December 2023

QIAcuity® Software Suite Backup and Restore Scripts

For QIAcuity Software Suite versions 2.0, 2.1.7, 2.1.8, and 2.2

Sample to Insight

Table of Contents

Introduction 3
Preconditions 4
Start the Backup Manually 6
Setup an Automated Backup with Microsoft Task Scheduler 8
Restore a Backup 15
Troubleshooting 17
Document Revision History 19

Introduction

The QIAcuity backup and restore scripts are a standalone solution to backup all relevant user data of the QIAGEN® Software Suite for disaster recovery and restore the data on a new or existing QIAGEN Software Suite installation. The following QIAcuity Software Suite versions are supported: 2.0, 2.1.7, 2.1.8, and 2.2. The backup can be conducted manually or automated by using of the Windows task scheduler. In detail, the following data is backed up:

1. User Management Database
2. Audit Trail Database and Tracker setting
3. Volume Precision Factor (VPF)
4. Plates
5. Plate Templates
6. Reports
7. Archive configurations (archive location, automatic archiving setting)
8. Instrument registration list

The plate archive is not part of the backup.

Note: For QIAcuity Software Suite version 2.5 or higher, these backup and restore scripts are not compatible. Please refer the QIAcuity Backup and Restore scripts for software version 2.5.

Preconditions

Windows® Admin permission is needed to setup and perform an automated backup and for manual backup and restore.

Visit **www.qiagen.com** and go to the Software section of the QIAcuity product page to download the backup and restore package.

Unzip the downloaded package to a location of your choice. Please note that **suite_backup.bat**, **suite_backup.ps1**, **suite_rollback.bat**, and **suite_rollback.ps1** must be in the same directory.

To access network folders for backup and restore, the UNC (Universal Naming Convention, **\\servername\path**) path format has to be used.

For example, if you have a mapped network drive on the source PC of your backup, you can identify the UNC path by using the command "net use" in a PowerShell® or CMD command prompt. If you do not know how to do this, please contact your local IT administrator.

Important: To ensure data integrity of the databases during backup and restore, the QIAcuity Software Suite is terminated for backup and restore. No plate runs, analyses, archiving, or any other functionality will be available during backup or restore. Please make sure that the backup and restore runs only if no plate run and analysis or automatic archiving is in progress; otherwise, the data will be lost. If automatic archiving is activated, it will start at 1 AM Suite PC time and will be skipped if the QIAcuity Software Suite is still terminated for the backup or restore at that time.

Note: The time required for a backup depends on various factors such as the size of the databases, the speed of the interface of the backup device (USB, network, etc.), and the utilization of the PC where the backup or restore script was started.

You can estimate the duration of the backup by using the following equation:

$$\text{Estimated Backup duration} = \frac{\text{Size of Suite Directory} + \text{Size of PostgreSQL Data Directory}}{\text{System performance}}$$

$$\text{Suite Directory} = \text{C:\Program Files (x86)\QIAcuity Software Suite}$$

$$\text{PostgreSQL Data Directory} = \text{C:\Program Files\PostgreSQL\11\data}$$

As an example, assuming an overall available system performance of 70 Mbytes/s and a Suite Directory + PostgreSQL Data Directory size of 100 GByte, the backup takes approximately 24 minutes.

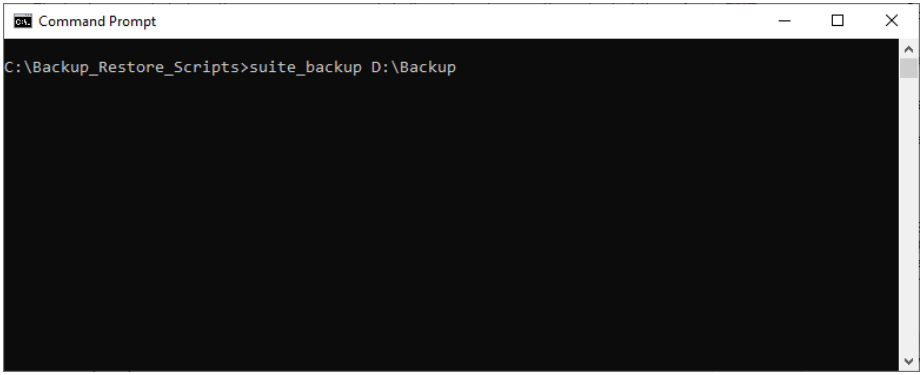
Important: If you want to perform backup of QIAcuity Software Suite version higher than or equal to Software Suite version 2.5 and then roll back to a lower version (i.e., Software Suite version 2.2), please make sure to detach archive location before performing backup and rollback (this option includes backup and rollback during upgrade to Suite version higher or equal of version 2.5). Otherwise, the older version of Software Suite will attempt to use the archive compatible only with Software Suite version 2.5 and ultimately will fail to start. If this is the case, please refer to troubleshooting section in this document.

Start the Backup Manually

Open the backup and restore directory with the file explorer and run **suite_backup.bat** as administrator.

The backup script starts with opening a command shell window showing the output of the script that is also logged into the **data_backup.log** file. The standard setting for the Suite directory and backup file target drive and directory (**C:**) are used.

If you want to change the target drive or directory, you can run the script from the command line providing the target as a parameter. For example, the target is a local drive and directory: **D:\Backup**, the command line is "suite_backup D:\Backup".



If the target is a network share, the UNC convention for the target has to be used, the command line is **suite_backup\\backupserver_name\backupdirectory**.

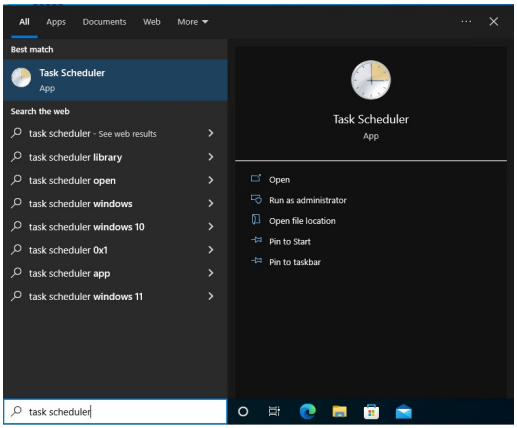
Note: When typing in the command lines, please enter the exact text described above, including all spaces in between the command.

In each case, the backup is being stored in a subdirectory **suite_backup_%timestamp%** of your backup directory.

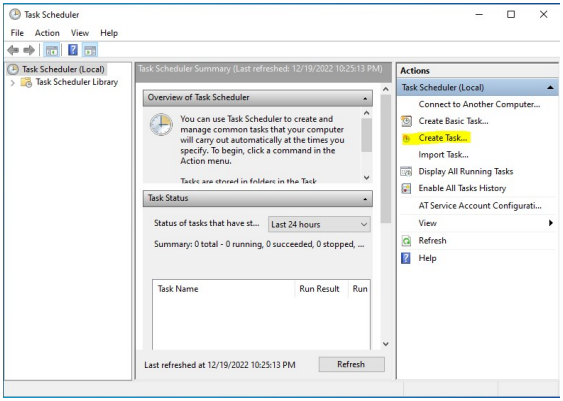
Important: Following the best practices for backing up data, ensure that each backup is restorable before archiving it! If you do not know how to do this, please contact your local IT department.

Setup an Automated Backup with Microsoft Task Scheduler

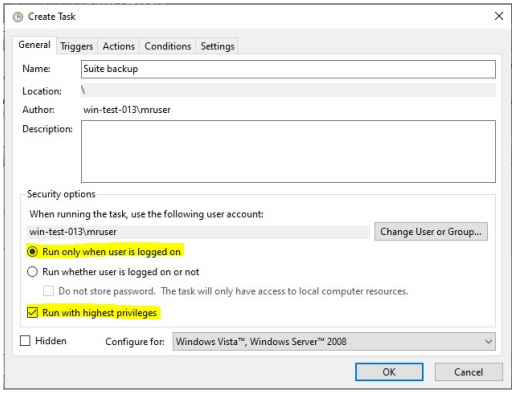
1. Search for the windows task scheduler application and run it.



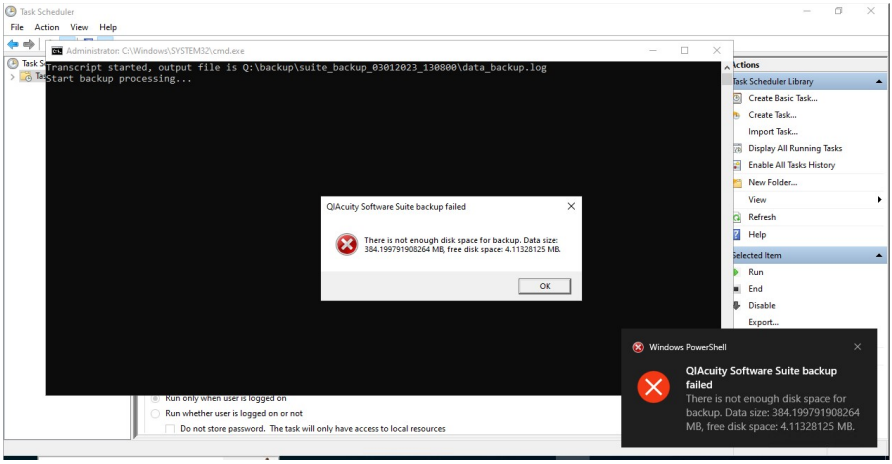
2. Select **Create Task...** action from right menu (highlighted).



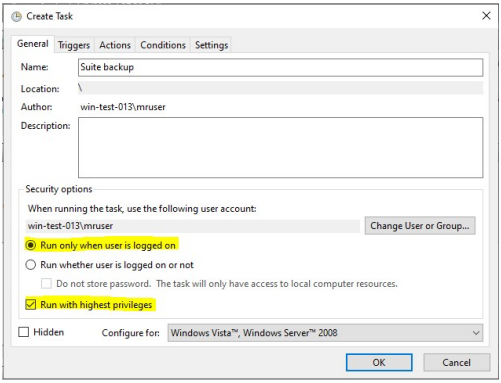
3. In **General** tab, choose a name for the task.



4. In **Security options** of the "Create Task" window, you will have to choose whether you want to see error messages (in case of an error) like this or not:

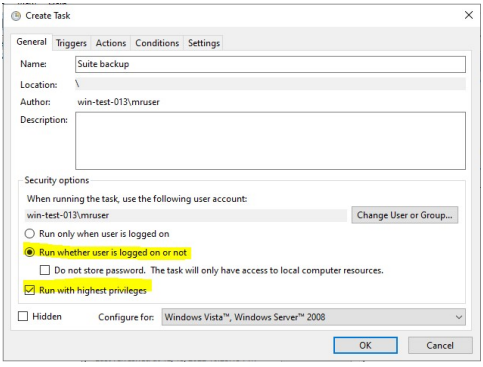


a. If you want to run the backup only when a user is logged on, to be informed of errors in that manner, pick the options as highlighted in the screenshot below.

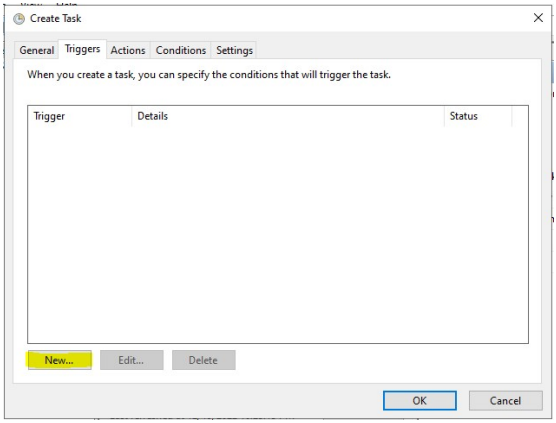


The backup process will be performed only when you are logged in and you will see the error messages as presented in the screenshot above. In addition any error will be logged in the backup log file.

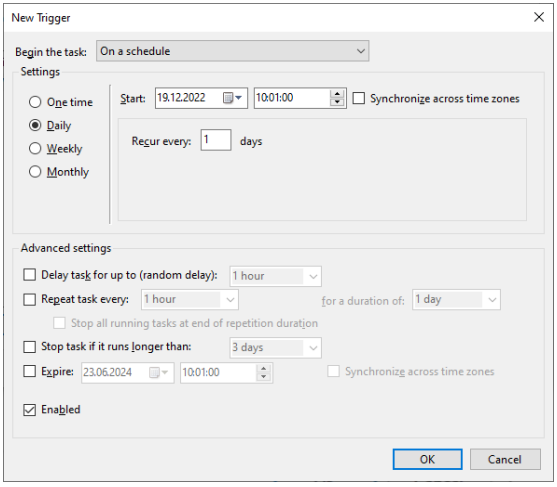
b. If you want to run the backup process in the background without a user logged in, pick the options as highlighted in the screenshot below. With this option, any backup errors will be logged in the backup log file only.



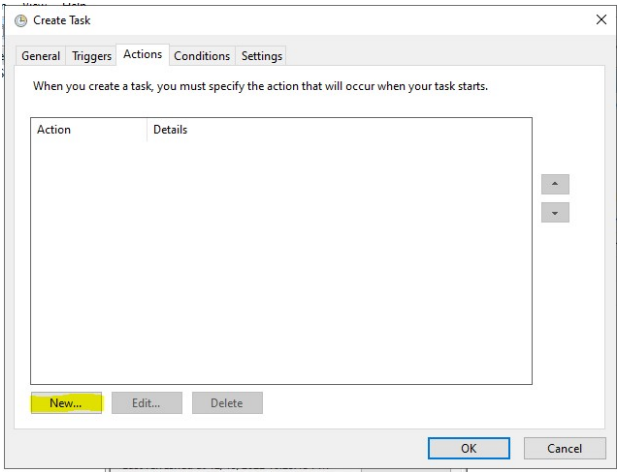
5. In **Triggers** tab, click the **New…** button.



The "New Trigger" configuration window allows to define when the backup action should be performed.

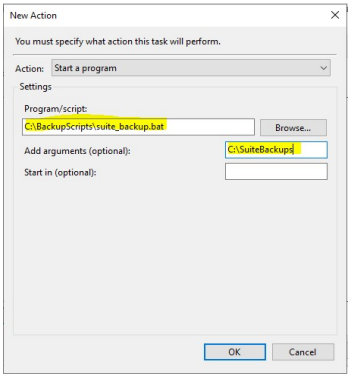


6. Go to the **Actions** tab and click the **New…** button:

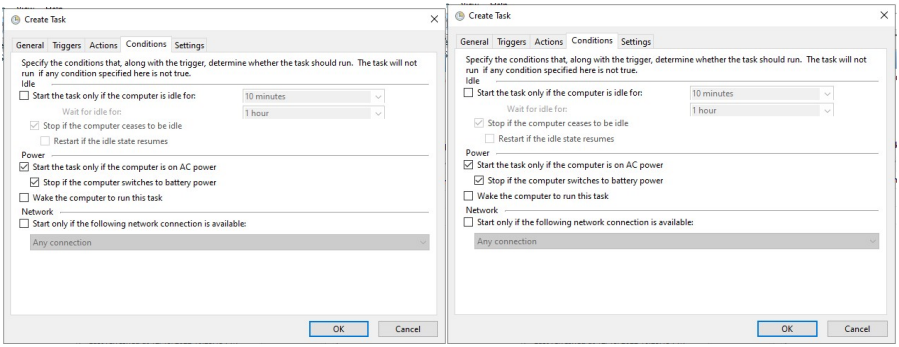


7. In the "New Action" window, you have to provide the path to the backup script on your disc ("Program/script" text area) and your desired, existing directory to store the automatic backups ("Add arguments (optional)" text area).

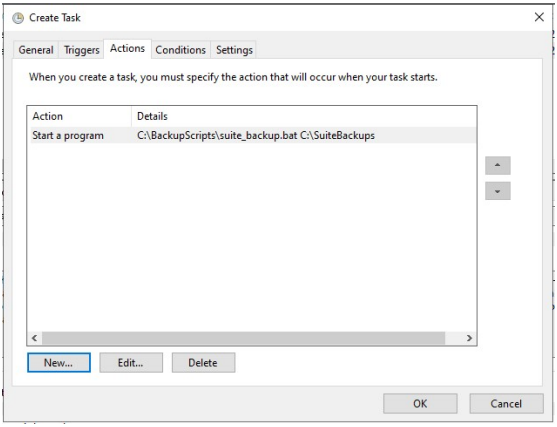
   If the target is a network share, the UNC convention for the argument has to be used; for example, **\\backupserver_name\backupdirectory**.



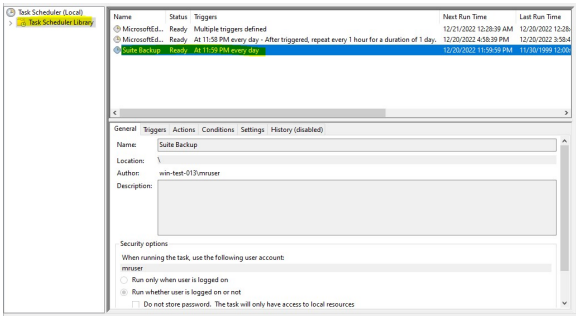
8. Configuration in **Conditions and Settings** tabs is up to your needs. For the most common case nothing needs to be adjusted from the default.



9. With **Triggers and Actions** tab filled, click the **OK** button. In case the configuration to run the backup in the background was selected, Windows will ask you for the password of the user account running the task. Provide it, and click **OK**.

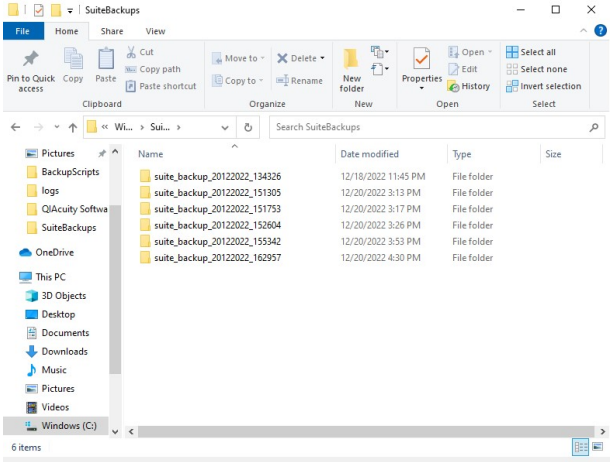


After that step, you can see your task in the “Task Scheduler Library” view.



The windows task scheduler will from now on automatically start the Suite Backup Task and create the Suite backups as configured in the task.

Inside each timestamped backup folder (**suite_backup_%timestamp%**), the backed-up files along with a backup log file and a rollback script is stored.

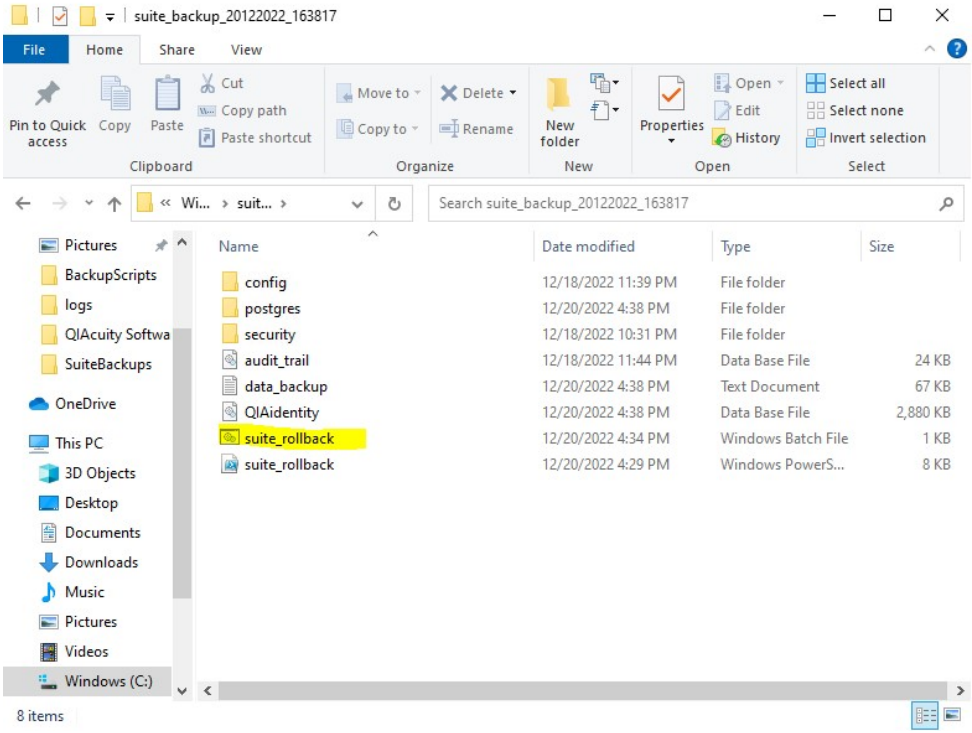


Restore a Backup

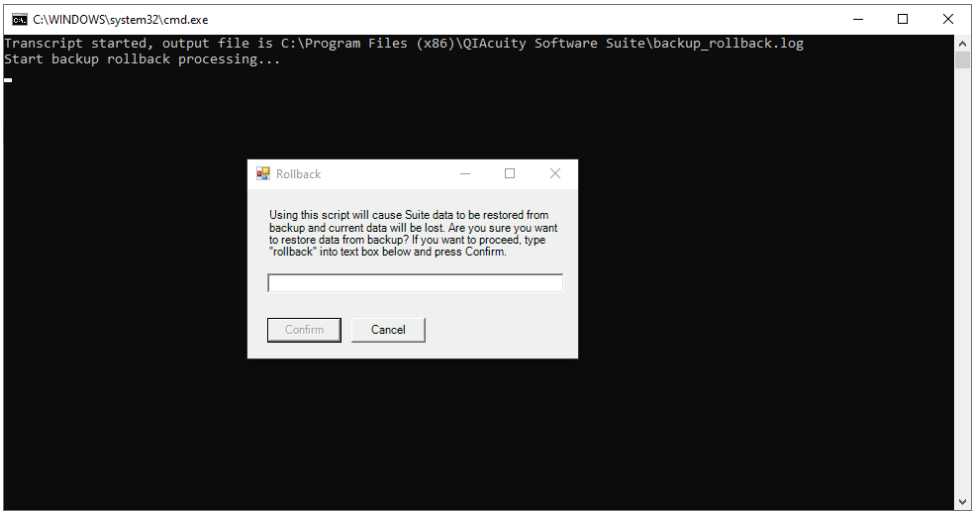
Important: In case of a disaster recovery, install the QIAcuity Suite Software first. Please make sure that the Software version is identical to the version of the backup.

Important: The rollback script will restore the data of the backup to the QIAcuity Software Suite Installation directories and overwrite existing data.

To restore a backup, run **suite_rollback.bat** as administrator inside the desired backup folder and follow the instructions.



Confirm that the backup data can be restored to the target location by entering “rollback” into the textbox. This will overwrite the data at the target location.



After the rollback has finished, the command window closes and the QIAcuity Software Suite can be opened again.

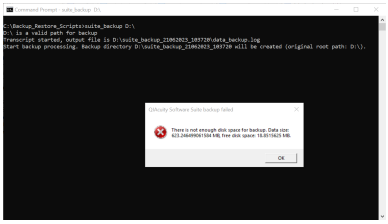
Troubleshooting

The backup and restore scripts are logging the progress and results in log files. For the backup- script, the logged information is located in **suite_ backup_%timestamp%\data_ backup.log**

For the restore script, the logged information is located in **C:\Program Files (x86)\QIAcuity Software Suite\backup_rollback.log**

In case of an error, like incomplete backup, empty backup directory, or incomplete restore, please check the log files for errors.

Error	Solution
PS>TerminatingError(): "service QIAcuitySuite cannot be stopped" >> TerminatingError(): "service QIAcuitySuite cannot be stopped" Backup failed: service QIAcuitySuite cannot be stopped	Please run the backup script with administrator rights.
The command line window closes itself right after the script gets started and the backup directory is not created on the network drive, no log is present	Please check that the user performing the backup has permission to write on the network drive.

Error	Solution
Error message pop up during manual backup about not enough disk space. The command line remains open.  For automated backup, the error message "PS>TerminatingError(): "There is not enough disk space for backup." is present in the data_backup.log file, resulting in no files in the backup directory	Please check the disk space at the backup target location
Software Suite is unable to start after rollback from version higher or equal to 2.5 to lower Suite Software version (i.e., 2.2).	1. Move archive directory to another location (i.e., from **C:\Archive** to **D:\Archive**) or just change archive folder name (i.e. from "Archive" to "Archive from version 2.5"). After such action Software Suite will be operational again however no archive will be attached anymore. 2. To regain access to archived plates import go to archive location with those plates (**<archive location directory>/plates**) and manually import them to Software Suite using import functionality. Please contact the QIAGEN Technical Support for further support.

Document Revision History

Revision	Description
June 2023	Initial release
December 2023	Information regarding rollback from version equal or higher then Software Suite version 2.5 added.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at **www.qiagen.com** or can be requested from QIAGEN Technical Services or your local distributor.

Trademarks: QIAGEN®, Sample to Insight®, QIAcuity®, (QIAGEN Group); Windows®, PowerShell® (Microsoft Corporation). Registered names, trademarks, etc. used in this document, even when not specifically marked as such, are not to be considered unprotected by law.

12/2023 HB-3431-002 ©2023 QIAGEN, all rights reserved.