cell analysis

thermo scientific invitrogen

Guide to Invitrogen imaging systems

A one-stop solution for your microscopy needs

Find it at **fishersci.com**

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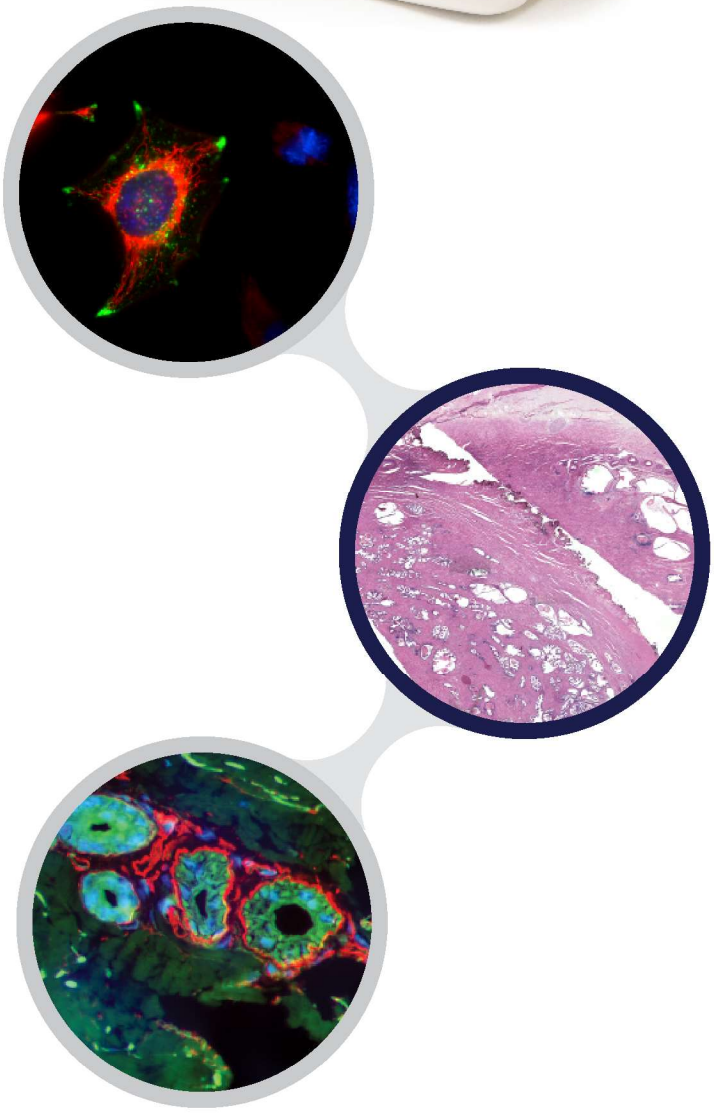
part of Thermo Fisher Scientific

Compact and portable imaging systems

Now you can have an easy-to-use cell imaging platform where you want it and when you want it. Simply place your Invitrogen™ EVOS™ imaging system at your desired location, flip the switch, and you'll typically be ready to go in under two minutes.

From intimate hands-on demonstrations to presentations of data in front of large audiences, EVOS imaging systems are perfect for teaching, sharing, learning, and discovery.



Publication-quality imaging

In today's competitive scientific environment, generating publication-quality images is critical to your success. To help ensure you get the image quality you need, EVOS systems give you top-of-the-line imaging components, including:

- High-quality camera and optics to capture high-resolution images
- LED illumination to produce exceptional signal-to-noise ratios
- Easy-to-use image processing and analysis software for ready-to-publish images

Technology that's better for our environment

Traditional light sources in fluorescence microscopy use mercury-based bulbs that contain a carcinogen, requiring special handling and disposal. By using LED light sources, EVOS systems do not require these special steps and are thereby more environmentally friendly and more energy-efficient.

EVOS imaging systems at a glance




	M7000	M5000	FLoid	XL Core
	Cat. No. AMF7000	Cat. No. AMF5000	Cat. No. 4471136	Cat. No. AMEX1000
	Fluorescence			Brightfield
Hardware attributes				
Simple installation	Yes	Yes	Yes	Yes
Installation and training	Service team	User	User	User
Motorized encoded X/Y scanning stage	Yes			
Manual mechanical stage		Yes	Yes	Yes
Mechanical or fixed stage option				Yes
Objective turret positions	5	5		4
Objective range	1.25–100x	1.25–100x	20x	1.25–100x
Fluorescence channels	4	4	3	
Fluorescence LED light cubes	Yes	Yes		
Monochrome or color camera option	Both	Mono with LED-based RGB illumination scheme	Mono	Color
Epifluorescence images	Yes	Yes	Yes	
Transmitted-light images	Yes	Yes	Yes	Yes
Color images	Yes	Yes	No	Yes
Benchtop system	Yes	Yes	Yes	Yes
Suitable for use in tissue culture hood		Yes	Yes	Yes
Darkroom needed	No	No	No	No
Associated printer		Optional	Yes	
Onstage incubator for time-lapse imaging	Optional	Optional		
Time-lapse imaging	Multichannel	Multichannel		
Autofocus	Yes	Yes		
Z-stack capability	Yes	Yes		
Automated multiwell plate screening	Yes			
Cloud connectivity		Yes		
USB ports	Yes	Yes	Yes	Yes
DVI ports		Yes		
Software attributes				
Celleste analysis software	Optional	Optional	Optional	Optional
Embedded analysis		Yes		
Intuitive onboard software	Yes	Yes	Yes	Yes
Networking capability	Yes	Yes	Yes	
Integrated reagent selection guide			Yes	

EVOS M7000 Imaging System

A powerful, fast, fully automated system

Bring high performance and fast, automated imaging right to your lab bench with the Invitrogen™ EVOS™ M7000 Imaging System. This system has been designed with advanced capabilities to simplify demanding cell-based imaging applications such as live-cell analysis, image tiling, and Z-stacking, so you can focus on acquiring images and data rather than instrument operation.

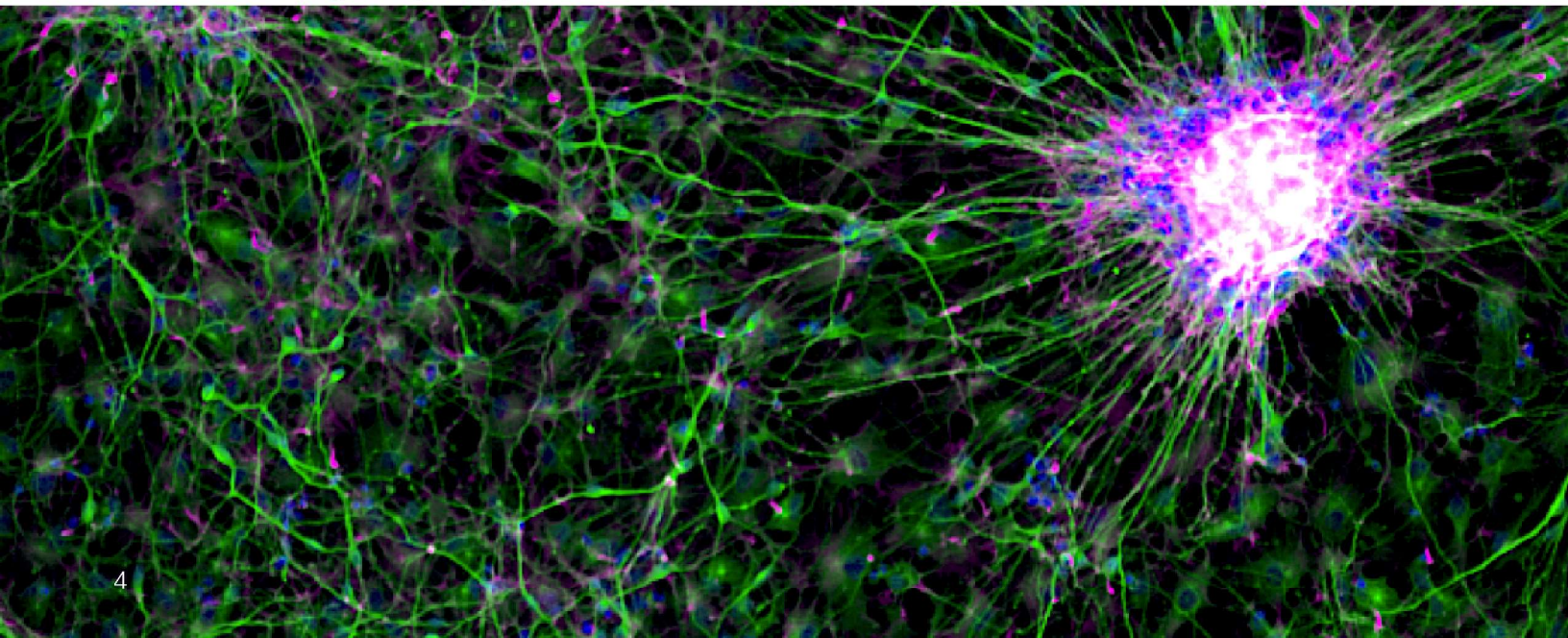
Features

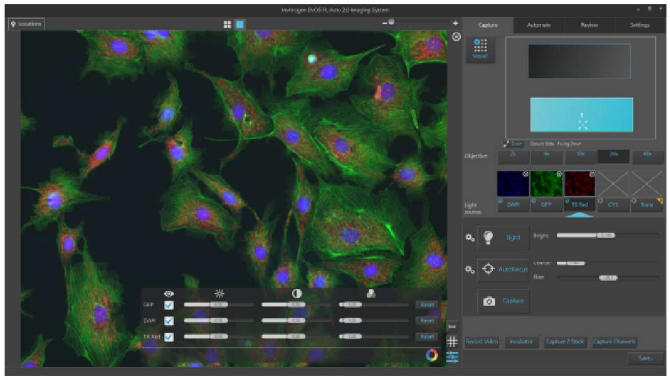
- **Speed**—scan a 96-well plate in three fluorescence channels in less than five minutes
- **Flexibility**—customize the system with more than 20 user-changeable LED light cubes, dual cameras (monochrome and color), a variety of objectives ranging from 1.25x to 100x, and multiple vessel holders
- **Time-lapse live-cell imaging**—onstage incubator option for precise control of temperature, humidity, and gases for normoxic or hypoxic conditions allows a wide range of biological studies under physiological conditions
- **Two cameras, no compromises**—all systems come with two cameras: a dedicated high-sensitivity monochrome camera optimized for fluorescence imaging and quantitation, and a dedicated high-resolution color camera optimized for colorimetric imaging
- **Area view**—move rapidly and seamlessly between single-field mode and low- and high-magnification scan modes to easily define and capture the area of interest
- **Automation**—time-saving features such as autofocus, rapid stage movement, and automated routines help reduce time to complete experiments, allowing high throughput, high data quality, and improved experimental reproducibility
- **Data analysis**—extensive quantitative imaging and statistical analysis in combination with Invitrogen™ Celleste™ Image Analysis Software, an optional advanced software package offering powerful tools for image segmentation and classification that can be used for cell counting and for measuring changes in intensity, area, and shape over time

SmartStart installation and training

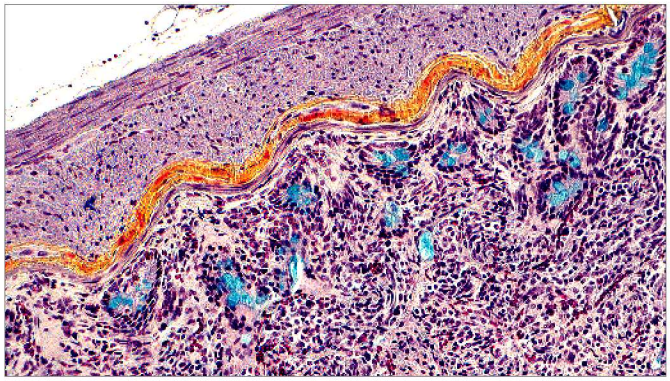
A specialized installation and training program will get you up and running in just one day. One of our dedicated field application scientists comes to your site to provide hands-on workflow training and make sure your lab is quickly enabled to utilize the instrument's powerful features to maximize productivity.

Neural stem cell colony, 10x objective; light cubes: GFP, RFP.





Easy-to-navigate user interface.



FFPE section of rat intestine tissue, 20x objective, color camera.

System highlights

Attribute	Details
Optics	Infinity-corrected optical system; Royal Microscopical Society (RMS) threaded objectives with a 45 mm parfocal distance
Imaging mode	Fluorescence, brightfield, color brightfield, and phase contrast
Illumination	5-position chamber for 4 fluorescence light cubes plus brightfield imaging; light cubes with integrated hard-coated filter set and LED light source with >50,000-hour life; broad selection of standard and specialty light cubes
Imaging methods	Single color, multicolor, area scan with montage or tile stitch, time lapse, Z-stacking, movie capture
Objective capacity	5-position turret
Objectives (not included)	Wide selection of high-quality long working distance (LWD) and coverslip-corrected objectives
Condenser	60 mm LWD condenser; 4-position turret with a clear aperture and 3 phase annuli
Stage	Motorized X/Y scanning stage; 120 mm x 80 mm travel range with submicron resolution; drop-in inserts to receive vessel holders and lockdown holders to fix sample in place during long scans
Focus mechanism	Automated focus mechanism with submicron resolution
LCD display	23 in. high-resolution touchscreen color monitor (also fully controllable via mouse); 1,920 x 1,080 resolution
Cameras	High-sensitivity 3.2 MP (2,048 x 1,536) monochrome CMOS sensor with 3.45 µm pixel resolution; high-sensitivity 3.2 MP (2,048 x 1,536) color CMOS sensor with 3.45 µm pixel resolution
Computer	External Dell™ PC with an Intel™ Core™ i7-8700 processor, 32 GB DDR4 RAM, 512 GB PCIe solid-state drive, NVIDIA™ Quadro™ P1000 graphics card with NVIDIA™ Pascal GPU technology and 4 GB memory, and Windows™ 10 software, designed to operate with touchscreen monitor and microscope
Captured images	8-bit TIFF, PNG, JPG; 16-bit RAW monochrome: TIFF, PNG; movies and time-lapse images: AVI, WMV
Output ports	Microscope: USB 3.1 Type B, 4-pin power port Computer: 1 x USB 3.1 Gen 2 Type C; 5 x USB 3.1 Gen 1 Type A; 4 x USB 2.0 Type A; 1 serial; 2 x DisplayPort 1.2; 1 RJ45; 2 PS/2; 1 UAJ; 1 line-out
Networking capability	Connection through Windows/SMB network via an Ethernet cable connection
Power supply	24 V AC adapter with country-specific power cords
Dimensions (L x W x H)	457 x 356 x 330 mm (18 x 14 x 13 in.)
Weight	16 kg (35 lb)

Live-cell imaging with the Onstage Incubator

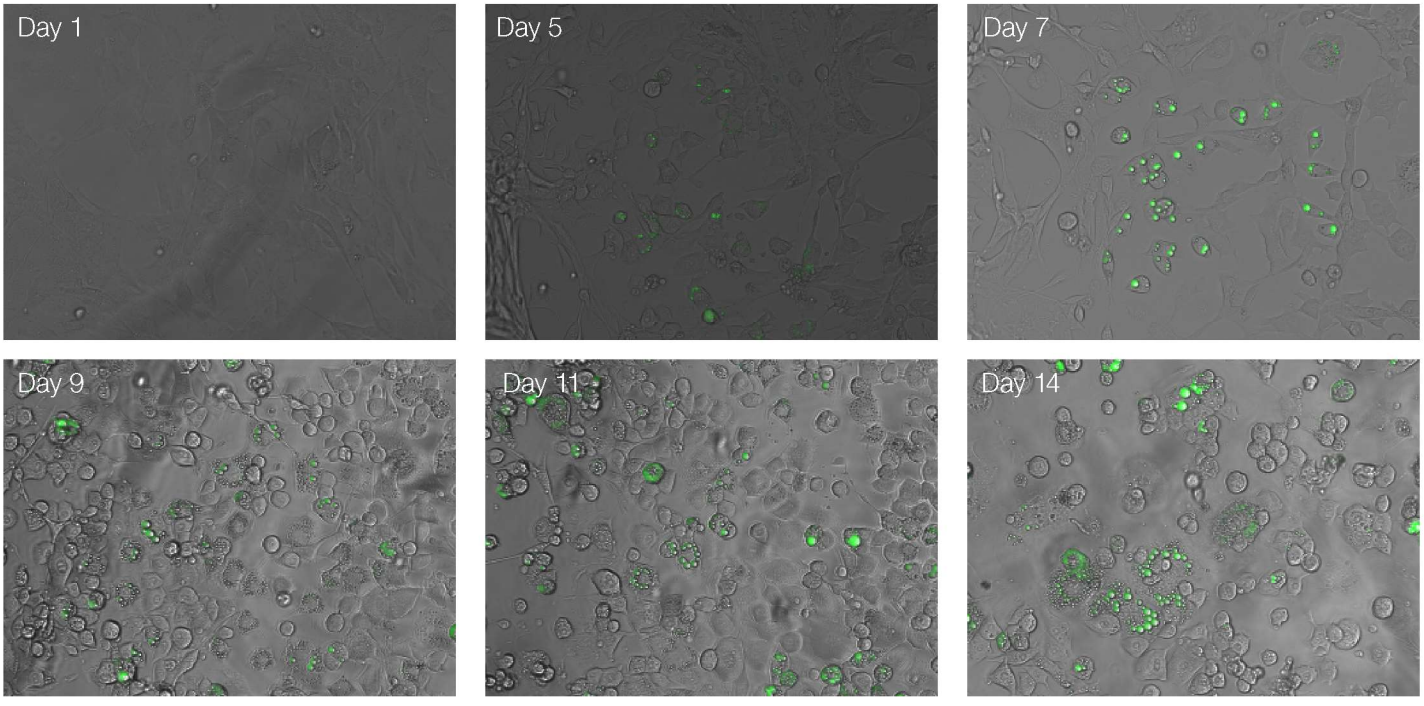
Cell imaging system onstage incubator

When combined with the onstage incubation system, the EVOS M7000 Imaging System is ideal for long-term monitoring of cell cultures and time-lapse imaging at high resolution. The Invitrogen™ EVOS™ Onstage Incubator is an environmental chamber that allows for precise control of temperature, humidity, and three gases for time-lapse imaging of live cells under both physiological and nonphysiological conditions, making the system ideal for demanding hypoxia experiments. The EVOS Onstage Incubator allows you to:

- Intuitively set environmental and image-acquisition parameters
- Easily maintain physiological or nonphysiological conditions with precise control
- Adjust environmental parameters while the experiment is running
- Helps save lab space with a small footprint and sleek design

Once you've captured images, you can seamlessly create and export them as movies:

- Create time-lapse images of every well of a 96-well plate, simultaneously
- Acquire time-lapse images in a single plane or Z-stacks
- Autofocus in each channel and region of interest
- Use metadata and time stamps included with each image frame of time-lapse movies



In these time-lapse images, 3T3-L1 cells (mouse fibroblasts) show increased adiposome numbers and size as they differentiate into adipocytes in differentiation medium.

EVOS Onstage Incubator specifications	
Compatible vessels	Multiwell plates; 35, 60, and 100 mm Petri dishes; T-25 flasks; chamber slides; and more
Temperature range	Ambient to 40°C
CO_2 range	0–20%
O_2 range	0% to ambient
Humidity range	>80% relative humidity at 37°C
Dimensions (H x D x W)	25 x 19 x 3.7 cm (environmental chamber) 37 x 16 x 20 cm (control unit)
Weight	1.5 kg (environmental chamber) 10 kg (control unit)
Compatible instruments	EVOS M5000, EVOS M7000, CellInsight CX5, CellInsight CX7, CellInsight CX7 LZR

High-content analysis onstage incubator

The Invitrogen™ High-Content Analysis (HCA) Onstage Incubator allows you to equip your Thermo Scientific™ CellInsight™ instrument with live-cell imaging capabilities, including the option to upgrade your existing CellInsight platform. Live-cell imaging enables you to observe biological processes as they happen, and onstage incubation creates an environment for longer-term imaging, allowing you to perform quantitative analysis. Onstage incubation also helps you control the environment for your cells so that you can observe and measure their biological changes over time. These capabilities are complemented by Thermo Scientific™ HCS Studio™ Cell Analysis Software for increased statistical power.

Observe biological processes as they happen

Extended imaging sessions rely on the provision of a controlled environment for the live cells under study. The Onstage Incubator allows precise control of temperature, humidity, and CO_2 levels so that you can observe and measure biological activity and changes over time. Data gathered from longer-term imaging studies are the basis of quantitative analysis studies, especially when combined with HCS Studio Cell Analysis Software.

Image analysis with Celleste software

Transform your 2D and 3D cell image analysis with Celleste 5.0 Image Analysis Software

A full-feature image analysis suite designed for any image-based biological application that generates publication-quality data, Invitrogen™ Celleste™ 5.0 Image Analysis Software helps process measurements over multiple data points to enable qualitative and quantitative data. Streamlined and customizable workflows allow for repeatability and reproducibility across experiments.

Features include:

- Powerful image analysis capabilities for segmentation, classification, and quantification of single images or a batch of images
- Comprehensive image processing and enhancement functions with optional modules for deconvolution, 3D rendering, and 3D analysis
- Rapid processing with manual and automatic measurements over multiple channels and images

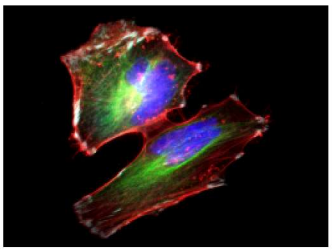
Invitrogen™ Celleste™ 2D Deconvolution Module
Improve single-plane image quality (signal-to-noise ratio) of cells or tissue slices by clearing background haze (out-of-focus light).

- Blind and nonblind deconvolution options
- Dramatically improved image quality
- Removal of blur that can obscure important details

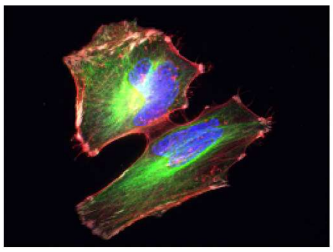
Invitrogen™ Celleste™ 3D Deconvolution Module
Dramatically improve resolution and clarity of thick samples like spheroids, tissue slices, or cells in 3D matrices by deconvolving image Z-stacks.

- Blind and nonblind deconvolution options
- Advanced point spread function (PSF) controls with measured and theoretical PSF options
- A suite of 3D display and visualization tools

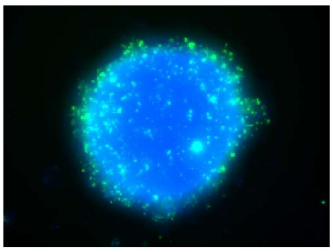
Widefield



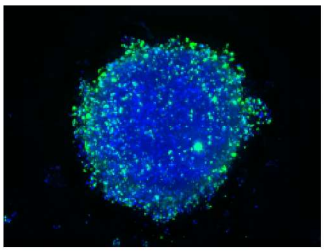
Deconvolved



Widefield



Deconvolved

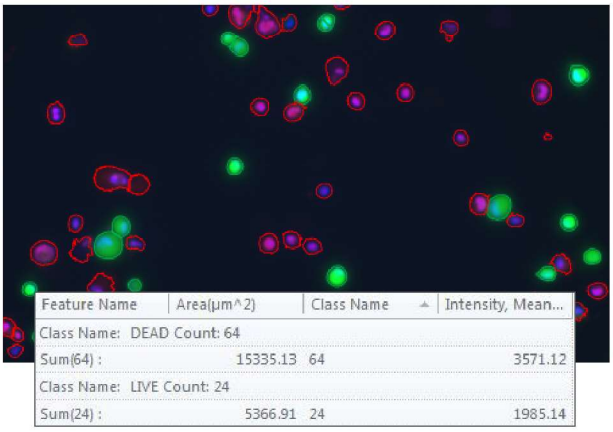


Find out more at **thermofisher.com/celleste**

Cell viability

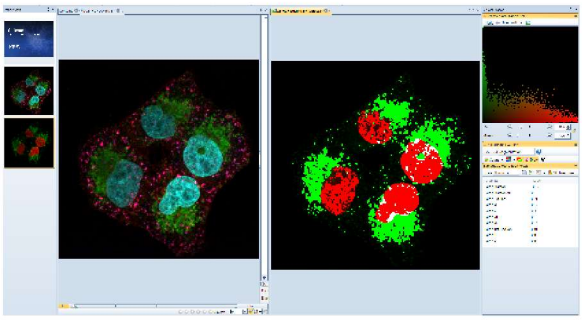
Using Invitrogen™ LIVE/DEAD™ labeling kits, you can label your cells, image them on the Invitrogen™ EVOS™ M5000 or EVOS M7000 microscopes, and perform cell counting measurements using Celleste 5.0 Image Analysis Software.

Simply import a multifluorescent captured image, apply smart segmentation, and get an accurate and rapid determination of cell viability.



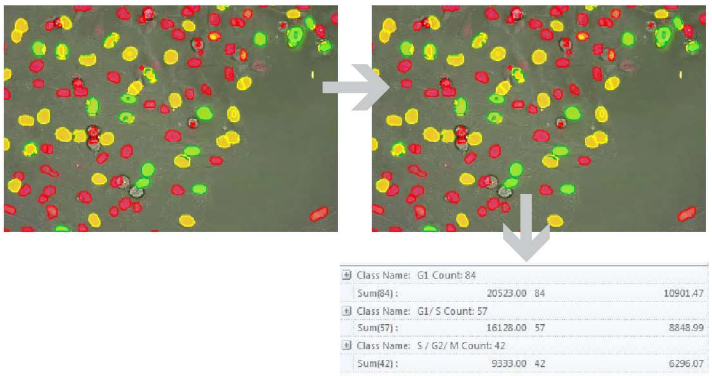
Colocalization

Celleste software includes a colocalization feature, which measures the spatial overlap between two (or more) different fluorescent labels to demonstrate a correlation between a pair of biomolecules in 2D or 3D space.



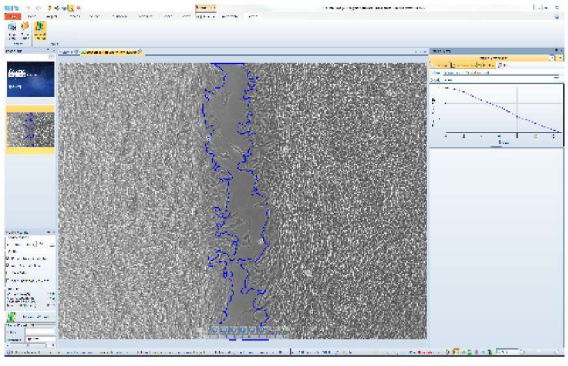
Cell cycle

Researchers looking at changes in the cell cycle during an organism's development can use Celleste 5.0 Image Analysis Software to monitor intensity and color as cells go through the different cell cycle phases.



Wound healing

Wound healing, embryonic development, and tumorigenesis involve an orchestrated movement of cells in particular directions in response to external signals, both chemical and mechanical. With the wound-healing measurement on Celleste software, you can generate data on migration rate and direction with the touch of a button.

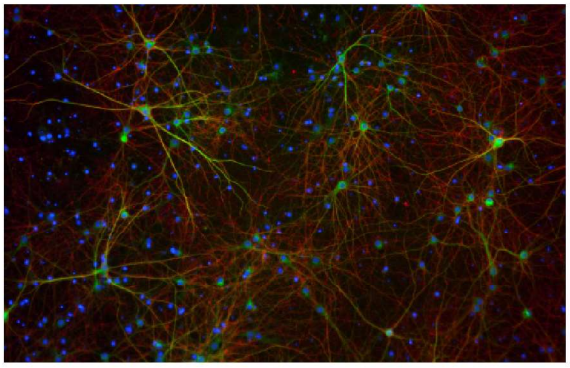


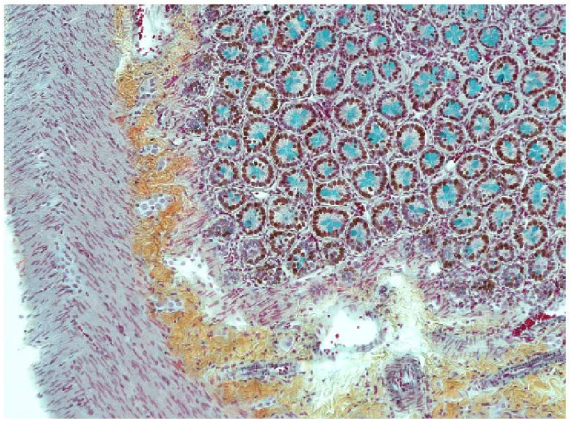
EVOS M5000 Imaging System

Form, function, and flexibility in one

Features

- Onboard software for acquisition, annotation, and analysis
- Machine learning–based cell counting and confluency analysis
- Autofocus, Z-stack capability, time-lapse imaging, and multichannel capture with a single click
- Automated multichannel fluorescence
- High-resolution monochrome camera and novel LED-based color illumination modes
- Proprietary RGB illumination for color images
- Connect, our cloud-based platform, enables you to access images and data anytime and anywhere with an internet connection





Unique and proprietary color illumination mode enables rendering of true color in transmitted light.

System highlights

Hardware	Details
Illumination	LED light cubes (>50,000 hr life per light cube) with adjustable intensity
Contrast methods	Epifluorescence and transmitted light (brightfield and phase contrast)
Objective turret	5-position control
Fluorescence channels	Simultaneously accommodates up to 4 fluorescent light cubes
Condenser working distance	60 mm
Stage	Mechanical stage with x- and y-axis fine-positioning controls and automated z-axis software controls; interchangeable vessel holders available
LCD display	18.5 in. high-resolution articulated LCD monitor
Camera	Highly sensitive 3.2 MP monochrome CMOS camera (2,048 x 1,536) with 3.45 µm pixel resolution
Output ports	3 USB ports, 1 DVI port (supports direct output to USB and networked storage), Wi-Fi connectivity
Power supply	AC adapter
Dimensions (W x L x H)	18 x 18 x 23 in.
Weight	50 lb

Software

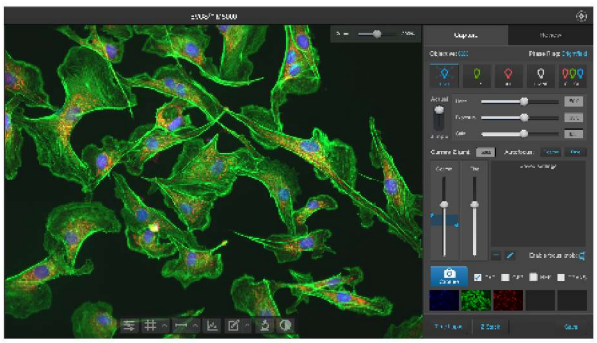
Designed by biologists for biologists, the EVOS M5000 Imaging System is remarkably easy to use. Following seamless image acquisition, you can analyze, edit, and annotate your images using a set of convenient tools available both in live mode and for saved images. For common applications, we have created easy-to-use image analysis tools driven by sophisticated segmentation algorithms. With a few clicks you can get a total count of your DAPI-stained cells or an estimate of confluence for reproducibility when you split your cells. Once you have edited and analyzed your images, save the images and data to the integrated hard drive, to an external USB device, to a local network, or to Connect, using the EVOS™ Image Analysis app.

Applications

The EVOS M5000 system integrates precision components with a unique modern design to deliver high-quality fluorescence and color imaging with unprecedented flexibility. It is a fully integrated system that combines precision optics, an 18.5 inch high-resolution articulated LCD monitor, and a highly sensitive 3.2 MP monochrome CMOS camera (2,048 x 1,536) with 3.45 µm pixel resolution. The monochrome camera affords the best sensitivity for detection of faint fluorescence signals and allows quantitative analysis, while the unique and proprietary color illumination mode enables rendering of true color in transmitted light (e.g., when imaging stained tissue samples).

Key software capabilities

- Z-stacking
- Automated Z-stacking
- Automated cell counting
- Multichannel time-lapse imaging



Intuitive interface allows even novice users to take images like a pro within minutes.

EVOS FLoid Imaging Station

Simple, budget-friendly, three-color fluorescence cell imaging

The Invitrogen™ EVOS™ FLoid™ Imaging Station can be used in a broad range of applications, including routine tissue culture visualization and imaging (e.g., with DAPI, GFP, and Invitrogen™ Texas Red™ dye), and serves as an excellent entry instrument for fluorescence microscopy.

Features

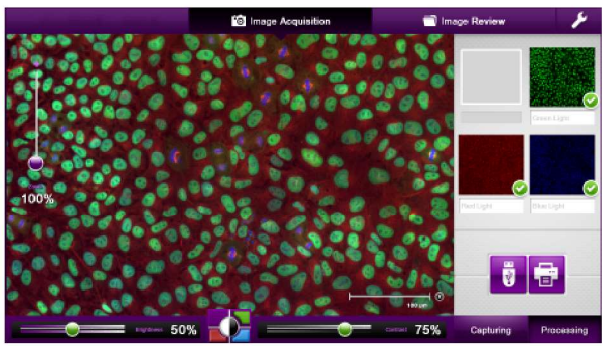
- **Simplicity**—fully integrated system with intuitive, multilingual user interface
- **Speed**—get results in a snap without warm-up, cooldown, or filter changes
- **Convenience**—capture and print images on your bench rather than in the darkroom
- **Robustness**—no moving parts, and long-life LEDs for reliable day-to-day use

Software

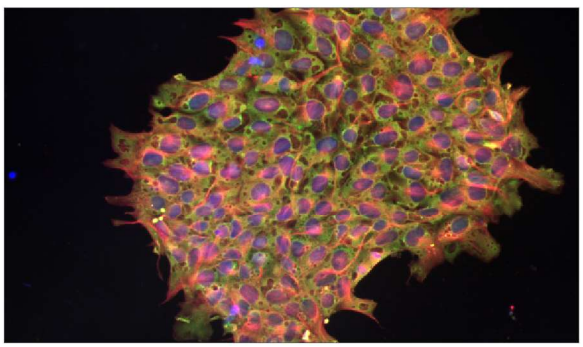
The EVOS FLoid Imaging Station makes capturing and processing three-color fluorescence images as easy as taking pictures on your smartphone. All images acquired can be saved in JPEG, BMP, TIFF, and PNG formats.

Key software features

- One-click, multichannel overlay
- Icon-based operation
- Multiple language options
- Digital zoom



Screenshot of the EVOS FLoid image processing software.



Human induced pluripotent stem cells, 20x objective; light cubes: GFP, RFP, and DAPI.

EVOS XL Core Imaging System

Compact, simple transmitted-light system perfect for use in a cell culture hood or tissue culture facility

The Invitrogen™ EVOS™ XL Core Imaging System is the ideal tissue culture microscope.

Features

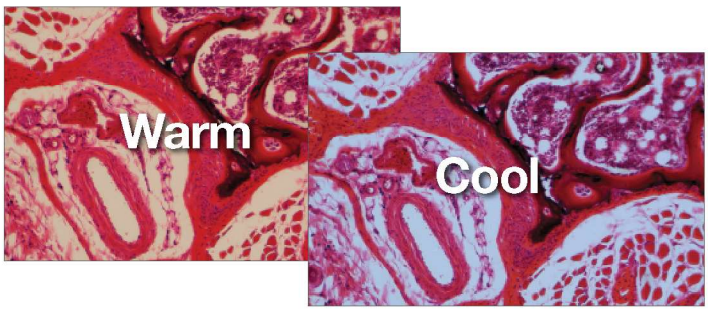
- Fits inside all culture hoods
- Cost-effective and user-friendly
- Easy installation; no maintenance, assembly, alignment, or calibration
- Removable mechanical stage for precise imaging

Software

Integrated software is a key component of this all-in-one system. Our software includes a variety of features, such as color temperature control. All images acquired can be saved in JPEG, BMP, and TIFF formats.

Key software features

- Easy-to-use interface
- Adjustable saturation and contrast
- Color temperature control (warm vs. cool)



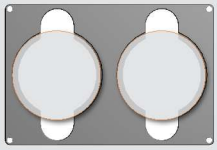
Mouse tail cross-section, 20x objective.

EVOS vessel holders and stage plates

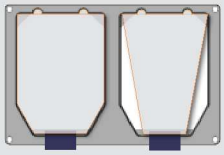
All models

AMEPVH009
Universal stage insert

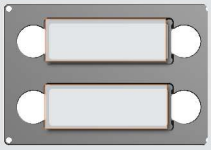
AMEPVH003
Holds two 60 mm Petri dishes



AMEPVH005
Holds two 25 cm² flasks (rectangular or triangular)

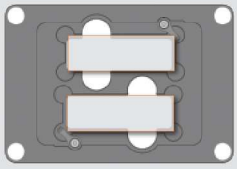


AMEPVH001
Holds two 25 mm x 75 mm standard microscope slides, chamber slides, etc.

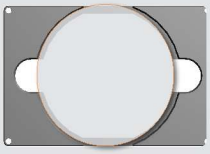


AMEPVH006
Holds one Thermo Scientific™ Nunc™ T-75 flask (75 cm²)

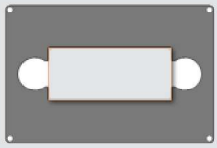
AMEPVH021
Holds two microscope slides or chamber slides with retention clip



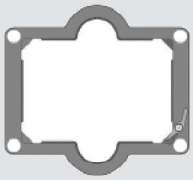
AMEPVH004
Holds one 100 mm Petri dish



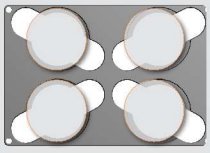
AMEPVH007
Holds one hemocytometer



AMEPVH022
Holds one multiwell plate with retention clip for AMEPVH001 through AMEPVH018

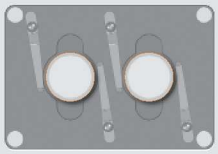


AMEPVH002
Holds four 35 mm Petri dishes



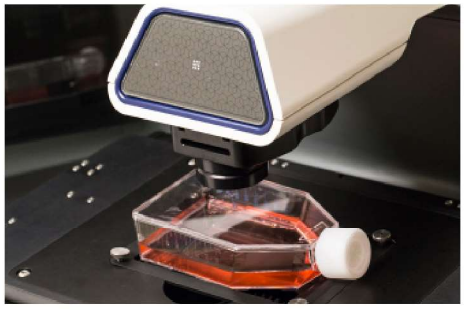
AMEPVH028
Holds one multiwell plate with retention clip

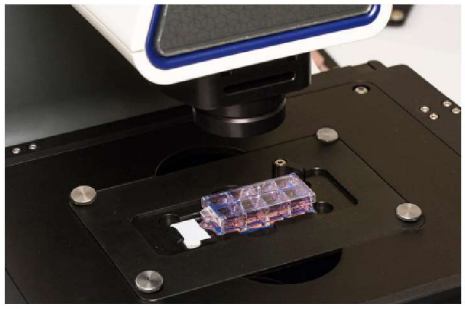
AMEPVH030
Holds two 35 mm Petri dishes

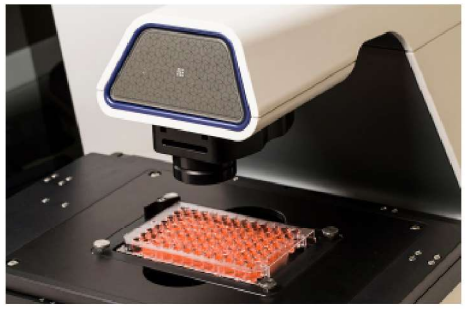


Custom vessel holders

Need a vessel holder to accommodate your specialized plate, slide, culture dish, or flask? Contact us to create a specialty vessel holder for your EVOS imaging system.







See a complete list of available vessel holders and stage plates at **thermofisher.com/evosvesselholders**

The power of LED illumination

All EVOS fluorescence cell imaging systems utilize LED light sources, providing high-intensity output over a short light path for the most efficient fluorophore excitation.

- A shorter light path enables better detection of fluorescence signals
- Stable illumination intensity helps provide consistent results
- >50,000-hour bulb lifetime helps lower your laboratory costs
- Adjustable light intensity helps reduce photobleaching and phototoxicity

Customizable instruments for your fluorescence experiments

You can get more out of your research with easy-to-use, modular systems that can adjust to fit your experimental needs. We offer imaging systems that can be customized with a variety of LED light cubes, vessel holders, and objectives.

Placing the LED light cube as close as possible to the objective turret minimizes optical elements in the light path to help increase the efficiency of fluorophore excitation, enabling better detection of weak fluorescence signals.

Common light cubes

Light cube	Excitation (nm)	Emission (nm)	Dye	Cat. No.
DAPI	357/44	447/60	DAPI, Hoechst stain, BFP	AMEP4650
TagBFP	390/18	447/60	TagBFP	AMEP4668
CFP	445/45	510/42	ECFP, Lucifer Yellow, Evans Blue	AMEP4653
GFP	470/22	510/42	GFP, Alexa Fluor 488, SYBR Green, FITC	AMEP4651
YFP	500/24	524/27	EYFP, acridine orange + DNA	AMEP4654
RFP	531/40	593/40	RFP, Alexa Fluor 546, Alexa Fluor 555, Alexa Fluor 568, Cy3, MitoTracker Orange, Rhodamine Red, DsRed	AMEP4652
Texas Red	585/29	624/40	Texas Red, Alexa Fluor 568, Alexa Fluor 594, MitoTracker Red, mCherry, Cy3.5	AMEP4655
Cy5	628/40	692/40	Cy5, Alexa Fluor 647, Alexa Fluor 660, DRAQ5	AMEP4656
Cy5.5	655/46	794/16	Cy5.5, Alexa Fluor 660, Alexa Fluor 680, Alexa Fluor 700	AMEP4673
Cy7	710/40	775/46	Cy7, IRDye 800CW	AMEP4667
CFP-YFP EM	445/45	542/27	CFP/YFP (for FRET applications)	AMEP4669
AO	470/22	488/20	Acridine orange + RNA, simultaneous green/red with FL color	AMEP4670
AO Red	442/46	628/32	Acridine orange + RNA, CTC formazan, Fura Red (high Ca^{2+})	AMEP4671
White	N/A	N/A	Reflected light applications	AMEP4672

See a complete list of available light cubes at **thermofisher.com/evoslightcubes**

EVOS objectives

Plan achromat: Perfect for general applications; color and focus have standard correction compared to apochromat and fluorite objectives.

Plan achromat*									
Magnification	NA**	WD† (mm)	Brightfield	Phase	Long WD	Coverslip-corrected	Optimal vessel thickness (mm)	Oil	Cat. No.
2x	0.06	5.62	•		•		1.0–1.2		AMEP4931
4x	0.13	10.58	•	•	•		1.0–1.2		AMEP4932
10x	0.25	7.45	•	•	•		1.0–1.2		AMEP4933
20x	0.4	6.92	•	•	•		1.0–1.2		AMEP4934
40x	0.65	3.1	•	•	•		1.2		AMEP4635
	0.65	2.74	•	•	•		1.0		AMEP4935
50x	0.95	0.19	•			•	0.17	•	AMPFOP050
100x	1.25	0.15	•			•	0.17	•	AMPFOP100

* Recommend 1.0 mm thickness for glass slides.

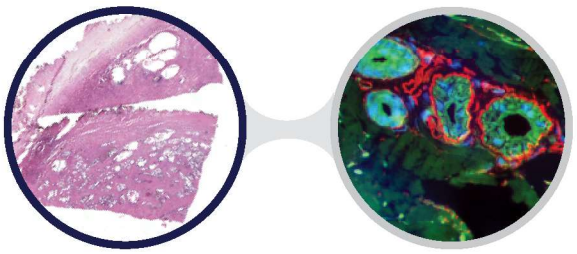
** NA = numerical aperture.

† WD = working distance.

Plan fluorite: Excellent resolution resulting in bright fluorescence signal and high-contrast imaging; helps reduce optical aberrations; color and focus have a higher level of correction.

Plan fluorite*									
Magnification	NA	WD (mm)	Brightfield	Phase	Long WD	Coverslip-corrected	Optimal vessel thickness (mm)	Oil	Cat. No.
4x	0.13	10.58	•		•		1.0–1.2		AMEP4922
	0.13	10.58	•	•	•		1.0–1.2		AMEP4980
10x	0.3	7.13	•		•		1.0–1.2		AMEP4923
	0.3	7.13	•	•	•		1.0–1.2		AMEP4981
20x	0.5	2.5	•			•	0.17		AMEP4698
	0.45	6.23	•		•		1.0–1.2		AMEP4924
	0.40	6.12	•	•	•		1.0–1.2		AMEP4982
40x	0.65	2.8	•		•		1.2		AMEP4625
	0.65	1.79	•		•		1.0		AMEP4925
	0.65	1.6	•	•	•		1.2		AMEP4683
	0.65	1.79	•	•	•		1.0		AMEP4983
	0.75	0.72	•			•	0.17		AMEP4699
	1.3	0.2	•			•	0.17	•	AMEP4735
60x	0.75	2.2	•		•		1.2		AMEP4626
	0.75	1.28	•		•		1.0		AMEP4926
100x	1.28	0.21	•			•	0.17	•	AMEP4696

* Recommend 1.0 mm thickness for glass slides.



Prostate cross-section, 10x objective.

Rat epidermis, 40x objective.

Plan apochromat: Highest levels of resolution, fluorescence brightness, contrast, and chromatic correction compared to achromat and fluorite objectives.

Plan apochromat								
Magnification	NA	WD (mm)	Brightfield	Phase	Long working distance	Coverslip-corrected	Oil	Cat. No.
1.25x	0.04	5.11	•		•			AMEP4736
2x	0.08	6.22	•		•			AMEP4751
4x	0.16	13.0	•		•			AMEP4752
10x	0.4	3.1	•			•		AMEP4753
20x	0.75	0.65	•			•		AMEP4734
40x	0.95	0.18	•			•		AMEP4754
60x	1.42	0.15	•			•	•	AMEP4694
100x	1.4	0.13	•			•	•	AMEP4733

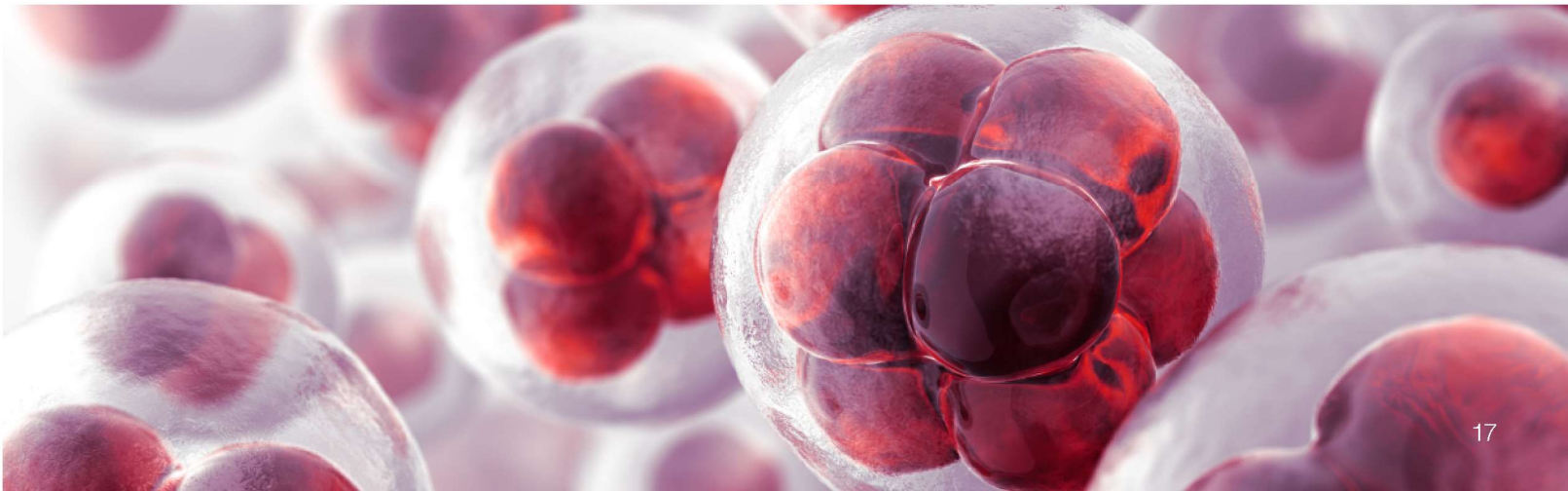
Long working distance vs. coverslip-corrected

Long working distance

Optimized for use through vessels with nominal wall thickness of 0.9–1.5 mm (slides, flasks, microtiter dishes, etc.).

Coverslip-corrected

Optimized for use with #1.5 coverslips (approximately 0.17 mm thick). Have a higher magnification-to-numerical aperture (NA) ratio and provide higher resolution compared to long working distance.

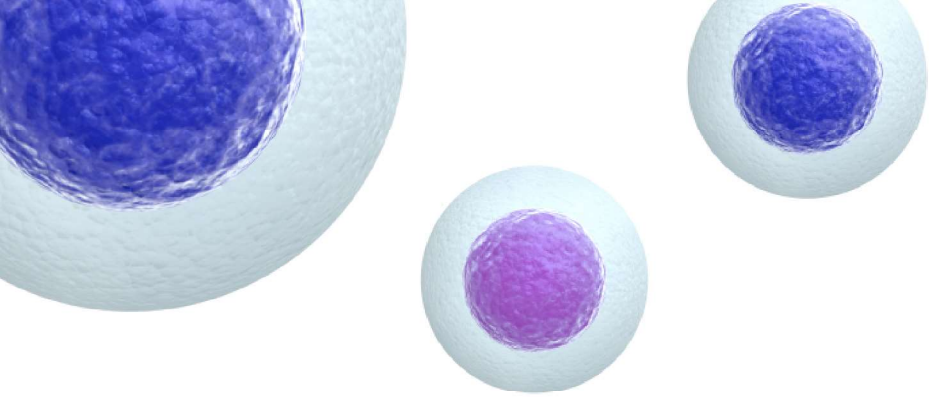


Fluorophore selection guide

Use the selection guide below to choose the Invitrogen™ dye that best matches your light source and experimental needs.

	EVOS DAPI Light Cube (AMEP4650) Ex: 357/44 nm; Em: 447/60 nm	EVOS GFP Light Cube (AMEP4651) Ex: 470/22 nm; Em: 510/42 nm
Apoptosis	Annexin V, Alexa Fluor 350 Conjugate (A23202)	CellEvent Caspase-3/7 Green (C10423) Click-iT Plus TUNEL Assay, Alexa Fluor 488 (C10617) Image-iT LIVE Green Caspase-3 and -7 Detection Kit (I35106)
Autophagy		Premo Autophagy Tandem Sensor RFP-GFP-LC3B Kit (P36239) Premo Autophagy Sensor LC3B-GFP (P36235) Premo Autophagy Sensor GFP-p62 Kit (P36240)
Cell tracing and tracking	CellTrace Calcein Blue, AM (C34853) CellTracker Blue CMAC Dye (C2110) CellTracker Blue CMF_2HC Dye (C12881)	CellTrace Calcein Green, AM (C34852) CellTracker Green CMFDA Dye (C7025) Vybrant DiO Cell-Labeling Solution (V22886)
Cytoskeleton stains	Alexa Fluor 350 Phalloidin (A22281)	Alexa Fluor 488 Phalloidin (A12379) CellLight Actin-GFP (C10582) CellLight Tubulin-GFP (C10613) ActinGreen 488 ReadyProbes Reagent (R37110)
Endocytosis		CellLight Early Endosomes-GFP (C10586) pHrodo Green Dextran, 10,000 MW (P35368) LysoTracker Green DND-26 (L7526)
Neuronal tracing and staining	Alexa Fluor 350 Hydrazide (A10439)	NeuroTrace 500/525 Green Fluorescent Nissl Stain (N21480) DiO (D275) Alexa Fluor 488 Dextran (D22910)
Nuclear stains	DAPI (D1306) Hoechst 33342 (H3570) NucBlue Fixed Cell ReadyProbes Reagent (R37606)	SYTO 9 Green Fluorescent Nucleic Acid Stain (S34854) SYTOX Green Nucleic Acid Stain (S7020) CellLight Nucleus-GFP (C10602)
Oxidative stress		CellROX Green Reagent (C10444) CM-H_2DCFDA (C6827) DAF-FM Diacetate (D23844)
Phagocytosis		pHrodo Green *E. coli* BioParticles Conjugate (P35366) pHrodo Green *S. aureus* BioParticles Conjugate (P35367) pHrodo Green Zymosan BioParticles Conjugate (P35365)
Plasma membrane stains	Wheat Germ Agglutinin, Alexa Fluor 350 Conjugate (W11263)	Wheat Germ Agglutinin, Alexa Fluor 488 Conjugate (W11261) CellMask Green Plasma Membrane Stain (C37608) CellLight Plasma Membrane-GFP (C10607)
Proliferation		Click-iT Plus EdU Alexa Fluor 488 Imaging Kit (C10637)
Viability	ReadyProbes Cell Viability Kit, Blue/Green (R37609) ReadyProbes Cell Viability Kit, Blue/Red (R37610)	LIVE/DEAD Viability/Cytotoxicity Kit (L3224) LIVE/DEAD Cell Imaging Kit (488/570) (R37601) ReadyProbes Cell Viability Kit, Blue/Green (R37609)

Find out more at **thermofisher.com/microscopes**



EVOS RFP Light Cube (AMEP4652) Ex: 531/40 nm; Em: 593/40 nm	EVOS Texas Red Light Cube (AMEP4655) Ex: 585/29 nm; Em: 624/40 nm	EVOS Cy5 Light Cube (AMEP4656) Ex: 628/40 nm; Em: 693/40 nm
Annexin V, Alexa Fluor 555 Conjugate (A35108) Image-iT LIVE Red Caspase-3 and -7 Detection Kit (I35102) Image-iT LIVE Red Poly Caspases Detection Kit (I35101)	Click-iT Plus TUNEL Assay, Alexa Fluor 594 Dye (C10618) Annexin V, Alexa Fluor 594 Conjugate (A13203)	Click-iT Plus TUNEL Assay, Alexa Fluor 647 Dye (C10619) Annexin V, Alexa Fluor 647 Conjugate (A23204)
Premo Autophagy Tandem Sensor RFP-GFP-LC3B Kit (P36239) Premo Autophagy Sensor LC3B-RFP (P36236) Premo Autophagy Sensor RFP-p62 Kit (P36241)		
CellTracker Orange CMRA Dye (C34551) CellTracker Orange CMTMR Dye (C2927) Vybrant DiI Cell-Labeling Solution (V22885)	CellTracker Red CMTPX Dye (C34552)	CellTracker Deep Red Dye (C34565) Vybrant DiD Cell-Labeling Solution (V22887)
Alexa Fluor 555 Phalloidin (A34055) CellLight Actin-RFP (C10583) CellLight Tubulin-RFP (C10614) ActinRed 555 ReadyProbes Reagent (R37112)	Alexa Fluor 594 Phalloidin (A12381)	Alexa Fluor 647 Phalloidin (A22287)
CellLight Early Endosomes-RFP (C10587) pHrodo Red Dextran, 10,000 MW (P10361) pHrodo Red Epidermal Growth Factor (EGF) Conjugate (P35374)	LysoTracker Red DND-99 (L7528)	LysoTracker Deep Red (L12492)
DiI (D282) Alexa Fluor 555 Dextran (D34679) Tetramethylrhodamine Dextran (D1817)	Alexa Fluor 594 Hydrazide (A10438) Alexa Fluor 594 Biocytin (A12922) Alexa Fluor 594 Dextran (D22913)	DiD (D7757) Alexa Fluor 647 Hydrazide (A20502) Alexa Fluor 647 Dextran (D22914)
SYTO 82 Orange Fluorescent Nucleic Acid Stain (S11363) CellLight Nucleus-RFP (C10603)		TO-PRO-3 Iodide (T3605) HCS NuclearMask Deep Red Stain (H10294)
CellROX Orange Reagent (C10443) Dihydroethidium (D11347)	MitoSOX Reagent (M36008)	CellROX Deep Red Reagent (C10422)
pHrodo Red *E. coli* BioParticles Conjugate (P35361) pHrodo Red *S. aureus* BioParticles Conjugate (A10010) pHrodo Red Zymosan BioParticles Conjugate (P35364)		
Wheat Germ Agglutinin, Alexa Fluor 555 Conjugate (W32464) CellMask Orange Plasma Membrane Stain (C10045) CellLight Plasma Membrane-RFP (C10608)	Wheat Germ Agglutinin, Alexa Fluor 594 Conjugate (W11262)	Wheat Germ Agglutinin, Alexa Fluor 647 Conjugate (W32466) CellMask Deep Red Plasma Membrane Stain (C10046)
Click-iT Plus EdU Alexa Fluor 555 (C10638)	Click-iT Plus EdU Alexa Fluor 594 Imaging Kit (C10639)	Click-iT Plus EdU Alexa Fluor 647 Imaging Kit (C10640)
LIVE/DEAD Viability/Cytotoxicity Kit (L3224) ReadyProbes Cell Viability Kit, Blue/Red (R37610)	LIVE/DEAD Cell Imaging Kit (488/570) (R37601)	NucRed Dead 647 ReadyProbes Reagent (R37113)

EVOS M7000 Imaging System.

EVOS M5000 Cell Imaging System.

Educational resources

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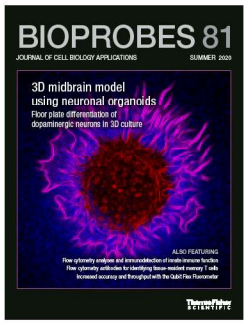

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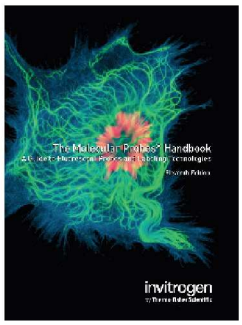

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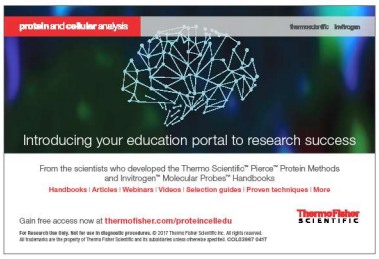

Ordering information

Product	Cat. No.
EVOS M7000 Imaging System	AMF7000
EVOS Onstage Incubator	AMC1000
EVOS M5000 Cell Imaging System	AMF5000
EVOS FLoid Imaging System	4471136
EVOS XL Core Imaging System	AMEX1000

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