CellReporterXpress Image Acquisition and Analysis Software: Firewall & Antivirus Supplement

This supplement contains firewall and antivirus information for the CellReporterXpress® Image Acquisition and Analysis Software, which is the user interface for the ImageXpress® Pico Automated Cell Imaging System.

The information in this supplement is extracted from the *CellReporterXpress Installation & IT Guide*, which contains critical information that helps you configure a system to best meet your needs. We highly recommend that you review the complete guide, which is available on the Molecular Devices Knowledge Base at support.moleculardevices.com.

Antivirus Software

Note: With the workstation and monitor bundle, the antivirus settings required for the CellReporterXpress software have been preset on the host computer. However, if you connect the host computer to your organization's domain, it is possible that some settings may be overwritten and may need to be set again. In addition, if you are using remote computers for analysis operations and storage operations, you will also need to create these settings on those computers.

Antivirus software settings may need to be modified to prevent slowdown of the CellReporterXpress software. Stringent antivirus settings can affect the rate of data or image transfer operations.

CAUTION! Molecular Devices is not responsible for viruses or security attacks on the host computer. It is your responsibility to keep the antivirus software configuration current to avoid security risks and virus threats to the host computer.

A service exclusion prevents antivirus software from scanning the execution process of a service as well as the files the service accesses. If you are using Windows Defender, the CellReporterXpress Installation Utility will attempt to add the required exclusions and settings during installation.

Note: It is possible that your network policy may prevent the CellReporterXpress Installation Utility from adding the required exclusions and settings.

If you are not using Window Defender or if your network policy does not allow the CellReporterXpress Installation Utility to modify exclusions, do the following:

- Create an exclusion for the following services in the `%Program Files%\Molecular Devices` folder:
  - MD.CoreService (`MolDev.CoreService.exe`)
  - MD.DataService (`MolDev.DataService.exe`)
  - MD.WebService (`MolDev.WinHost.exe`)
  - MD.AnalysisService (`MolDev.AnalysisService.exe`)
  - MD.LocationService (`MolDev.LocationService.exe`)
- Create an exclusion for any paths used to store experiments.
- Enable auto updates for virus definitions to increase system security.
- Provide the ability to disable virus scanning for troubleshooting purposes.

Firewalls and Ports

The network connections between the host computer, instrument, remote clients, and external computers require that all firewalls and routers be configured to allow data transfer between all applicable ports.

> **Note:**
> - If any of the ports described in this section are already in use by other software, contact Molecular Devices for details on changing the ports used by the CellReporterXpress software.
> - During a Client Workstation installation, a Windows Security Alert may appear noting that "Windows Firewall has blocked some features of this app". In that case, allow access on private networks and domain networks.

This section describes the default ports used by the software in a standalone configuration and network configurations. See the *CellReporterXpress Installation & IT Guide* for details on the default ports in a server configuration.

Standalone Configuration or Network Configuration

In a standalone configuration, all CellReporterXpress software services (specifically MD.CoreService, MD.DataService, MD.WebService, MD.LocationService, and MD.AnalysisService) run on the host computer, which performs all analysis and data storage operations.

Computer	Port	Direction	Purpose
Host Computer	TCP 80	Inbound	Communication with the host computer (without a security certificate).
	TCP 443	Inbound	Communication with the host computer (with a security certificate).
	UDP 5353	Inbound	Auto detection of the instrument.
	TCP 8091 TCP 9090	Outbound	Communication with the instrument. If the instrument is behind a firewall, these ports should be forwarded to the instrument IP address.

> **Note:**
> - The port used for inbound communication with the host computer is configurable during installation. In most situations (see below), you can specify a different port if port 80 is not available.
> - If you are using robotic automation with the ImageXpress Pico system, you must use the default port 80 for inbound communication with the host computer. If another application is using this port, you may need to work with your IT professional to make it available.

Firewall and Antivirus Settings

The CellReporterXpress Installation Utility modifies Windows Firewall and Windows Defender for its services. If you are using other software for firewall and antivirus protection, configure changes for the following services and ports on all computers running a CellReporterXpress software service.

Services are installed in the `%Program Files%\Molecular Devices` folder.

> **Note:** With the workstation and monitor bundle, the firewall and antivirus settings required for the CellReporterXpress software have been preset on the host computer. However, if you connect the host computer to your organization's domain, it is possible that some settings may be overwritten and may need to be set again. In addition, if you are using remote computers for analysis operations and storage operations, you will also need to create these settings on those computers.

Item	Service Name (Executable File)	Requires Write Access	Exposed Port
Web Service	MD.WebService (MolDev.WinHost.exe)	No	TCP 80 (without a security certificate) TCP 443 (with a security certificate) TCP 12322
Data Service	MD.DataService (MolDev.DataService.exe)	Yes	TCP 12321
Core Service	MD.CoreService (MolDev.CoreService.exe)	No	TCP 12323
Location Service	MD.LocationService (MolDev.LocationService.exe)	Yes	TCP 12324
Analysis Service	MD.AnalysisService (MolDev.AnalysisService.exe)	Yes	TCP 12325
Instrument	n/a	Yes	TCP 8091 UDP 5353 TCP 9090

> **Note:**
> - The port used by the Web Service (TCP 80 without a security certificate and TCP 443 with a security certificate), which allows inbound communication with the host computer, is configurable during installation. In most situations (see below), you can specify a different port if the default port is not available.
> - If you are using robotic automation with the ImageXpress Pico system, the Web Service must be able to use port TCP 80. If another application is using this port, you may need to work with your IT professional to make it available.

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