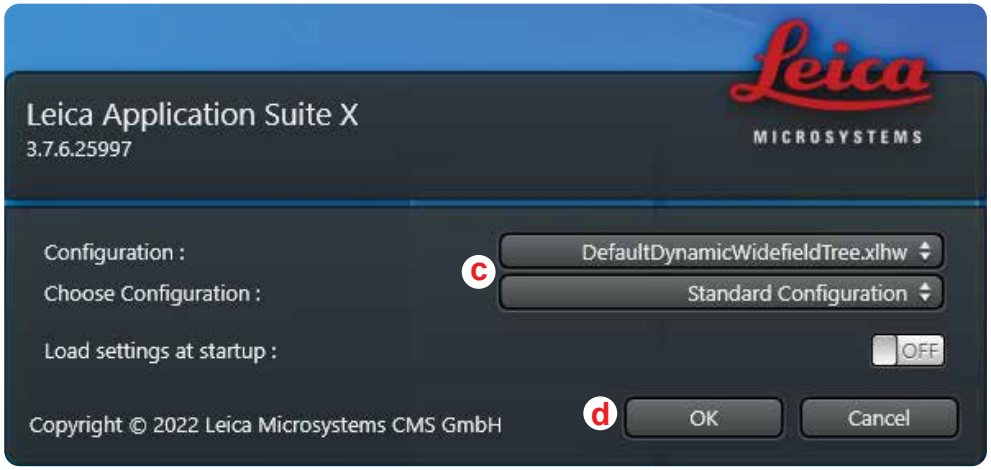
Leica DM6 - Basic Quick Guide V 1.0

Starting up





1. **Turn on the computer.**
2. **Turn on the microscope** by switching on the power button on the power strip.
3. If using fluorescence, turn on the mercury lamp. **Note:** The mercury lamp must remain on for at least 15 minutes before it can be turned off.
4. Record the start time of your session in the logbook and log in to the **FBS system (a)**.
5. Launch the **LAS X software (b)**.
6. In the pop-up window, select the configuration **"DefaultDynamicWidefieldTree.xlhm" (c)** and click **OK (d)**.

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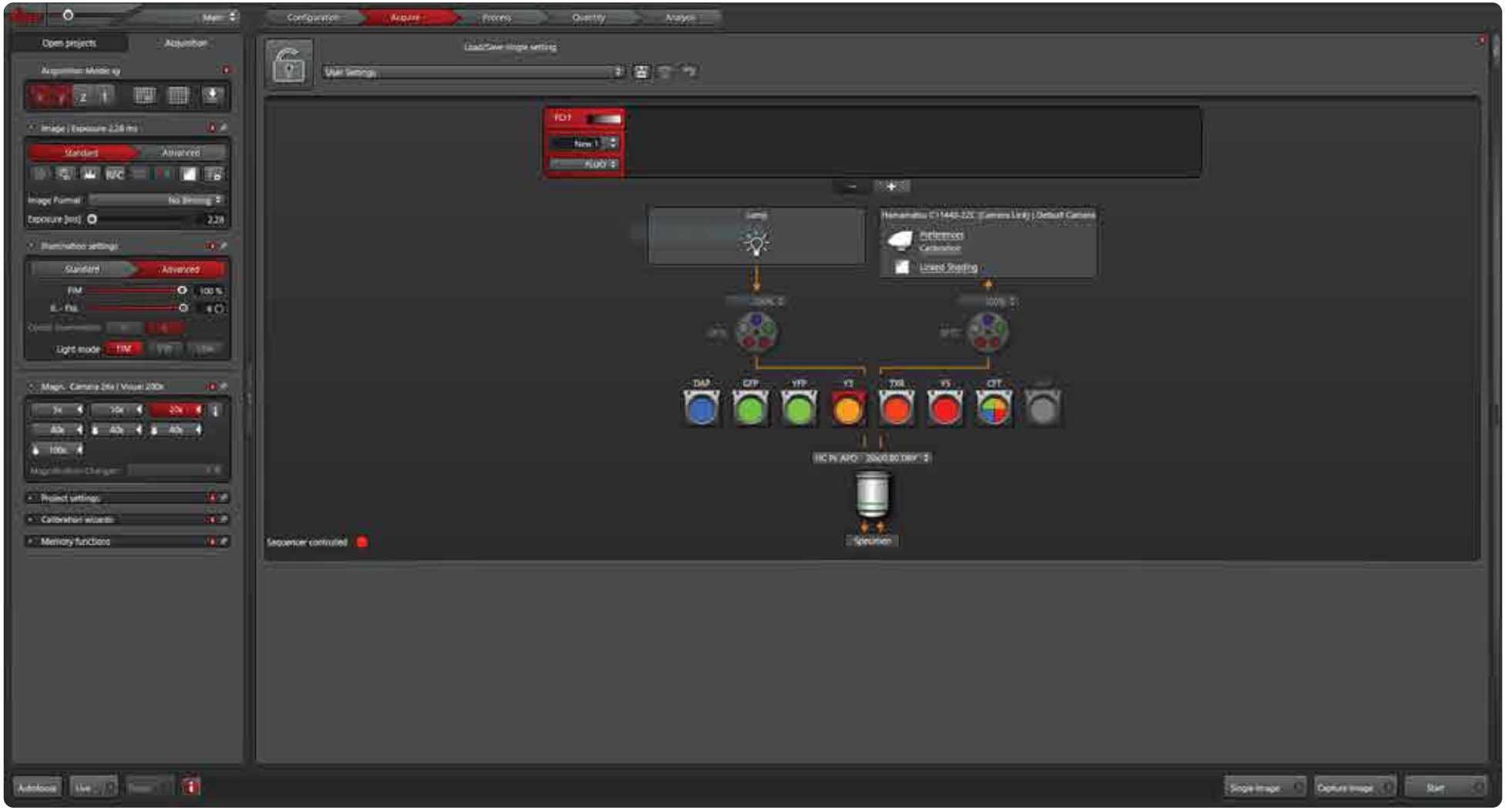
Layout



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Layout



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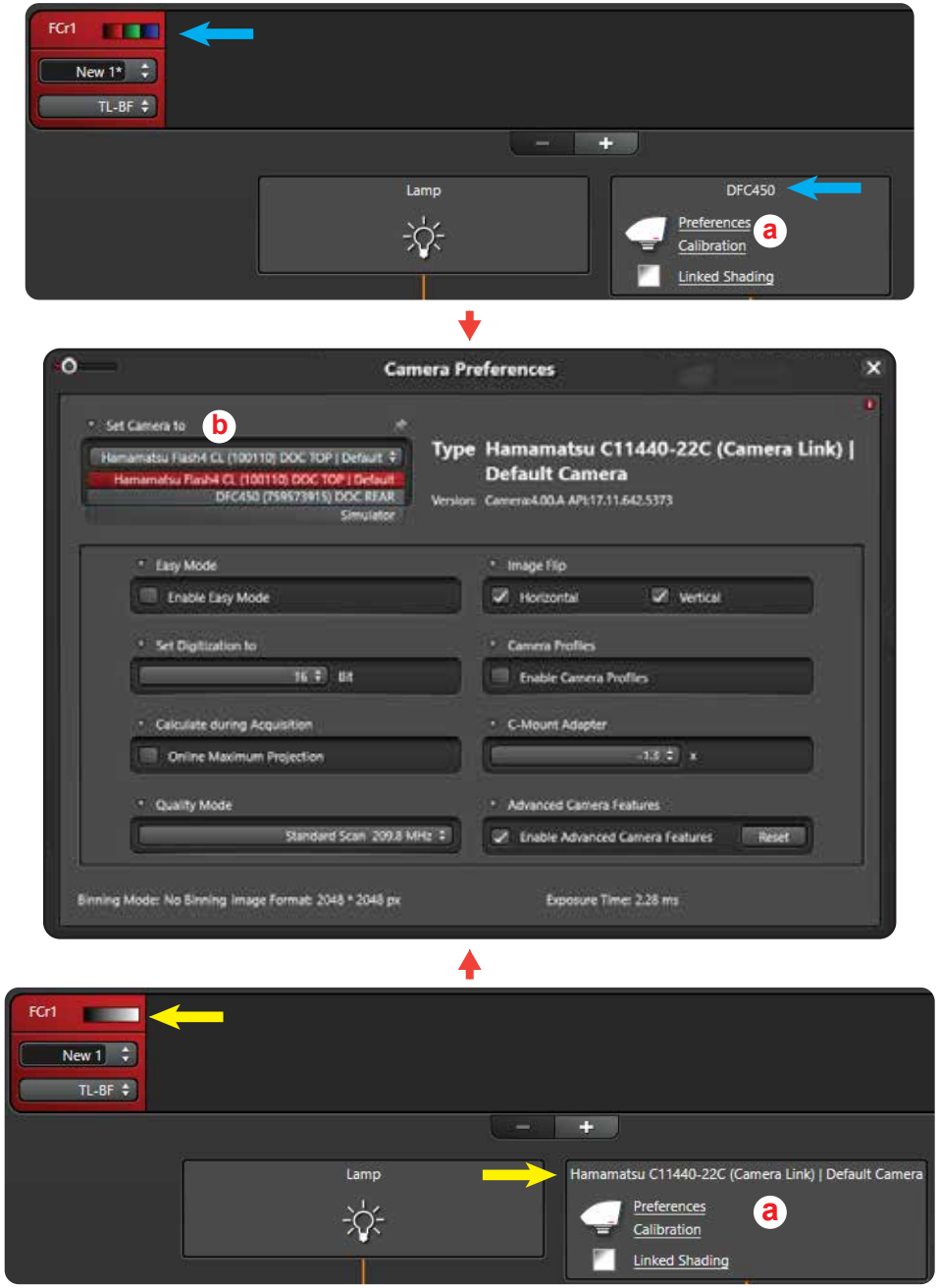
Camera set up



1. Click on **Camera Preferences (a)** and choose the most appropriate camera for your settings **(b)**.
2. For bright field use the **DFC450** color camera **(light blue arrows)**.
3. For fluorescence select the **Hamamatsu Flash4 CL** camera **(yellow arrows)**.

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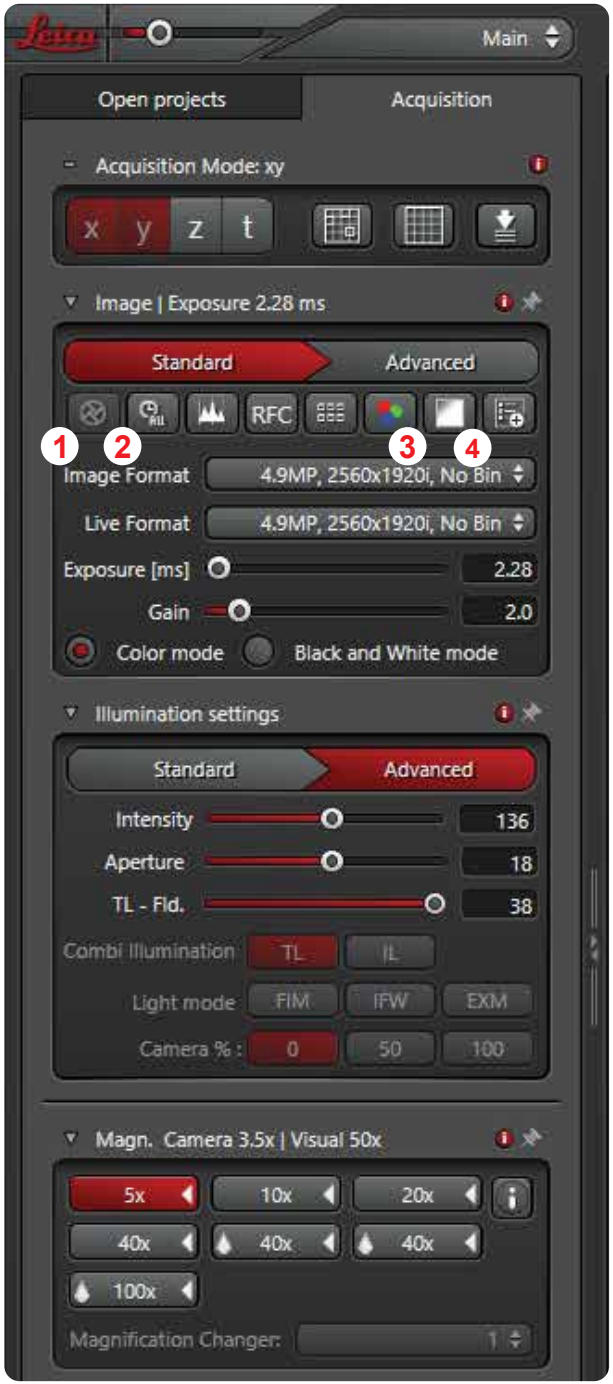
Image Acquisition | Brightfield Color mode - DFC450 camera



Some Buttons in the upper Area of the Dialog

- **Auto Exposure (1):** This lets you enable the Automatic Control System of the exposure time for image acquisition using the camera. With automatic exposure, the exposure time is calculated and set by the system.This function is applied to the entire image. Using the context menu of a plotted ROI, you can determine the automatic exposure time only for the area of the ROI. When this function is activated, the Brightness slider is displayed instead of Exposure.
- **Same Exposure for all probes (2):** This function lets you define that the system uses the same exposure time for all channels during image acquisition.
- **Show/Hide Color Controls (3):** This function is used to set the color display:
  - **White balance:** Here you can adjust the white balance. The entire image content is used to determine the correct white point. In addition, you can adapt the color channels individually.
  - **Saturation:** This slider is only displayed if the camera mode is set to Color mode. This enables you to set the color saturation level.
- **Show/Hide Shading Correction Controls (4):** If there is a drop in brightness at the edge of the field of view (vignetting), this can be factored outusing a reference image. This button starts a wizard that guides you through the individual phases: Storing the current coordinates, moving to a spot outside the specimen, acquiring the reference image, etc.

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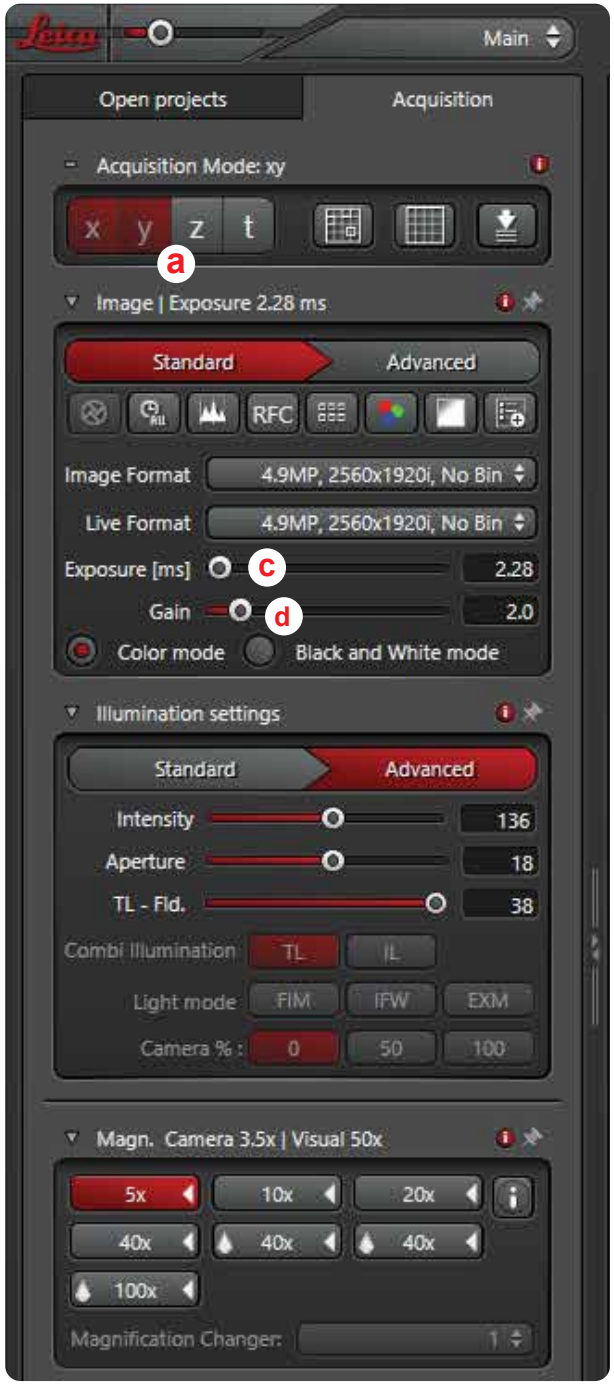
Image Acquisition | Brightfield Color Mode - DFC450 camera





1. Click the corresponding buttons under Acquisition Mode to define the dimensions for the image acquisition. The default setting is **XY**. Active dimensions are highlighted in red **(a)**.
2. Select the appropriate contrast method from the lower drop-down menu, for example, **TL-BF** (transmitted light bright field), **TL-DIC** (transmitted light Differential Interference Contrast), **TL-POL** (transmitted light polarization) **(b)**.
3. **Exposure (c)** lets you set the exposure time for image acquisition using the camera. Use **Brightness** to set the brightness of the camera image (in %). The Brightness function is available only if you are using the automatic exposure for image acquisition.
4. Use **Gain (d)** to adjust the gain of the camera's output signal. Increasing the gain of the output signal increases the contrast of the acquired images.

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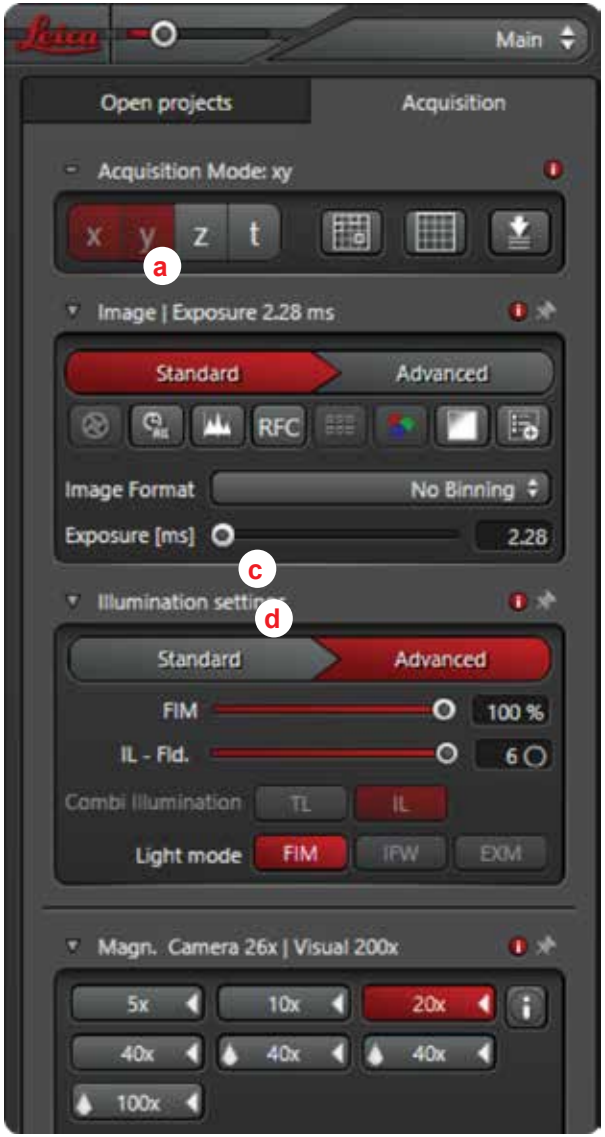
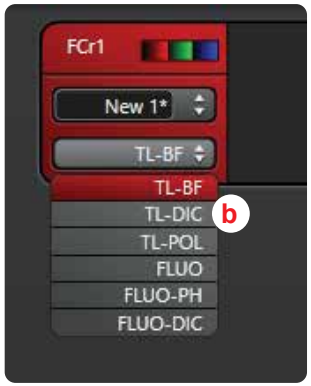
Image Acquisition | Fluorescence - Hamamatsu camera





1. Click the corresponding buttons under Acquisition Mode to define the dimensions for the image acquisition. The default setting is **XY**. Active dimensions are highlighted in red **(a)**.
2. Select the FLUO **(b)**.
3. Exposure **(c)** lets you set the exposure time for image acquisition using the camera. Use Brightness to set the brightness of the camera image (in %). The Brightness function is available only if you are using the automatic exposure for image acquisition.
4. Use Gain **(d)** to adjust the gain of the camera's output signal. Increasing the gain of the output signal increases the contrast of the acquired images. EM Gain lets you set the gain of the output signal if you are using an EM CCD camera for image acquisition.

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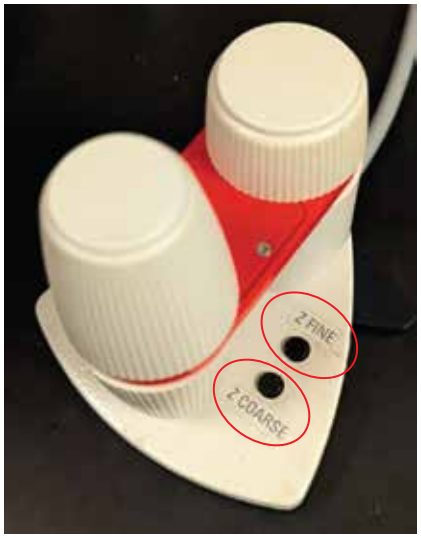
Image Acquisition







1. Enter Live View: Click **Live (a)** in the lower-left corner to visualize your sample.
2. Focus:Use the microscope's Z-axis (coarse, then fine) until the image is crisp.
3. Optimize Signal: Adjust exposure time and gain to get good illumination (avoid saturation).
4. Choose How to Acquire:
   - **Single Image (b)**: captures only the channel currently shown in Live.
   - **Capture Image (c)**: acquires all enabled channels once.
   - **Start (d)**: runs the full acquisition you configured (multi-channel, Z-stack, and/or time-lapse).

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Turning off

1. Remove your sample.
2. If you used an immersion objective, clean it.
3. Return to the 5× objective.
4. Exit **Leica LAS X**.
5. Record your usage time in the logbook, report any errors or problems, and log out of the FBS system.
6. Shut down the microscope.
7. Shut down the computer.
8. Cover the microscope with its protective cover.