

## Arcturus<sup>XT</sup>™ Laser Capture Microdissection System Quick Reference Guide

**Important Note:** Use this quick reference guide only after you have received proper training and have become familiar with the detailed instructions provided in the Arcturus<sup>XT</sup>™ Laser Capture Microdissection System User Guide.

### Step 1: Setup

1. Turn on the Arcturus<sup>XT</sup> Laser Capture Microdissection (LCM) Instrument.
2. If you plan to use fluorescence, turn on the EXFO box.
3. Launch the Arcturus<sup>XT</sup> LCM System's operating software.
4. Click on "Present Stage" in the SetUp tool pane. Load slides and a CapSure® Cassette onto the stage. Make sure the CapSure Cassette is loaded securely in place. Ensure that the Capsure Cassette has been loaded properly by lightly tugging on it. Remove any existing caps in the QC/Unload area.
5. Identify materials loaded on the stage. On the top-level GUI, identify the slide type by checking the appropriate box for each slide loaded. For glass slides, leave both boxes unchecked. Select the appropriate radio button for the cap type, and click each station where a cap is present in the cap load area. If any caps are indicated in the QC/Unload area, click on each of them to remove.

**Important Note:** You must physically remove all caps from the QC/Unload area to correlate with the software GUI. Failure to do this may result in the cap robot running into the remaining cap.

6. Select the slide of interest and adjust the focus and brightness settings if needed. Right click in the Slide Overview area and select "Reacquire Overview Image". Repeat for each slide loaded as needed.

### Step 2: Inspect

1. Select the desired magnification for the slide. Adjust the focus and brightness settings if necessary.
2. Navigate around the slide using the trackball, mouse or touch pen. To save positions for later review, click on the "+" in the stored position feature, and then toggle between stored positions by clicking on the forward or reverse arrow buttons.
3. To move across large distances on a slide, click on the overview image using the mouse or touch pen.
4. If you wish to take a picture to archive or to work from a static image, click on the camera icon.

### Step 3: Select

1. Click on any tool icon to activate it, and then use that tool to mark items on the live or static image.
2. To de-activate the selected tool, click on the tool icon again, or select a different tool icon.
3. To mark areas for "LCM Only" on glass or frame membrane slides, check the "LCM Only" box prior to using the freehand or circle tool.
4. Use Capture Groups to separate out different cell types within the live image field.
5. Edit any drawing item by right clicking inside the item and selecting the edit function of choice.
6. To review all drawing items, click on each individual item in the item list. The selected item will be highlighted and appear in the center of the live image.

### Step 4: Microdissect

1. Place cap onto the slide by clicking the "Place Cap" icon in the Microdissect tool panel.
2. Perform an IR laser test spot in a non-tissue area to check the polymer "wetting", spot size and IR laser location. Go to the Microdissect Dialog Box/IR Spot Sizes tab to make any necessary adjustments to the IR laser.
3. To re-locate the IR laser position, test fire the IR laser and then place the mouse cursor in the center of the spot. Right click in the center of the spot and select "Located IR laser".
4. Click on the appropriate icon in the Microdissect tool pane to UV laser cut and/or IR laser capture all items in the active capture group.
5. UV power and cutting speed can be adjusted using the slider on the top level GUI. Move the arrows left to decrease the laser power or cutting speed. Move the arrows right to increase the laser power or cutting speed.

### Step 5: QC

1. Move the cap to the QC station by clicking the "QC" icon in the Microdissect tool panel.
2. Adjust the focus and brightness settings if necessary.
3. Click on the camera icon in the Inspect tool panel to capture an image of the microdissected material on the cap.  
**Note:** You may only view the cap at a maximum objective of 20x while at the QC/Offload station. If you desire to view the LCM material at a higher magnification, move the cap to a clean area of the slide and visualize using standard methods.
4. If you desire to place the cap back on the slide to continue microdissection, right click on the appropriate cap icon to the right of the overview image, and select "Replace Cap on Slide".
5. Remove the cap and proceed to sample processing.