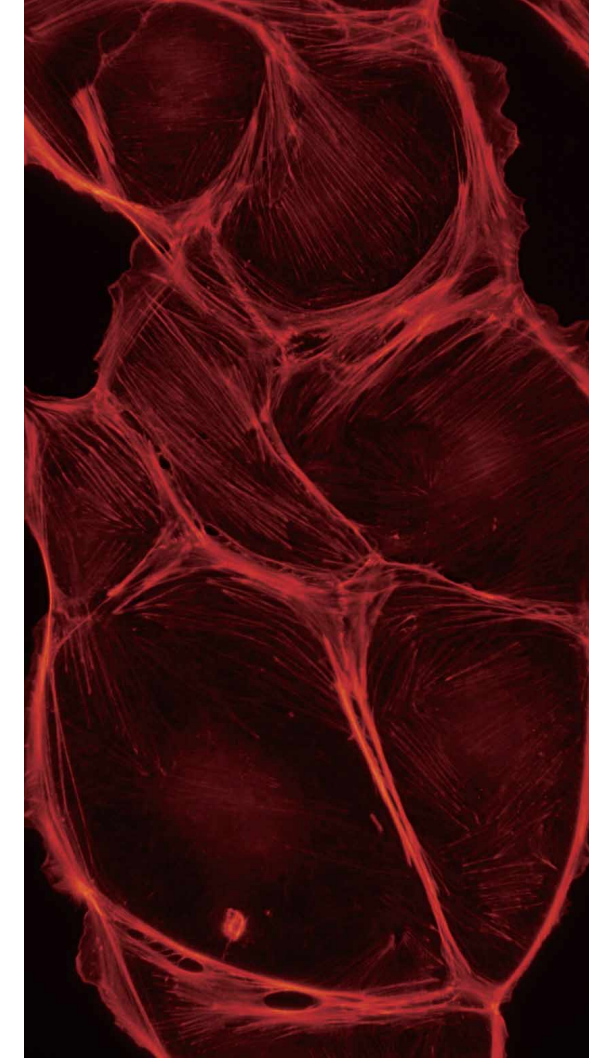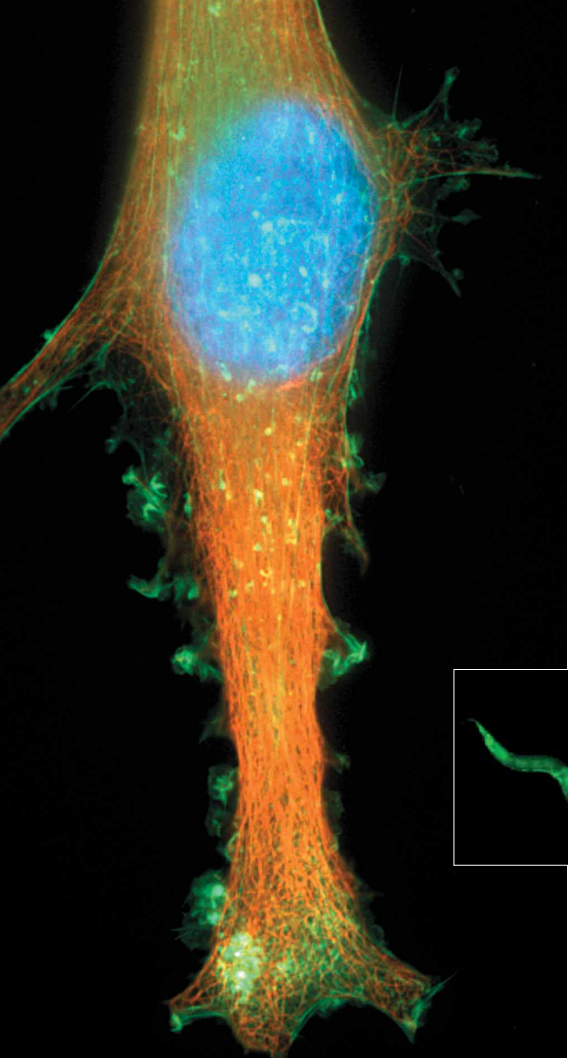
Imaging software—
# software to support basic functions

DP2-BSW *

The DP2-BSW's various features, including time-lapse and motorized microscope control, make imaging more convenient and versatile.

* As per the software for Europe, please contact the nearest Olympus representative office.

Easily record a time-lapse movie or acquire a series of images of a moving specimen

■ The DP2-BSW's time-lapse feature lets you set the starting time of a photo sequence, the duration, the number of images, and thus the chronological development of the whole sequence. With the maximum (1360 x 1024) image size selected, images of a moving specimen can be recorded at up to 15 frames per second.
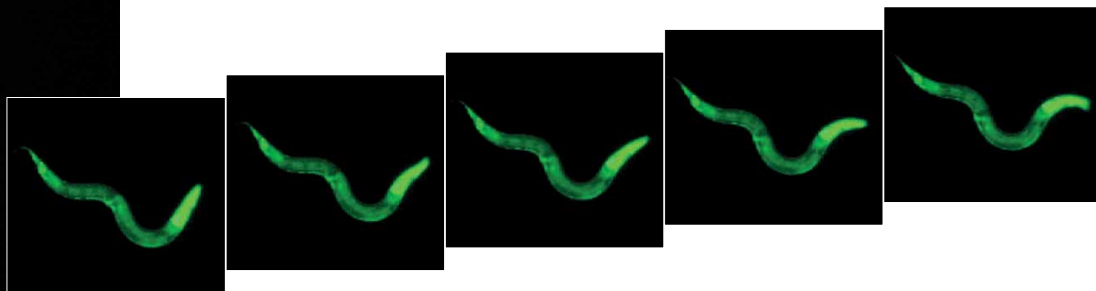
Motorized microscope control

■ IX81/BX61 motorized microscopes can be controlled from a personal computer. Different conditions can be set for respective observation methods, and the observation method can be changed by simply clicking on a button on the controller screen.
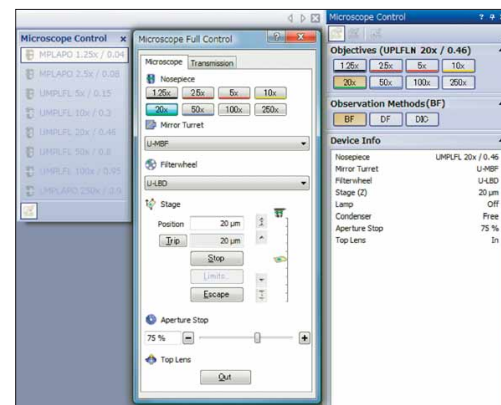
Overlay fluorescent images

■ Combine multiple color images (from a single specimen) from different excitation wavelengths, into a single final image. For image optimization, the DP2-BSW has a pixel registration function which guarantees the accurate overlay of images from different filter sets.
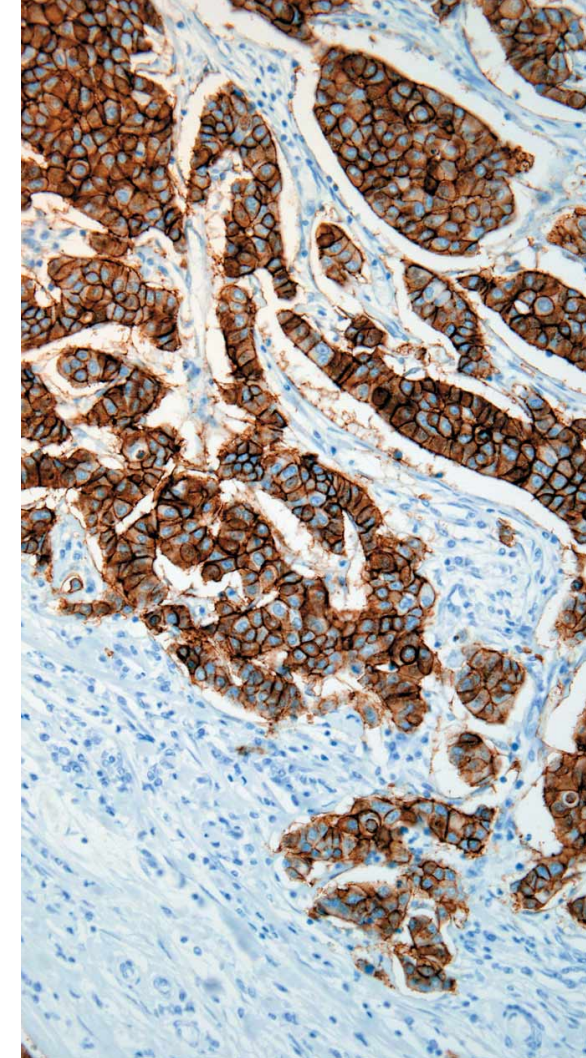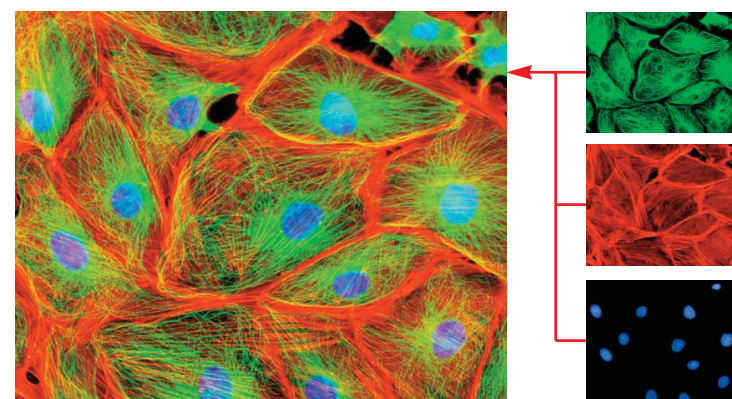
### Grayscale image with a broad range of gradation

■ Capturing fluorescent specimens stained a single fluorochrome such as Alexa488 or dim fluorescent signals in a high-sensitivity custom grayscale mode* produces precise grayscale images with broad range of gradations. Cell damage can be minimized because the exposure time can be shortened compared to the multi-color mode.
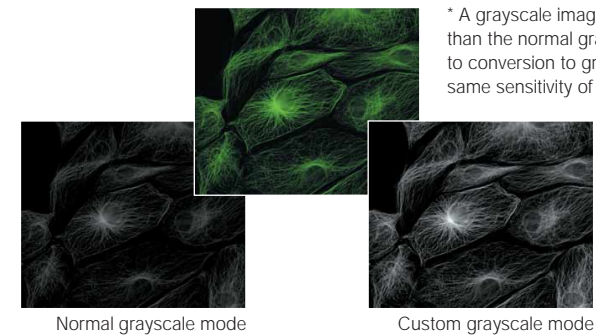
* A grayscale image with a range of gradation broader than the normal grayscale mode can be produced due to conversion to grayscale image while maintaining the same sensitivity of each RGB color.

Normal grayscale mode   Custom grayscale mode

Saving image with scale bar and text

■ A reference scale bar can be displayed, overlayed, and subsequently burned onto a saved image. Arrows and text can also be entered and saved in an image.

500 pixel
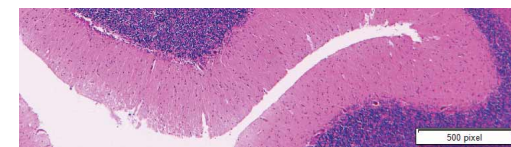
Interactive measurements

■ Several functions for measuring live or still images, including point measurements, arbitrary line, polygon, circle and ellipse or rectangle measurements, are integrated.
For further processing the measurements can be exported to MS Excel with the simple click of a mouse.

SYSTEM DIAGRAM

DP72 <camera unit>
Camera head
PCI-Express interface board
Camera interface cable
C-mount camera adapter
Microscope
External trigger cable
PC/AT compatible PC
DP2-BSW *
Basic software
DP72-PXU<PCIe extension unit>
PCI-Express x1 cable   ExpressCard/34
PCI-Express extension box
Laptop PC