

**EVOS<sup>®</sup>**

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18 March 2013



**QUICK REFERENCE**



**EVOS<sup>®</sup> FL**  
**EVOS<sup>®</sup> FL Color**

Imaging Systems  
for **Fluorescence** and **Transmitted Light**  
Applications

Catalog Numbers AME4300, AMEFC4300

Doc. Part no. ZP-PKGA-0494  
Pub. no. MAN0007717  
Rev. 2.0



For Research Use Only. Not for use in diagnostic procedures.



## Overview

The **EVOS® FL and EVOS® FL Color Imaging Systems** have two types of controls: manual and onscreen. Manual controls include the stage X-Y axis knobs, focusing knobs, objective selection wheel, phase annuli selector, and the light cube selection lever. Onscreen controls are located in the **control bar** at the bottom of the display screen. The **channel bar** at the top of the display screen shows the selected light cube or transmitted light position.

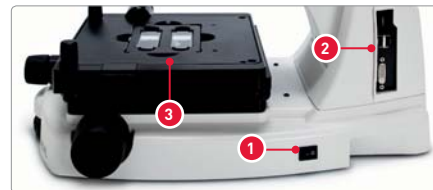
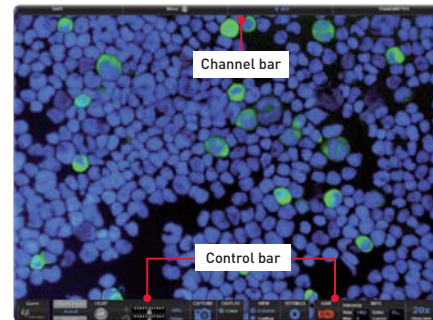


**CAUTION! UV HAZARD.** Avoid exposure to beam and use protective shields. **NEVER** look directly at UV light!

## Basic Operation

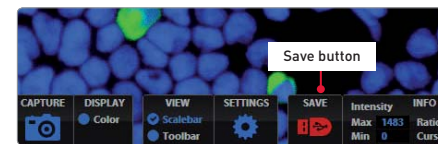
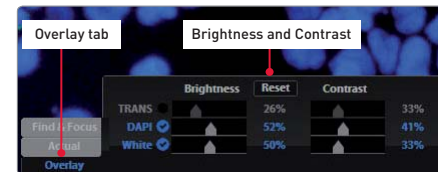
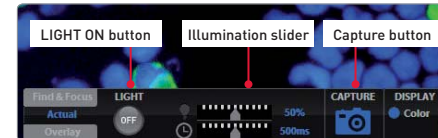
**Note:** For detailed instructions, refer to the *EVOS® FL Imaging System User Guide*, which is provided on the USB flash drive. You can also download it from the *EVOS® FL Imaging System product page* at [www.lifetechnologies.com](http://www.lifetechnologies.com).

1. Turn on the instrument using the **power switch 1** on the right side of the base.
2. Plug a USB flash drive into one of the **USB ports 2** on the right side of the instrument.
3. Place the **sample 3** on the stage, using a vessel holder if needed.
4. Set magnification with the **objective selection wheel 4** on the front of the instrument.
5. Pull the **light cube selection lever 5** (left side of base) all the way toward the front of the instrument (the *Channel Bar* will highlight the "Transmitted" position).



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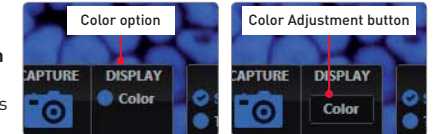
6. Turn on illumination with the **LIGHT ON button** located on the left side of the control bar.
7. Focus the sample with **focusing knobs 6**.
8. **Optional:** To take a picture of the transmitted light image, click the **Capture button** on the control bar.
9. Place the **light shield box 7** on the stage, over the sample.
10. Move the **light cube selection lever 5** to the desired fluorescence channel (the *Channel Bar* will highlight the selected light cube).
11. With the **Find & Focus tab** active, turn on fluorescence illumination using the **LIGHT ON button**.
12. Adjust the focus as necessary.
13. Adjust the **Illumination Intensity slider** on the control bar as needed.
14. Click the **Capture button**.
15. Repeat steps 10–14 to acquire each fluorescence channel.
16. Click the **Overlay tab** to show all channels in color overlay mode.
17. Adjust **Brightness** and **Contrast** for each channel to bring them into desired balance.
18. Click the **Save button** to save the color image (refer to the *EVOS® FL Imaging System User Guide*).



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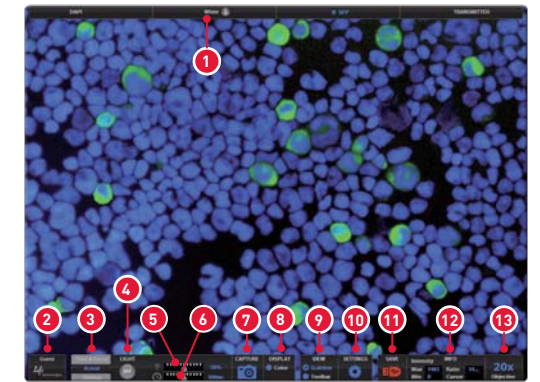
## Helpful Tips

- ▶ In Find & Focus or Actual Mode, the **Color option** (for EVOS® FL, Cat. no. AME4300) can be turned off to display a grayscale image. This often shows more details than a color image.
- ▶ For EVOS® FL Color (Cat. no. AMEFC4300), use the **Color Adjustment button** to fine tune your live image Brightness, Contrast, Saturation, and Hue prior to capture.
- ▶ In Find & Focus Mode, the exposure time is set to 100 ms to assist real-time focusing, moving the stage, etc. The illumination level is approximately 60% of the amount used for image capture, in order to minimize photobleaching and phototoxicity. Clicking **Capture** results in brighter illumination and a longer exposure time during image capture to provide a high-quality image.
- ▶ In Actual Mode, turning on the illumination results in full-powered illumination and actual exposure times for live viewing of the sample. With longer exposure times (*more than 200 ms*) there will be a lag between moving the focus knob and seeing the focus change onscreen.



## Onscreen Controls

1. Active Channel (*highlighted*)
2. Login Button
3. Control Bar Tabs
  - Find & Focus
  - Actual
    - Exposure Time Slider
  - Overlay
    - Overlay Color Dialogue Box
4. Light ON/OFF Button
5. Illumination Slider
6. Exposure Time Slider
7. Image Capture Button
8. Color Option
9. Scalebar/Toolbar Options
10. Setting Control Button
11. Save Image Button
12. Info Display Bar
13. Selected Objective



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