IN Carta

Image Analysis Software

with MetaXpress High-Content Image Acquisition and Analysis Software

MetaXpress Software Export Guide

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MOLECULAR DEVICES

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Chapter 1: IN Carta Image Analysis Software

The IN Carta™ Image Analysis Software provides powerful analytics combined with an intuitive interface to simplify workflows for advanced phenotypic classification and 3D image analysis.

When used in combination with the MetaXpress® High-Content Image Acquisition and Analysis Software, you can get meaningful data quickly and reliably.

Faster Data

- Intuitive design makes complex analysis accessible with minimal training.
- Shorten analysis time with true parallel processing.

Reliable Data

- Sophisticated algorithms generate reliable data with minimal user input.
- Improved segmentation algorithms represent cellular structures more accurately.

Results that Matter

- See real results quickly—from populations to single cells— using integrated data visualization tools.
- User-friendly interface guides you through your discoveries with continual updates that grow with your needs.

Obtaining Support

Molecular Devices is a leading worldwide manufacturer and distributor of analytical instrumentation, software, and reagents. We are committed to the quality of our products and to fully supporting our customers with the highest level of technical service.

Our Support website—www.moleculardevices.com/service-support—describes the support options offered by Molecular Devices, including service plans and professional services. It also has a link to the Molecular Devices Knowledge Base, which contains documentation, technical notes, software upgrades, safety data sheets, and other resources. If you still need assistance, you can submit a request to Molecular Devices Technical Support.

Technical Support

To contact Molecular Devices Technical Support, submit a support request through the Molecular Devices Knowledge Base at support.moleculardevices.com.

You can also submit a support request by phone. For regional support contact information, go to www.moleculardevices.com/contact.

To expedite support:

- For the IN Carta software, please be prepared to provide the software version and the Service Tag for the analysis computer. To find the software version, in the IN Carta software, select version in the **System > About** in the top right corner of the window. The Service Tag is on the label on the top of the analysis computer.
- For the MetaXpress software, please be prepared to provide the system ID number, the software version, and the name of the system owner. To find this information, in the MetaXpress software, select **Help > About MetaXpress**.

Documentation

Review the product documentation on the installation media and Molecular Devices Knowledge Base at support.moleculardevices.com. In addition, online Help is available within the MetaXpress software. Press **F1** to access Help for the current dialog.

Additional Resources

Web-based microscopy course:

- www.microscopyu.com
- www.ibiology.org/ibioeducation/taking-courses/ibiology-microscopy-short-course.html

The Molecular Probes Handbook offers advice on fluorescent probes and can help you determine if there are better stains available for your analysis:

- www.thermofisher.com/us/en/home/references/molecular-probes-the-handbook.html

Filter information:

- www.semrock.com
- www.chroma.com
- www.omegafilters.com

About This Guide

This guide is intended for the scientist using the MetaXpress software to acquire images that will be analyzed in the optional IN Carta Image Analysis Software. It documents the specific requirements for exporting images from the MetaXpress software to the IN Carta XDCE format that can be opened in the IN Carta software.

See the online Help in the MetaXpress software for complete details using the software to acquire images.

See the online Help in the IN Carta software for complete details using the software to perform image analysis.

The information in this guide is subject to change without notice. We recommend that you review the guide on the Molecular Devices Knowledge Base at support.moleculardevices.com for the most up-to-date information.

Chapter 2: Setting MetaXpress Software Preferences for the IN Carta Software

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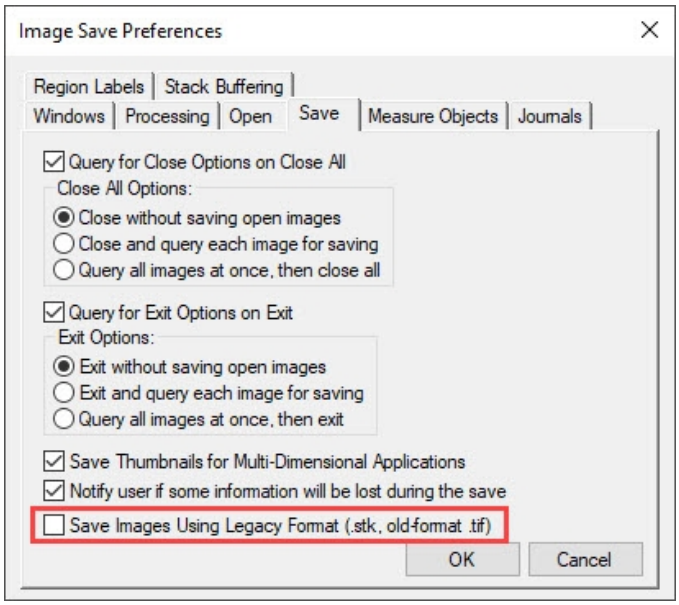
Set the following preferences in the MetaXpress software in order to acquire images that can be exported for use with the IN Carta software:

- Image Save Preferences, see below
- Image Format Preferences, see page 10

Image Save Preferences



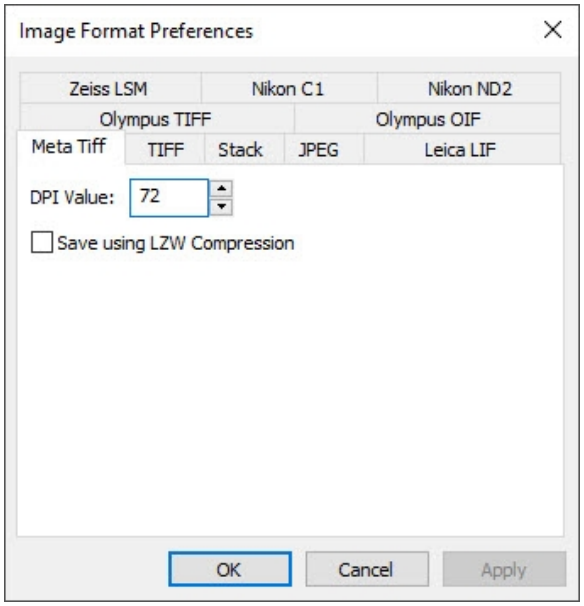
To set MetaXpress software Image Save Preferences for the IN Carta software:

1. Click **Edit** > **Preferences** to display the Preferences dialog.
2. Select the **Save** tab.
3. Clear the **Save Images Using Legacy Format (.stk, old-format .tif)** check box to prevent images from being saved in a legacy formats.

   Note: Legacy formats are not supported by the IN Carta software. If this check box is selected, you cannot export data to the XDCE file format.

4. Click **OK**.

Image Format Preferences



To set MetaXpress software Image Format Preferences for the IN Carta software:

1. Click **Edit** > **Image Format Preferences** to display the Image Format Preferences dialog.
2. Select the **Meta Tiff** tab.
3. Clear the **Save Using LZW Compression** check box.

   Note: LZW Compression is not supported by the IN Carta software. If this check box is selected, you cannot export data to the XDCE file format.

4. Click **OK**.

Chapter 3: Setting Up Plate Acquisition for the IN Carta Software

When you are planning on exporting images from an acquisition to the IN Carta software, you must set up the acquisition accordingly. The IN Carta software has specific image requirements, and the acquired images may not be usable in the software if they do not meet the requirements. Before acquisition, it is important to consider the following:

- Images must be no larger than 7,000 x 7,000 pixels. Check image width and image height in the Image Info dialog. See the online Help in the MetaXpress software for details.
- Images from a time lapse experiment must be square.
- If the acquisition appends data to an existing plate acquisition, all parameters (for example, wavelengths, sites, and wells) must be the same. Otherwise, some of the appended data may not be useable in the IN Carta software.
- Images should not be saved using Legacy Format (.stk and old format .tif). See Image Save Preferences on page 9.
- Images should not be saved using LZW Compression. See Image Format Preferences on page 10.

Chapter 4: Exporting Data from the MetaXpress Software for the IN Carta Software

The IN Carta software opens images for analysis in IN Carta XDCE format. The MetaXpress software offers multiple ways to export images to this format:

- Exporting from Review Plate Data, see below
- Exporting from Plate Data Utilities, see page 16

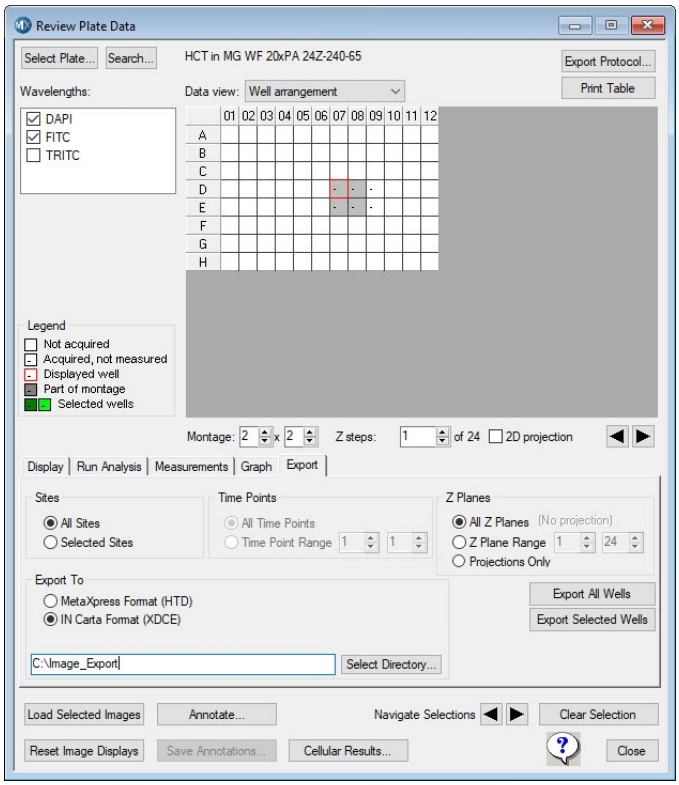
Exporting from Review Plate Data

Use the Review Plate Data dialog to export image data from a single plate to IN Carta XDCE format.

Note: The Review Plate Data dialog allows you to export image data for a single plate. If you want to export image data for multiple plates, use the Plate Data Utilities dialog. See Exporting from Plate Data Utilities on page 16.

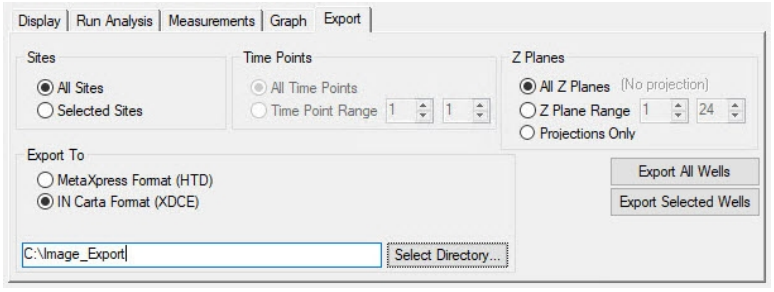
To export image data:

1. Do one of the following to display the Review Plate Data dialog:
   - From the standard menu, click **Screening** > **Review Plate Data**.
   - From the simplified menu, click **Screening** > **Review Plate**.
   - Click  in the Screening toolbar .



2. Select the plate and wells you want to export. See the online Help in the MetaXpress software for complete details on the Review Plate Data dialog.

3. Select the **Export** tab to export the selected data set.



4. Select a **Sites** option:
   - Select the **All Sites** option.
   - Select the **Selected Sites** option.
5. If the images in the selected plates contain multiple time points, select a **Time Points** option:
   - Select the **All Time Points** option.
   - Select the **Time Point Range** option and specify a range of time points .
6. If the images in the selected plates contain multiple Z Planes, select a **Z Planes** option:
   - Select the **All Z Planes** option.
   - Select the **Z Plane Range** option and specify a range of Z planes.
   - Select the **Projections Only** option.
7. In the **Export To** field, select the **IN Carta Format (XDCE)** option.
   - Select the **IN Carta Format (XDCE)** option to view and analyze the images with the optional IN Carta software.
8. Click **Select Directory** and browse to the folder for the export.
9. Do one of the following to start the export:
   - Click **Export All Wells** to export all wells.
   - Click **Export Selected Wells** to export selected wells.

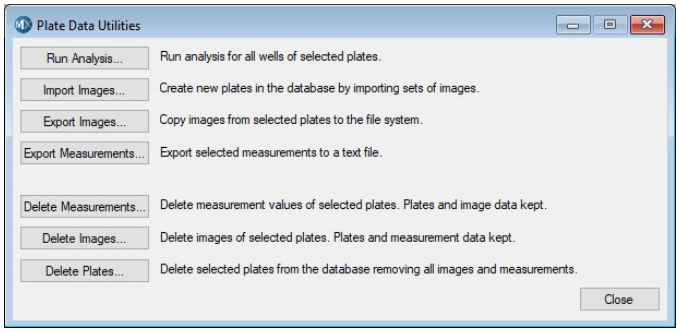
Exporting from Plate Data Utilities

Use the Plate Data Utilities dialog to export image data from a one or more plates to IN Carta XDCE format.

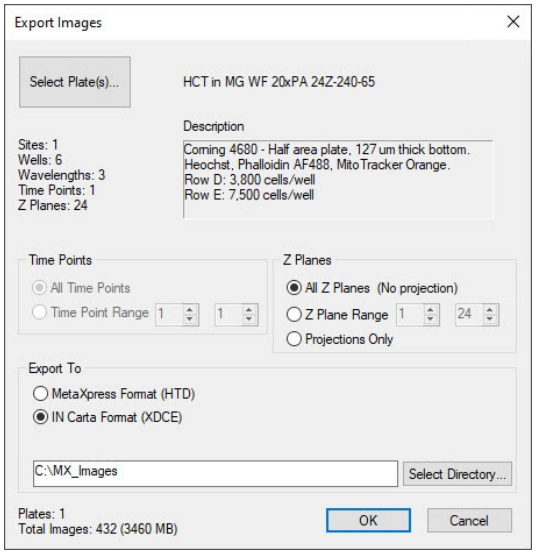
Note: The Plate Data Utilities dialog allows you to export image data for all sites from all wells on the selected plates. If you want to export image data for specific sites and/or wells, use the Review Plate Data dialog. See Exporting from Review Plate Data on page 13.

To export image data:

1. Do one of the following to display the Plate Data Utilities dialog:
   - From the standard menu, click **Screening** > **Plate Data Utilities**.
   - From the simplified menu, click **Screening** > **Plate Utilities**.
   - Click  in the Screening toolbar.



2. Click **Export Images** to display the Export Images dialog.



3. Click **Select Plate(s)**.

4. Select the plate for image export, and click **Select.**
5. If the images in the selected plates contain multiple time points, select a **Time Points** option:
   - Select the **All Time Points** option.
   - Select the **Time Point Range** option and specify a range of time points .
6. If the images in the selected plates contain multiple Z Planes, select a **Z Planes** option:
   - Select the **All Z Planes** option.
   - Select the **Z Plane Range** option and specify a range of Z planes.
   - Select the **Projections Only** option.
7. In the **Export To** field, select the **IN Carta Format (XDCE)** option.
   - Select the **IN Carta Format (XDCE)** option to view and analyze the images with the optional IN Carta software.
8. Click **Select Directory** and browse to the folder for the export.
9. Click **OK**.
10. In the Export Images dialog, click **OK** to start the export.

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