

MCD Viewer 1.0

Introduction

MCD Viewer 1.0 allows users to visualize and export imaging mass cytometry data acquired with CyTOF® Software 6.7. Create and save publication-quality 16-bit color images. Export MCD and text files to single-page or multipage OME-TIFF files to evaluate experimental results and perform further analysis with third-party software.

This document summarizes software features, installation procedure, and recommendations for using MCD Viewer 1.0.

About This Software

MCD Viewer 1.0 is compatible with imaging mass cytometry data files acquired with CyTOF Software version 6.7.

System Requirements

MCD Viewer 1.0 is a 64-bit application intended for operation on the following systems:

- Instrument workstations
Windows® 7 Pro 64-bit computer systems (PN 104042 or 104043) with administrator privileges
- Personal computers with the following minimum requirements:

Component	Minimum Requirements
Operating system	Windows 7 (with administrator privileges)
Processor	Dual-core 2.5 GHz base frequency 32 GB memory 4 MB cache
Installed memory (RAM)	8 GB

Features and Recommendations

Features

- Export data acquired with CyTOF Software 6.7 to single-page or multipage OME-TIFF and text files. Export all regions of interest (ROIs)/channels or select specific ROIs/channels within a single MCD file.
- Preview ion images by viewing the channel thumbnails. Save the thumbnails (as a collage) to an 8-bit image.
- Visualize data by merging ion images and assigning channel-specific colors. Optimize the image by adjusting channel-specific settings, such as signal thresholds, color thresholds, and gamma correction. Save images as 8- or 16-bit color TIFFs for publication purposes.
- The image burn-in feature allows users to overlay the following elements on a merged image and save as an 8-bit color TIFF:
 - Custom scale bar
 - Optical images of the sample before and after ablation
 - Selected regions
- Generate basic statistical information of selected regions within an ROI and save the data to a tab-delimited text file.
- View and save all optical images stored within an MCD file:
 - Slide preview
 - Panoramas
 - Images of the sample before and after ablation

Limitations and Recommendations

- For optimal software responsiveness, ROIs with dimensions of 2,000 μm^2 or greater must contain 50 or fewer channels of data.
- Copy MCD files to a local drive before opening them with MCD Viewer 1.0.
- Do not open files in MCD Viewer and CyTOF software simultaneously. This will cause the MCD Viewer software to become unresponsive.
- The file export progress bar does not update if only one channel is selected for export.
- Text files 2 GB or greater may take 2 or more minutes to open.
- On the Merged Image tab, the histogram will not update when subsequent MCD files are opened until a channel is selected.

- The maximum path length supported by Windows is 260 characters. If the number of characters in the target path for exported data exceeds 260, the following error is displayed after file export is initiated: “Export cannot proceed due to the following error: Object reference not set to an instance of an object.” File export stops. If a target path length exceeding 260 characters is encountered while data export is in progress, the following error is displayed: “Export cannot proceed due to the following error: Could not find a part of the path <target path here>.” To reduce the path length:
 - For existing data files, export data to a top-level folder.
 - For new data files, reduce the number of characters in panorama and ROI names prior to acquiring data with CyTOF Software 6.7 (panorama and ROI names cannot be changed after the MCD file is created).
- The exported file name includes the channel labels which are entered in CyTOF Software at the time of acquisition. ROIs with channel labels that contain unsupported characters cannot be exported. To remove the unsupported characters, open the file in CyTOF Software 6.7 and modify the channel labels for previously acquired data:
 - 1** Open CyTOF Software 6.7 and click HTI Acquisition.
 - 2** Click File > Open.
 - 3** In the Acquisition table, right-click the row containing the ROI.
 - 4** In the Channels table, modify the labels containing unsupported characters.
 - 5** Click File > Save.

Installation

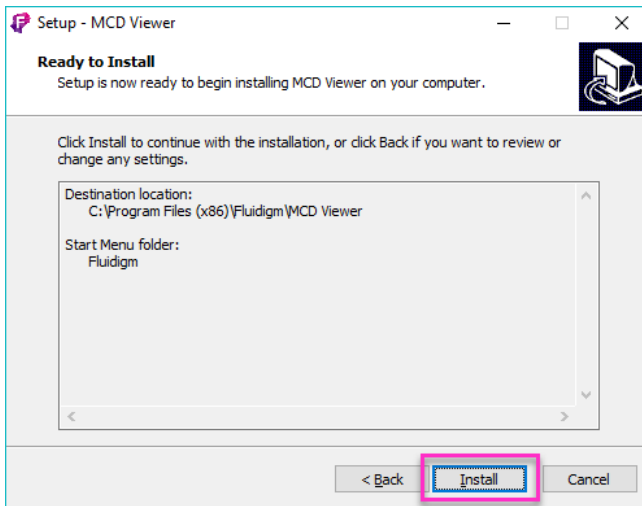
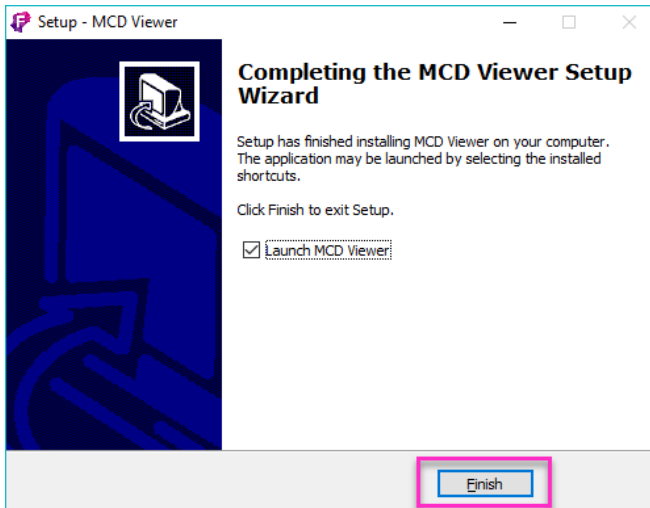
IMPORTANT Before installation, uninstall any existing versions of MCD Viewer from the computer (Windows Control Panel > Programs and Features), and then browse to C:\Program Files (x86)\Fluidigm and delete the MCD Viewer folder.

To download and install MCD Viewer 1.0

- 1 Log in to the installation computer with a Windows administrator account.
- 2 [Click here](#) to download files from the Fluidigm web portal.

NOTE A user account is required to download the files. If you do not have an account, [click here](#) to create one. Accounts are typically activated within 24 hours. Log in after 24 hours to verify account activation. If assistance is required, contact your local Field Application Scientist.

- a To log in to the Fluidigm web portal, type your email address and password, and then click **Login**.
 - b Click **Data Processing Software and Documents > Hyperion Imaging System > MCD Viewer 1.0**. The download will start automatically.
- 3 After the download is complete, browse to C:\Users\[*username here*]\Downloads and locate MCDViewer1_0Package.zip. Copy this file to the computer desktop.
 - 4 Extract the zip file contents:
 - Software installer: McdViewerSetup_1.0.560.0.exe
 - MCD Viewer 1.0 User Guide: MCD Viewer 1.0 User Guide.pdf
 - 5 After the files are extracted, double-click **McdViewerSetup_1.0.560.0.exe** to start the installer.
 - 6 Follow the installer instructions. When prompted, click **Next** to display the next screen.

7 Click **Install**.**8** Click **Finish**.

IMPORTANT MCD Viewer 1.0 will automatically start after installation is complete. If you are installing on a stand-alone data processing computer and encounter an error, go to Windows Add/Remove Programs and verify that .NET Framework 4.6.2 is installed. If it is not installed, go to <https://www.microsoft.com/net/download/framework> to download the installer.

For technical support visit fluidigm.com/support.

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