

RapidLINK™ Software v2.0

USER GUIDE

Publication Number MAN0030010

Revision B00



Life Technologies Corporation | 200 Oyster Point Blvd | South San Francisco, California 94080 USA
For descriptions of symbols on product labels or product documents, go to thermofisher.com/symbols-definition.

Revision history: MAN0030010 B00 (English)

Revision	Date	Description
B00	18 March 2024	Updated the disk space specifications (see “View notifications (low disk space)” on page 16). Added a reference to the Release Notes and additional troubleshooting information (see “Observation table” on page 97). Added Appendix C, “RapidLINK™ Configuration Utility v2.0”. Made minor text updates for clarification (throughout the document).
A.0	15 November 2023	New user guide for RapidLINK™ Software v2.0.

The information in this guide is subject to change without notice.

DISCLAIMER: TO THE EXTENT ALLOWED BY LAW, THERMO FISHER SCIENTIFIC INC. AND/OR ITS AFFILIATE(S) WILL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, MULTIPLE, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING FROM THIS DOCUMENT, INCLUDING YOUR USE OF IT.

NOTICE TO PURCHASER: DISCLAIMER OF LICENSE: Purchase of this software product alone does not imply any license under any process, instrument or other apparatus, system, composition, reagent or kit rights under patent claims owned or otherwise controlled by Thermo Fisher Scientific, either expressly, or by estoppel.

TRADEMARKS: All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified.

©2023-2024 Thermo Fisher Scientific Inc. All rights reserved.

Contents

■ CHAPTER 1 About the software	7
System components	7
RapidLINK™ Software v2.0 features	8
RapidLINK™ Software administrator	9
SAE Administrator Console	10
Network and password security requirements	10
Network configuration and security	10
Password security	10
■ CHAPTER 2 Get started	11
Sign in to the RapidLINK™ Software	11
Software navigation	11
Filter tables (includes search)	12
Set display preferences for tables	15
Change your RapidLINK™ Software password	16
View notifications (low disk space)	16
Sign out of the RapidLINK™ Software	16
■ CHAPTER 3 Monitor and review runs	17
View runs in the Runs dashboard	17
Runs table	19
Run status	20
Profile quality	22
Open the Results Viewer—View mode	23
Adjust the trace display	23
View marker thresholds and quality details	25
Set display preferences for the Results Viewer	27
Marker and allele legend for the trace (Results Viewer)	28
Profile quality: Positive controls, negative controls, and allelic ladders	31
Review and edit a DNA profile (review mode)	31
Review and edit a DNA profile: Required tasks	32
Open the Results Viewer—Review mode (includes editing)	32
Check for flags and changes made by other users	33

<i>(If needed)</i> Make changes to the DNA profile	36
Complete the review	40
Export tables for a single sample (Results Viewer)	41
■ CHAPTER 4 Manage runs	42
Import a run (ZIP file)	42
Export run files	43
Generate sample or run reports	45
Manually delete sample runs	47
Add or edit a comment (runs tables)	48
Move a run to Review awaiting	48
Re-upload a run	49
■ CHAPTER 5 Monitor all instruments	51
View RapidHIT™ ID instruments in the Instruments dashboard	51
Instruments table	52
Add an instrument (Instruments dashboard)	52
Disconnect an instrument (Instruments dashboard)	53
Generate an Instruments report	54
■ CHAPTER 6 Monitor a single instrument	55
View details for a single instrument	55
<ID> instrument details pane	58
Instrument users table	60
Remotely access the instrument touchscreen	60
Disconnect an instrument (<ID> instrument details pane)	61
Download primary cartridge logs	61
Edit an instrument (<ID> instrument details pane)	62
Generate an Instrument users report for a single instrument	62
RapidHIT™ ID instrument user accounts: Deauthorize users from a single instrument ...	63
RapidHIT™ ID instrument user accounts: Authorize users for a single instrument	63

■	CHAPTER 7	Manage system settings	65
	Open the System settings dashboard		65
	Manage applications and licenses		66
	View applications and license status		66
	Install a license		67
	Manage workflows		68
	View workflows		68
	View workflow details		70
	Edit a workflow		71
	Duplicate a workflow		80
	Activate a workflow		80
	Deactivate a workflow		80
	Export a workflow (ZIP file)		81
	Import a workflow (ZIP file)		81
	Manage instrument locations		82
	View instrument locations		82
	Add an instrument location		83
	Edit an instrument location		84
	Delete an instrument location		84
	Manage instruments		85
	View instruments (System settings dashboard)		85
	View instrument details (System settings dashboard)		86
	Add an instrument (System settings dashboard)		86
	Edit an instrument (System settings dashboard)		87
	Assign instruments to a workflow		87
	Disconnect an instrument (System settings dashboard)		88
	RapidHIT™ ID instrument user accounts: Manage users		88
	RapidHIT™ ID instrument user accounts: View users		89
	RapidHIT™ ID instrument user accounts: Activate or inactivate an account		90
	RapidHIT™ ID instrument user accounts: Authorize or deauthorize instruments		91
	Manage security and audit settings		92
	Access the SAE Administrator Console		92
	Default user roles and permissions		92
	Audited actions		95
■	APPENDIX A	Troubleshooting	97
	Observation table		97
	DX codes		100
	Troubleshoot DX codes		101
	Import DX codes (ZIP file)		102

■	APPENDIX B	Process Quality Value (PQV) flags	103
	Sample-level PQV flags		103
	CGQ (Composite Genotype Quality) PQV flag (sample-level)		105
	DEG (Degraded) PQV flag (sample-level)		106
	INH (Inhibition) PQV flag (sample-level)		106
	MIX (Mixture) PQV flag (sample-level)		106
	OMR (Outside Marker Range) PQV flag (sample-level)		107
	QTL (Quantity—Large) PQV flag (sample-level)		108
	QTS (Quantity—Small) PQV flag (sample-level)		108
	SQ (Sizing Quality) PQV flag (sample-level)		109
	STO (Stochastic) PQV flag (sample-level)		109
	Marker-level PQV flags		110
	ACC (Amelogenin Cross Check) PQV flag (marker-level)		110
	AN (Allele Number) PQV flag (marker-level)		111
	BD (Broad Peak) PQV flag (marker-level)		111
	BIN (Out of Bin Allele) PQV flag (marker-level)		112
	CC (Control Concordance) PQV flag (marker-level)		112
	GQ (Genotype Quality) PQV flag (marker-level)		113
	LPH (Low Peak Height) PQV flag (marker-level)		113
	MPH (Max Peak Height) PQV flag (marker-level)		114
	OS (Off-scale) PQV flag (marker-level)		114
	OVL (Overlap) PQV flag (marker-level)		114
	PHR (Peak Height Ratio) PQV flag (marker-level)		115
	SPK (Spike) PQV flag (marker-level)		115
■	APPENDIX C	RapidLINK™ Configuration Utility v2.0	116
	Before you begin		116
	Open the utility		117
	Configure the server settings		117
	Back up the RapidLINK™ Software v2.0 database		118
	Enable port access		120
	Ensure that the ports and certificate have been changed		124
■	APPENDIX D	Documentation and support	126
	Related documentation		126
	Customer and technical support		126
	Limited product warranty		127



About the software

■ System components	7
■ RapidLINK™ Software v2.0 features	8
■ RapidLINK™ Software administrator	9
■ SAE Administrator Console	10
■ Network and password security requirements	10

RapidLINK™ Software v2.0 is part of the RapidHIT™ ID System v2.0 client-server configuration. It provides real-time connection to multiple RapidHIT™ ID instruments.

Run data from the instrument is automatically sent to the RapidLINK™ Software. Configurable workflow definitions in the RapidLINK™ Software enable end-to-end routing and review of data results. Additional functionality allows data to be transferred to an external location, as specified by your laboratory.

System components

Description	Source
RapidHIT™ ID System v2.0	
The instrument performs the following functions: • Capillary electrophoresis and detection • Analysis using a library of ladders that are provided on the instrument • Generates a DNA profile (CMF file) in 90–110 minutes. The instrument provides an intuitive user interface that guides you through routine use. For information on using the instrument, see the <i>RapidHIT™ ID System v2.0 User Guide</i> (Pub. No. MAN0026593).	Included
RapidLINK™ Software v2.0	
When an instrument run is complete, the DNA profile is sent to the RapidLINK™ Software. The software performs the following functions: • Allows users to review the DNA profiles and (<i>if needed</i>) change the profile quality. • Allows users to upload DNA profiles to an external location, depending on the workflow settings specified for the instrument run.	Included

(continued)

Description	Source
Sample cartridge kits	
The sample cartridges contain all reagents required for lysis, PCR, and STR preparation. Use one of the following: • RapidINTEL™ Plus chemistry (for casework, single-source, blood and saliva samples)—RapidINTEL™ Plus 50 Sample Cartridge Kit (Cat. No. A54338) or RapidINTEL™ Plus Sample Cartridge Evaluation Kit (Cat. No. A55598) • GlobalFiler™ Express chemistry (for single-source, buccal swab)—RapidHIT™ ID ACE GlobalFiler™ Express 50 Sample Kit (Cat. No. A41831) and RapidHIT™ ID ACE GlobalFiler™ Express Evaluation Kit (Cat. No. 400114RH)	Purchase separately from thermofisher.com
Primary cartridge kit	
The primary cartridge kit is used for instrument calibration. The kit includes allelic ladder, positive control, and utility cartridges. GlobalFiler™ Express chemistry—RapidHIT™ ID Primary Cartridge GlobalFiler™ Express 150 Kit (Cat. No. A53084)	Purchase separately from thermofisher.com
(Optional) External location for data	
Data can be uploaded from the RapidLINK™ Software to an external location. Your RapidLINK™ Software administrator can configure the external location as needed for your laboratory.	User-supplied

RapidLINK™ Software v2.0 features

Feature	Description
Auditing	In conjunction with the SAE Administrator Console, automatically maintains audit records for the following: • Runs—Date/time of the run, the user who performed the run, run results, the instrument serial number, and the expiration date and lot numbers of all consumables used • User accounts—User name, user role, and which instruments the user is authorized for • Instrument changes—Registration, name, and location • DNA profiles and DNA data—Deletions from the system, review of DNA profiles, and any edits made to a DNA profile during review
Reporting	Allows an Administrator or other authorized user to generate reports for auditing and tracking purposes.

(continued)

Feature	Description
Deletion of DNA profiles and DNA data	In compliance with FBI standards, allows regular deletion of DNA profiles and DNA data. An Administrator or other authorized user can manually delete sample runs. Deleting a sample run deletes the DNA profile, DNA data, and all personally identifiable information. Metadata associated with the run (for example, sample name, status, start date, and cartridge type) is preserved for auditing purposes. Note: DNA profiles and DNA data are encrypted on the RapidHIT™ ID Instrument. Note: You cannot delete positive control, negative control, or allelic ladder runs.
Customized user roles	Includes role-based security, and is preconfigured with four default user roles: Administrator, Supervisor, Analyst, and Operator. To allow each laboratory to customize how users interact with the system, an Administrator or other authorized user can change the user roles as follows: - Edit or delete the default Supervisor, Analyst, and Operator roles. The Administrator role cannot be edited or deleted. - Add new user roles. Note: User roles can be customized only for the RapidLINK™ Software. User roles on the RapidHIT™ ID Instrument are not customizable.
Export run logs	Allows an authorized user to export run logs for each run for troubleshooting purposes. These run logs do not contain any DNA data or personally identifiable information.
Monitor instruments	- Monitor and control instruments from a central location. - Monitor consumable use for all instruments. - Authorize users for one or more instruments.

RapidLINK™ Software administrator

Designate at least one RapidLINK™ Software administrator for your laboratory. The RapidLINK™ Software administrator is responsible for managing the following system settings:

- Applications and licenses
- Workflows
- RapidHIT™ ID instruments and instrument locations
- Instrument authorization for RapidHIT™ ID instrument users
- Security and audit settings in the SAE Administrator Console (includes creating RapidLINK™ Software user accounts and roles)

For more information, see Chapter 7, “Manage system settings”.

IMPORTANT! The first RapidLINK™ Software administrator account must be created in the SAE Administrator Console by a user with the default SAE administrator account. See “SAE Administrator Console” on page 10.

SAE Administrator Console

The SAE Administrator Console is used to manage the following items for the RapidLINK™ Software:

- User accounts
- User roles and permissions (for a list of the default user roles and permissions, see “Default user roles and permissions” on page 92)
- Security policies (for example, password complexity and account locking)
- Auditing functionality (for a list of items that are audited, see “Audited actions” on page 95)
- Application profiles

Default SAE administrator account: Use only for initial setup

We recommend that your laboratory use the default SAE administrator account only for the following tasks:

- Access the SAE Administrator Console for the first time
- Set up the initial application profiles for your laboratory
- Create the first RapidLINK™ Software administrator account

IMPORTANT! All successive administrative functions should be done by the RapidLINK™ Software administrator account. Otherwise, auditing will be lost for administrative actions—the actions will be traceable only to the default SAE administrator account.

For more information on the SAE Administrator Console, open the online help system from within the SAE Administrator Console software. See “Manage security and audit settings” on page 92.

Network and password security requirements

Network configuration and security

The network configuration and security settings of your laboratory or facility (such as firewalls, anti-virus software, network passwords) are the sole responsibility of your facility administrator, IT, and security personnel. This product does not provide any network or security configuration files, utilities, or instructions.

If external or network drives are connected to the software, it is the responsibility of your IT personnel to ensure that such drives are configured and secured correctly to prevent data corruption or loss. It is the responsibility of your facility administrator, IT, and security personnel to prevent the use of any unsecured ports (such as USB, Ethernet) and ensure that the system security is maintained.

Password security

Thermo Fisher Scientific strongly recommends that you maintain unique passwords for all accounts in use on this product. All passwords should be reset upon first sign in to the product. Change passwords according to your organization's password policy.

It is the sole responsibility of your IT personnel to develop and enforce secure use of passwords.



Get started

■ Sign in to the RapidLINK™ Software	11
■ Software navigation	11
■ Filter tables (includes search)	12
■ Set display preferences for tables	15
■ Change your RapidLINK™ Software password	16
■ View notifications (low disk space)	16
■ Sign out of the RapidLINK™ Software	16

Sign in to the RapidLINK™ Software

1. Open the RapidLINK™ Software.

Software location	Action
You are opening the RapidLINK™ Software on the same desktop where the software is installed	1. In the desktop, double-click . The RapidLINK™ Software opens in your default browser.
You are not opening the RapidLINK™ Software on the same desktop where the software is installed	1. Open Google Chrome™, then enter the following URL: https://<rapidlinkhostedIP>:8082/ui/index.html#/login 2. If an SSL certificate warning is displayed, click Accept. The RapidLINK™ Software opens in Google Chrome™.

Note: Google Chrome™ is the recommended web browser.

2. Enter your user name and password, then click **Sign in**.
3. See “Software navigation” on page 11 for a brief guide on navigating through the software.

Software navigation

Depending on your user role permissions, you can use the navigation tools to perform the functions shown in Figure 1.

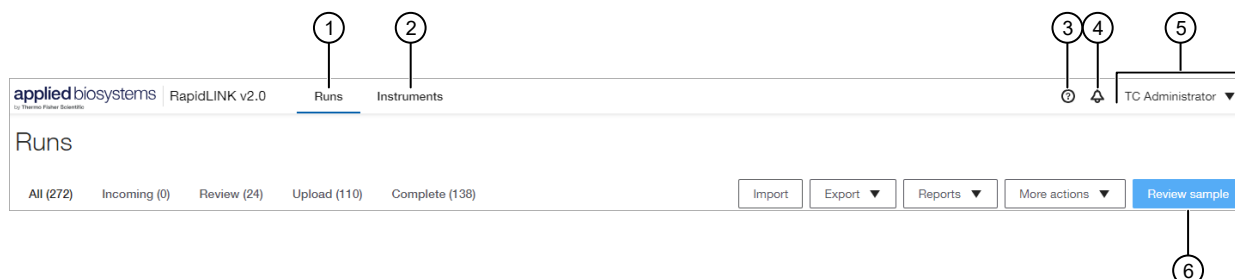


Figure 1 Software navigation

- ① Displays the **Runs** dashboard (main screen) to monitor runs (see Chapter 3, “Monitor and review runs”)
- ② Displays the **Instruments** dashboard to monitor the RapidHIT™ ID instruments that are connected to the RapidLINK™ Software instance (see Chapter 5, “Monitor all instruments” and Chapter 6, “Monitor a single instrument”)
- ③ Opens the online help system
- ④ Displays the **Notifications** pane (see “View notifications (low disk space)” on page 16)
- ⑤ Signed-in user name; opens a dropdown menu with the following options:
 - **About**—Displays application and platform release/version information
 - **System settings**—Displays the **System settings** dashboard to manage applications and licenses, workflows, instruments, and security and audit settings (see Chapter 7, “Manage system settings”)
 - **Change password** (see “Change your RapidLINK™ Software password” on page 16)
 - **Sign out** (see “Sign out of the RapidLINK™ Software” on page 16)
- ⑥ (Available only from the **Runs** dashboard) Opens the Results Viewer in review mode; review mode allows users to edit DNA profiles (“Check for flags and changes made by other users” on page 33)

Filter tables (includes search)

You can use various filter tools to display a subset of items in the following tables:

- **Runs** dashboard—Runs table
 - **Instruments** dashboard—Instruments table
 - **<ID> instrument details** screen (accessed from the **Instruments** dashboard)—Runs table and instrument users tables
 - **System settings** dashboard—Workflows, locations, instruments, and user authorization tables
1. Search: In the search field, enter consecutive characters that appear in the item that you are searching for.
For example, if you are searching a runs table for a specific run, enter consecutive characters that appear in the run ID.
The software searches for the text that you entered across all columns and rows in the table.

Note: If you set preferences to exclude columns from the table, those columns are not searched. See “Set display preferences for tables” on page 15.

2. Sort a table: Click ▼ or ▲ in a column header.

3. (Runs tables only) Display all runs or a subset of runs: Click a tab to display the run status category of interest.

- **All** (default selection)—Displays all runs in the RapidLINK™ Software instance, regardless of status or profile quality.

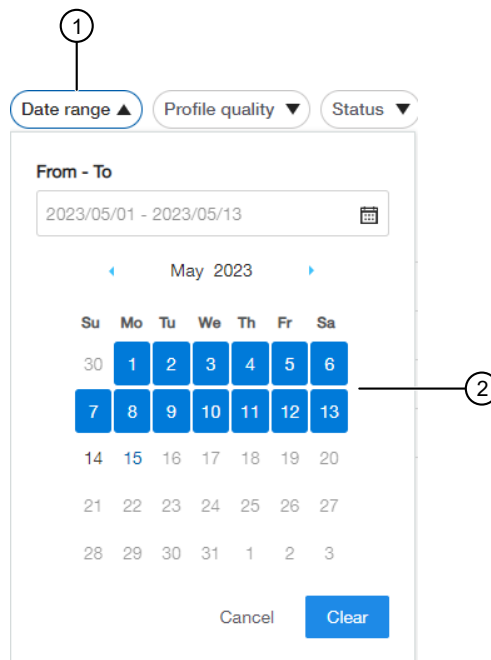
Note: To display deleted runs in the **All** tab, select the **Show deleted runs** checkbox in the **Preferences** dialog box for runs tables. See “Set display preferences for tables” on page 15.

- **Incoming**—Displays only runs that have been started, but not yet completed, on connected RapidHIT™ ID instruments.
- **Review**—Displays only runs that are currently in a review status.
- **Upload**—Displays only runs that are currently in an upload status. *Upload* refers to uploading the DNA profile for a run to an external location, as specified in the workflow for the run.
- **Complete**—Displays only runs that were exported for offline review, or that do not require upload to an external location.

Note: For more information on each run status category, see “Run status” on page 20.

4. (Runs tables only) Select a single date or specify a date range.

- To select a single date: Click **Date range** to display a calendar, then double-click the date.
- To specify a date range: Click **Date range** to display a calendar, then select from and to dates.



- ① Date filter
- ② Selected range

5. Use one or more of the following filter tools.

Tool	Action
Runs tables	
Filter by profile quality	From the Profile quality dropdown list, select an option. For a description of each option, see “Profile quality” on page 22.
Filter by run status	From the Status dropdown list, select an option. For a description of each option, see “Run status” on page 20. Note: The statuses that are available depend on the tab that you clicked in step 3. For example, if you clicked the Review tab, only the review status options are available: Review awaiting , Review locked , Review in progress , and Review complete .
Instruments tables	
Filter by instrument health	From the Health dropdown list, select an option. For a description of each option, see “Instruments table” on page 52.
User authorization table	
Filter by user status	From the Status dropdown list, select an option. For a description of each option, see “RapidHIT™ ID instrument user accounts: User authorization table” on page 89.
Workflows table	
Filter by workflow status	From the Status dropdown list, select an option. For a description of each option, see “Workflows table” on page 69.

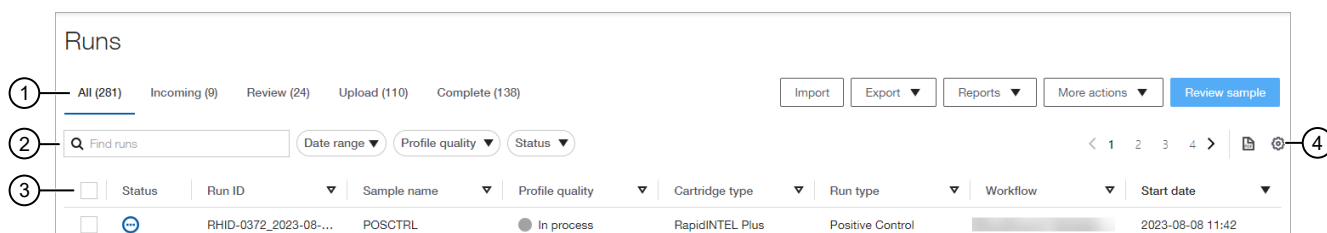


Figure 2 Example: Filtering tools in the Runs dashboard

- ① Tabs to display only a subset of runs
- ② Search and filter tools
- ③ Column headers for sorting
- ④ Display preferences (see “Set display preferences for tables” on page 15)

Set display preferences for tables

You can set display preferences for the following tables in the RapidLINK™ Software:

- **Runs** dashboard—Runs table
- **Instruments** dashboard—Instruments table
- **<ID> instrument details** screen (accessed from the **Instruments** dashboard)—Runs table and instrument users table
- **System settings** dashboard—Workflows, locations, instruments, and user authorization tables

Note: You can also set display preferences for the trace (plot) and tables in the Results Viewer. See “Set display preferences for the Results Viewer” on page 27.

1. Above the table (top-right), click  to open the **Preferences** dialog box.
2. Select the number of rows to display on the screen at one time.

Note: The software can display a maximum of 50 rows per page. If you want to perform an action on multiple rows, you can select a maximum of 50 rows at one time.

3. Select or deselect **Wrap lines**.
If you select **Wrap lines**, the text wraps within each table cell.
4. *(Runs tables only)* Select or deselect **Show deleted runs**.
If you select **Show deleted runs**, the deleted runs are displayed in the runs table only when the **All** tab is selected. See “Filter tables (includes search)” on page 12.
5. *(Runs tables only)* Set tab preferences: Drag-and-drop to reorder the tabs.
6. Set column preferences.
 - a. Select () or deselect () the columns to display in the table.
 - b. Drag-and-drop to reorder the columns.

You cannot deselect or reorder columns that have a gray name and an inactive toggle button ()

7. Click **Update** to save your changes.

Display preferences are user-specific and persist between sign-in sessions.

Note: You can also filter the tables to display only the items of interest. See “Filter tables (includes search)” on page 12.

Change your RapidLINK™ Software password

1. At the top-right of any screen, click ▼ next to your user name, then select **Change password** to open the **Change password** dialog box.
2. Enter your old password.
3. Enter your new password twice.
4. Click **Change password**.

A confirmation message briefly appears at the top of the screen. Use your new password the next time that you sign in to the RapidLINK™ Software.

View notifications (low disk space)

If you are running low on disk space, the RapidLINK™ Software displays **Low Disk Space** warning messages as follows:

- When the remaining disk space is ≤ 20 GB, a blue banner message is displayed in the software for ≤ 10 seconds.
 - When the remaining disk space is ≤ 10 GB, a red banner message is displayed at sign-in and in the software for ≤ 60 seconds. Users will be able to view the software, but will not be able to perform any actions.
 - Both warning messages are retained in the **Notifications** pane until the disk space is cleared.
1. To open the **Notifications** pane and review the warning messages, click 🔔 at the top-right of any screen.
 - 🔔¹⁰—A number on the icon indicates the number of messages available.
 - 🔔—If no number appears on the icon, there are no messages.
 2. If one or both of the **Low Disk Space** warning messages appear in the **Notifications** pane, clear unwanted files and data from the disk where the RapidLINK™ Software is installed. When there is > 20 GB of disk space left, the messages are automatically deleted from the **Notifications** pane.

Note: Because the disk space check runs every 15 minutes, it may take ≥ 15 minutes before the messages are cleared.

3. To close the **Notifications** pane, click 🔔 again or click >.

Sign out of the RapidLINK™ Software

1. At the top-right of any screen, click ▼ next to your user name, then select **Sign out**.
2. In the confirmation message, click **Sign out** again.



Monitor and review runs

■ View runs in the Runs dashboard	17
■ Open the Results Viewer—View mode	23
■ Adjust the trace display	23
■ View marker thresholds and quality details	25
■ Set display preferences for the Results Viewer	27
■ Marker and allele legend for the trace (Results Viewer)	28
■ Profile quality: Positive controls, negative controls, and allelic ladders	31
■ Review and edit a DNA profile (review mode)	31
■ Export tables for a single sample (Results Viewer)	41

View runs in the Runs dashboard

1. In the main screen, click the **Runs** tab (default selection) to display the **Runs** dashboard.
2. Depending on your user role permissions, you can use the dashboard tools to perform the functions shown in Figure 3.

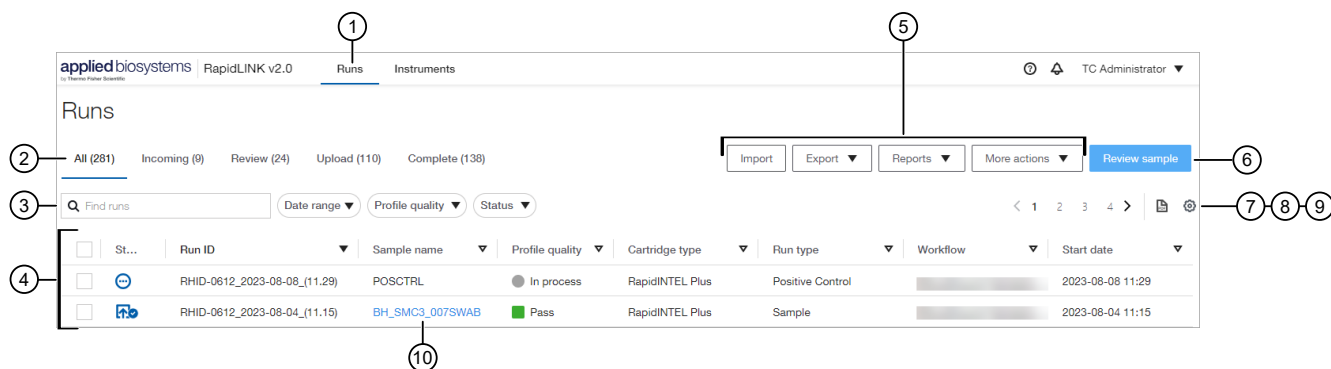


Figure 3 Runs dashboard

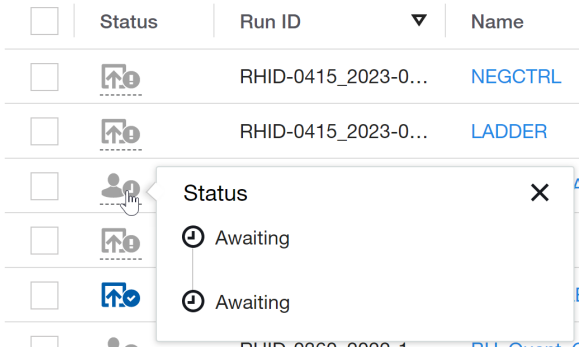
- ① Opens the **Runs** dashboard for monitoring runs
- ② Tabs to display only a subset of runs (see “Filter tables (includes search)” on page 12)
- ③ Search and filter tools (see “Filter tables (includes search)” on page 12)
- ④ Runs table—Depending on your display preferences, displays all runs or a subset of runs in the RapidLINK™ Software instance (see “Set display preferences for tables” on page 15 and “Runs table” on page 19)

Note: Runs are automatically sent to the RapidLINK™ Software from connected RapidHIT™ ID instruments. Additionally, runs can be manually imported into the RapidLINK™ Software.

- ⑤ Tools for managing runs:
 - “Import a run (ZIP file)” on page 42
 - “Export run files” on page 43
 - Generate a **Sample results report** (see “Generate sample or run reports” on page 45)
 - “Manually delete sample runs” on page 47
 - “Add or edit a comment (runs tables)” on page 48
 - “Move a run to Review awaiting” on page 48
 - “Re-upload a run” on page 49
- ⑥ Opens the Results Viewer in review mode; review mode allows users to edit DNA profiles (see “Open the Results Viewer—Review mode (includes editing)” on page 32)
- ⑦ Scrolls through the runs table, if the table spans multiple pages
- ⑧ Generates a **Runs report** (see “Generate sample or run reports” on page 45)
- ⑨ Display preferences (see “Set display preferences for tables” on page 15)
- ⑩ Blue sample name—Active link that opens the Results Viewer in view mode; view mode does not allow users to edit DNA profiles (see “Open the Results Viewer—View mode” on page 23)

Runs table

The information that is displayed varies, depending on your display preferences. See “Set display preferences for tables” on page 15.

Column	Description
Status	The status of each run. Click a status icon to display the description.  For detailed information, see “Run status” on page 20.
Run ID	The ID assigned to the run by the RapidHIT™ ID instrument.
Sample name	The name assigned to the sample or control. Sample names are user-defined. Control names are assigned as follows by the RapidHIT™ ID instrument and cannot be changed: • Positive controls—POSCTRL • Negative controls—NEGCTRL • Allelic Ladders—LADDER
Profile quality	Displays the current profile quality for the sample. Note: Users with the Review sample in Results Viewer permission can change the profile quality. For example, if the RapidHIT™ ID instrument assigned  Quality flag, a RapidLINK™ Software user can change the profile quality to  Pass w. review. For detailed information, see “Profile quality” on page 22.
Cartridge type	The cartridge chemistry used for the run. One of the following: • ACE GlobalFiler Express—RapidHIT™ ID ACE GlobalFiler™ Express cartridges • RapidINTEL Plus—RapidINTEL™ Plus cartridges
Run type	One of the following: • Sample • Negative Control • Positive Control • Allelic Ladder

(continued)

Column	Description
Workflow	Displays the workflow that was used to run the sample on the RapidHIT™ ID instrument. For more information, see “Manage workflows” on page 68.
Start date	The date and time that the run was started on the RapidHIT™ ID instrument.
Instrument	The instrument serial ID for the RapidHIT™ ID instrument that the cartridge was run on.
Operator	The person who performed the run on the RapidHIT™ ID instrument.
Sample category	The category assigned to the sample (for example, Arrestee or Missing Person). The sample categories are defined in the workflows. For more information, see “Configure sample category settings” on page 75.
Sample protocol	(<i>RapidINTEL™ Plus Sample Cartridge only</i>) The protocol assigned to the sample (for example, General or Specialized). The sample protocols are defined in the workflows. For more information, see “(RapidINTEL™ Plus Sample Cartridge only) Select a protocol” on page 73.
Grayed-out runs	The run was deleted. For more information, see “Manually delete sample runs” on page 47. Note: Deleting a sample run deletes the DNA profile, DNA data, and all personally identifiable information. Metadata associated with the run (for example, sample name, status, start date, and cartridge type) is preserved for auditing purposes.

Run status

A run status is initially assigned by the RapidLINK™ Software based on the run data that is generated by the RapidHIT™ ID instrument. However, the RapidLINK™ Software updates the initial run status in the following scenarios:

- A user edits the profile quality in the Results Viewer (see “Check for flags and changes made by other users” on page 33). Depending on the workflow used by the run, the RapidLINK™ Software updates the run status to  **Review awaiting** or  **Review in progress**
- A user successfully re-uploads a run with the  **Upload error** status (see “Re-upload a run” on page 49). The RapidLINK™ Software updates the status to  **Upload complete**.
- A user moves a run to  **Review awaiting** (see “Move a run to Review awaiting” on page 48). The RapidLINK™ Software restarts the review process.

Run status	Description
 Run in progress	A cartridge has been inserted in the RapidHIT™ ID instrument and the instrument is generating the run data.
 Review awaiting	The DNA profile is currently awaiting review. No user has started the review process in the Results Viewer (review mode).
 Review locked	A user is currently reviewing the DNA profile in the Results Viewer (review mode). For more information, see “About locked and unlocked runs” on page 33.
 Review in progress	A user completed the first review of the DNA profile in the Results Viewer (review mode), but the workflow requires a second review.
 Review complete	All required user reviews of the DNA profile in the Results Viewer (review mode) have been completed. Note: You may not see this status. When a review is complete, the software immediately moves the run to the Upload or Complete tab.
 Upload awaiting	The DNA profile is currently awaiting upload to the specified external location. This is typically caused by network delays.
 Upload in progress	The DNA profile is currently being uploaded to the specified external location.
 Upload complete	The DNA profile was successfully uploaded to the specified external location.
 Upload error	There was an error during the upload process. For troubleshooting information, see “A run fails to upload to the specified external location” on page 100.
 Upload not required	Upload to an external location is not required for one of the following reasons: - Sample runs with a profile quality of  Fail,  Fail w. review, or  Quality flag are not uploaded. - Positive control, negative control, and allelic ladder runs are not uploaded. - In the workflow, an upload location was not provided. - In the workflow, an upload location was not configured for the sample category. For information on configuring workflows, see “Manage workflows” on page 68.
 Export awaiting	The DNA profile is currently awaiting export for offline review. This is typically caused by network delays.
 Export in progress	The DNA profile is currently being exported for offline review. The export location is specified in the workflow.
 Export complete	The DNA profile was successfully exported for offline review. The export location is specified in the workflow.
 Export error	There was an error during the export process for offline review. For troubleshooting information, see “A run fails to export” on page 99.

(continued)

Run status	Description
 Export not required	The workflow is enabled for offline review, but file export is not required for one of the following reasons: • Export required is set to  No. • An export location was not provided for the profile quality. For information on configuring workflows, see “Manage workflows” on page 68.

Profile quality

A profile quality is initially assigned by theRapidLINK™ Software based on the run data that is generated by the RapidHIT™ ID instrument. However, a user can change the profile quality as specified in Table 1.

Note: For information on changing the profile quality, see “Check for flags and changes made by other users” on page 33.

Table 1 Profile quality descriptions

Profile quality	Description	Can a user change the profile quality?
 Fail	One of the following occurred: • Acceptable results were not generated on the RapidHIT™ ID instrument, based on the profile evaluation criteria set for Pass samples. • The RapidHIT™ ID instrument was not able to generate reviewable data. The instrument may or may not provide a DX code.	Yes, if allowed by the workflow
 Fail w. review	A user reviewed the run in the Results Viewer (review mode). The user determined that the results were not acceptable.	Yes
 In process	A cartridge has been inserted in the RapidHIT™ ID instrument and the instrument is processing the run data.	No
 Pass	Acceptable results were generated on the RapidHIT™ ID instrument, based on the profile evaluation criteria set for Pass samples.	Yes, if allowed by the workflow
 Pass partial	If partial DNA profiles are defined in the workflow, the run has met the criteria for a partial pass. The profile has the minimum number of flag-free markers or all required markers.	Yes, if allowed by the workflow
 Pass w. review	A user reviewed the run in the Results Viewer (review mode). The user may have edited the allele calls and saved the changes. The user determined that the results were acceptable.	Yes
 Quality flag	One or more quality control (QC) flags are present for the run.	Yes, if allowed by the workflow

Open the Results Viewer—View mode

View mode allows you to view the DNA profile of a sample. You cannot edit DNA profiles in view mode.

Note: To open the Results Viewer for editing, see “Open the Results Viewer—Review mode (includes editing)” on page 32.

1. In the main screen, click the **Runs** tab (default selection) to display the **Runs** dashboard.
2. (Optional) Use the search and filter tools. See “Filter tables (includes search)” on page 12.
3. In the runs table, click the blue sample name for the DNA profile to view.

To view a DNA profile, the sample name must be blue (active link).

The Results Viewer will not open in the following scenarios:

- **The run is in process or has been deleted**—The sample name is gray (inactive link).
- **The run did not generate a DNA profile**—You will receive an error message when you click the blue sample name.

The Results Viewer opens, displaying the DNA profile for the selected sample. A legend is provided in “Marker and allele legend for the trace (Results Viewer)” on page 28.

If needed, you can adjust the trace display or set display preferences. See “Adjust the trace display” on page 23 or “Set display preferences for the Results Viewer” on page 27.

Adjust the trace display

1. Open the Results Viewer. See “Open the Results Viewer—View mode” on page 23 or “Open the Results Viewer—Review mode (includes editing)” on page 32.
2. Select the number of panes to display in the trace; each pane represents a specific dye.
3. Select the dyes to display.
The dye selection is applied to the trace and the following **Traceviewer info** tabs: **Allele**, **Quality**, and **All peaks**.
4. Select **More actions**, then select additional items to display in the trace.
 - **PQV Trigger Peak**—If PQV flags are raised, they are displayed in the allele label.
 - **Peak information**—Displays additional information (such as size, height, and data point of a peak) as a tooltip.
 - **User edits**—Displays the history of any changes made to the peaks.
5. Use the zoom tools to increase or reset the trace size.
 - To zoom in, hover over the X or Y axis line, then drag the  (**Zoom**) icon over the area of interest.
 - To reset the trace to its original size, click  (**Reset zoom**).

6. Click  (**Show/Hide tables**) to show or hide the **Traceviewer info** and **Audit** tabs on the right side of the screen.

Note: Alternatively, you can click  at the top-right of the screen to show the tabs. To hide the tabs, click .

Tab	Description
Traceviewer info	Contains the following subtabs: • Sample summary—Information about the consumables, analysis settings, and instrument used to run the sample • Allele—Peak table information for the trace, after the analysis settings have been applied • Quality—Quality flag and marker information; to view thresholds and quality details for a marker, see “View marker thresholds and quality details” on page 25 • All peaks—Peak table information for the trace, before filtering has been applied Selecting an allele or artifact in the trace highlights the allele or artifact in the Allele, Quality, and All peaks tabs. Selecting an allele or artifact in the Allele tab or All peaks tab highlights the allele or artifact in the trace. Note: In the RapidLINK™ Software, the term <i>artifact</i> can refer to an artifact or a non-allelic peak.
Audit	Contains the User edit subtab—Displays information about all user changes made to the allele calls.

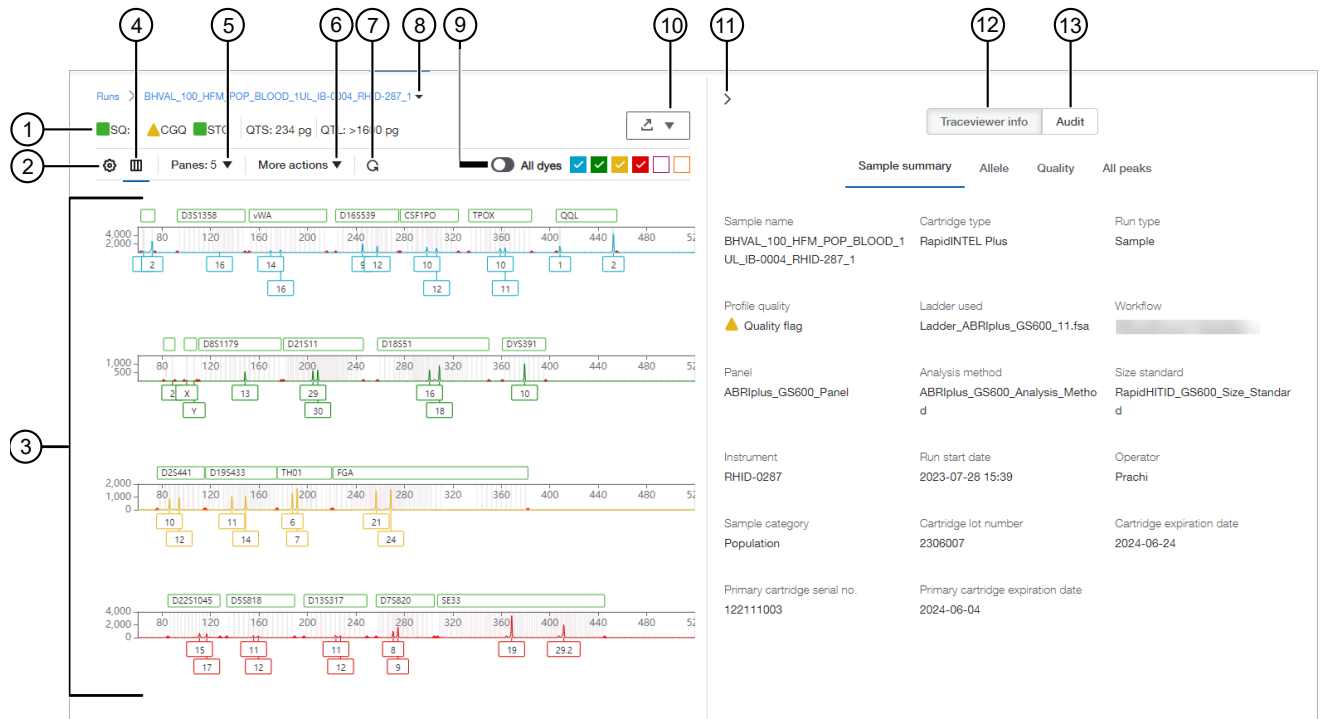


Figure 4 Results Viewer

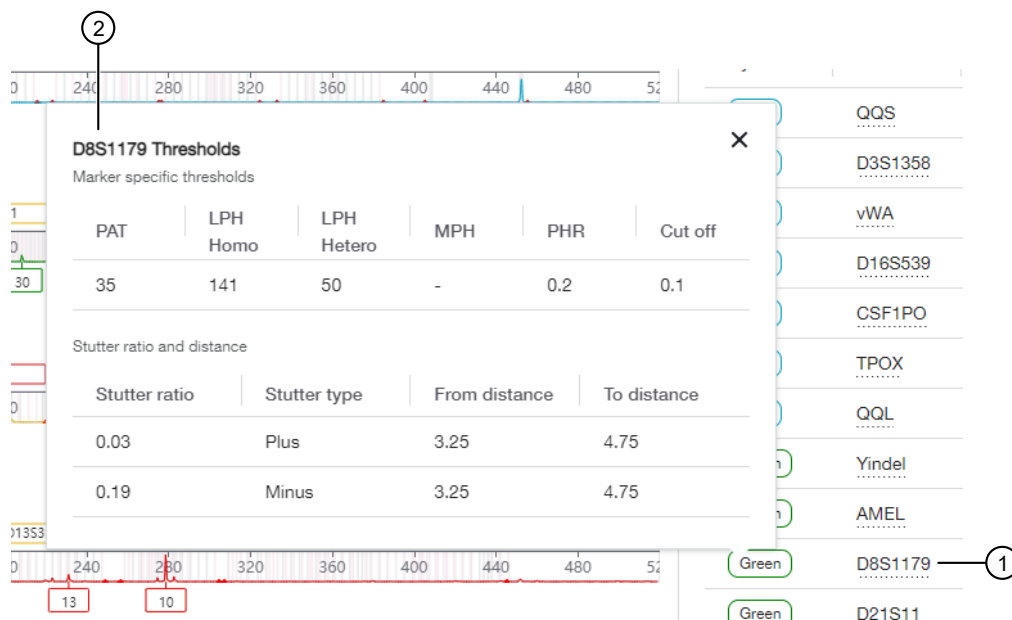
- ① Sample-level PQV flags (see “Sample-level PQV flags” on page 103)
- ② Display preferences (see “Set display preferences for the Results Viewer” on page 27)
- ③ Trace, displaying the markers (loci), allele calls, and artifacts for the sample (see “Marker and allele legend for the trace (Results Viewer)” on page 28)
- ④ Toggle button to show or hide the **Traceviewer info** and **Audit** tabs
- ⑤ Number of panes to display in the screen; each pane displays the trace for a different dye
- ⑥ Dropdown list to display additional items in the trace: **User edits**, **PQV Trigger Peak**, and **Peak information**
- ⑦ **Reset zoom**
- ⑧ Dropdown list to display the sample or the allelic ladder in the trace
- ⑨ Dyes to display in the trace and in the following **Traceviewer info** tabs: **Allele**, **Quality**, and **All peaks**
- ⑩ Export tables (see “Export tables for a single sample (Results Viewer)” on page 41)
- ⑪ Expand or close the **Traceviewer info** and **Audit** tabs
- ⑫ **Traceviewer info** tab and subtabs: **Sample summary**, **Allele**, **Quality**, and **All peaks**
- ⑬ **Audit** tab and subtab: **User edits**

View marker thresholds and quality details

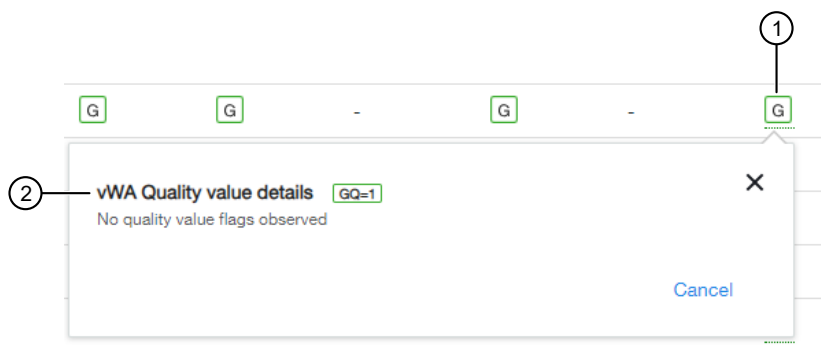
1. Open the Results Viewer. See “Open the Results Viewer—View mode” on page 23 or “Open the Results Viewer—Review mode (includes editing)” on page 32.
2. (If needed) Click  (**Show/Hide tables**) to show the **Traceviewer info** and **Audit** tabs on the right side of the screen.

Note: Alternatively, you can click  at the top-right of the screen to show the tabs. To hide the tabs, click .

3. Click the **Traceviewer info** tab, then click the **Quality** tab.
4. In the **Marker** column, click a marker name to display thresholds for the marker.

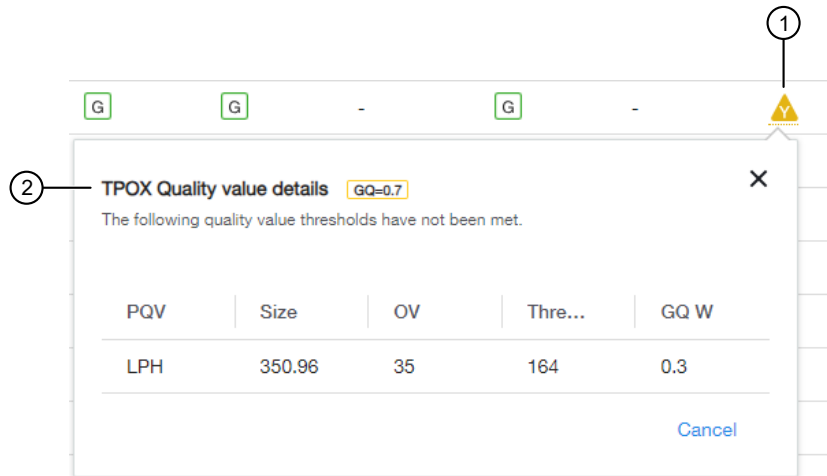


- Click a marker name
 - The thresholds for the marker are displayed
5. In the **GQ** column, click a marker GQ flag to display quality value details for the marker. You may need to scroll right to see the **GQ** column.
- G indicates that no flags were generated.



- Click a GQ flag
- The quality value details for the marker are displayed; in this example no flags were generated
- ▲ indicates that a quality flag was generated.

Note: In the value details dialog box, **OV** indicates the observed value.



- Click a GQ flag
- The quality value details for the marker are displayed; in this example the LPH flag was generated

Set display preferences for the Results Viewer

You can set display preferences for the trace and tables in the Results Viewer.

Note: You can also set display preferences for other tables in the RapidLINK™ Software. See “Set display preferences for tables” on page 15.

1. Open the Results Viewer. See “Open the Results Viewer—View mode” on page 23 or “Open the Results Viewer—Review mode (includes editing)” on page 32.
2. Above the trace (top-left), click (**Preferences**) to open the **Preferences** dialog box.
3. Click the **Plot viewer** tab (default selection), then set preferences in the **Display settings** and **Labels** tabs.

Tab	Action
Display settings	1. Enter start and end ranges (in base pairs) for the dyes. 2. Select or deselect the items to display in the trace. 3. Select the number of panes to display in the trace; each pane represents a specific dye. 4. Select the dyes to display. 5. Select the label format: No labels, Horizontal labels, or Vertical labels.
Labels	For each category, select up to 4 labels. All selected labels will be displayed in the trace.

4. Click the **Table viewer** tab, then set column preferences for each table: **Allele**, **Quality**, **All peaks**, and **User audit**.
 - a. Select or deselect the columns to display in the table.
 - b. Drag-and-drop to reorder the columns.

You cannot deselect or reorder columns that have a gray name and an inactive toggle button ()

- Click **Save** to save your changes.

Display preferences are user-specific and persist between sign-in sessions.

Marker and allele legend for the trace (Results Viewer)

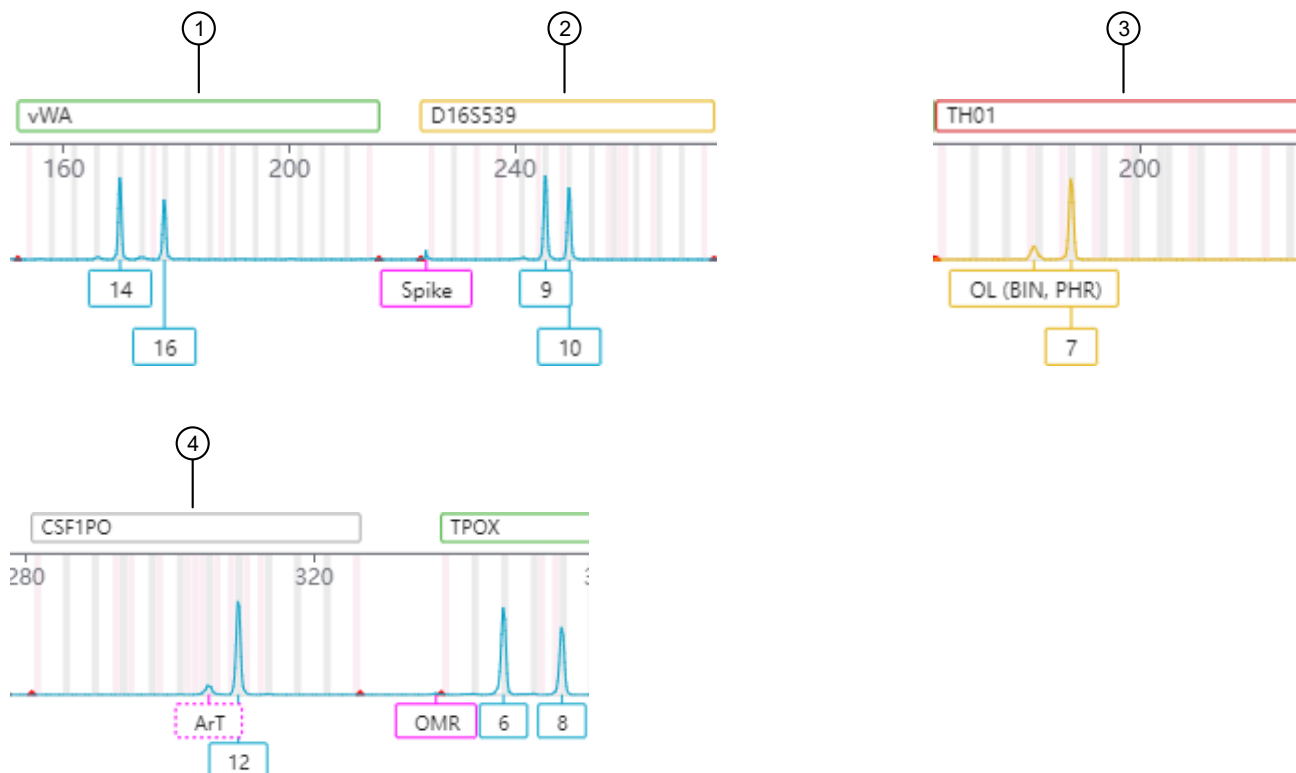


Figure 5 Marker examples

- Marker:** Green outline—Indicates that the marker GQ is **Pass** (G in the **Quality tab**). The marker GQ may have been passed by the system or passed by a user using the override function. Green markers cannot be overridden.
- Marker:** Yellow outline—Indicates that the marker GQ is **Check** (Y in the **Quality tab**). Only the system can assign Check to a marker GQ; however, a user can use the override function to pass the marker GQ.
- Marker:** Red outline—Indicates that the marker GQ is **Low Quality** (R in the **Quality tab**). Only the system can assign Low Quality to a marker GQ; however, a user can use the override function to pass the marker GQ.
- Marker:** Gray outline—Indicates that a user made a change at the marker level (for example, a user edited an allele or artifact).

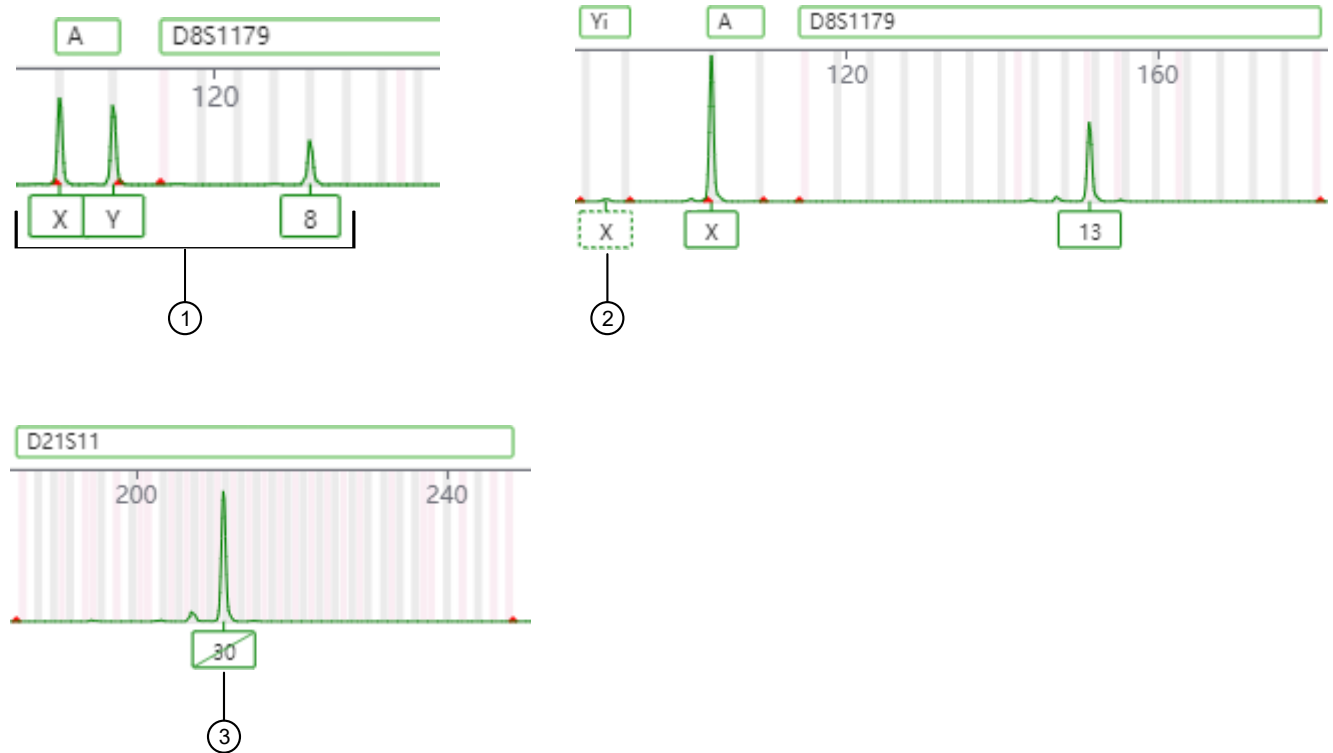


Figure 6 Allele examples

- ① **Allele:** Dye-colored outline—Indicates an allele that was defined by the system and has not been changed. The system-defined allele calls are **numeric designations, X, Y, and OL**.
- ② **Allele:** Dye-colored dotted outline—Indicates an allele that was added or edited by a user.
- ③ **Allele:** Dye-colored outline with a diagonal line—Indicates an allele that was deleted by a user.

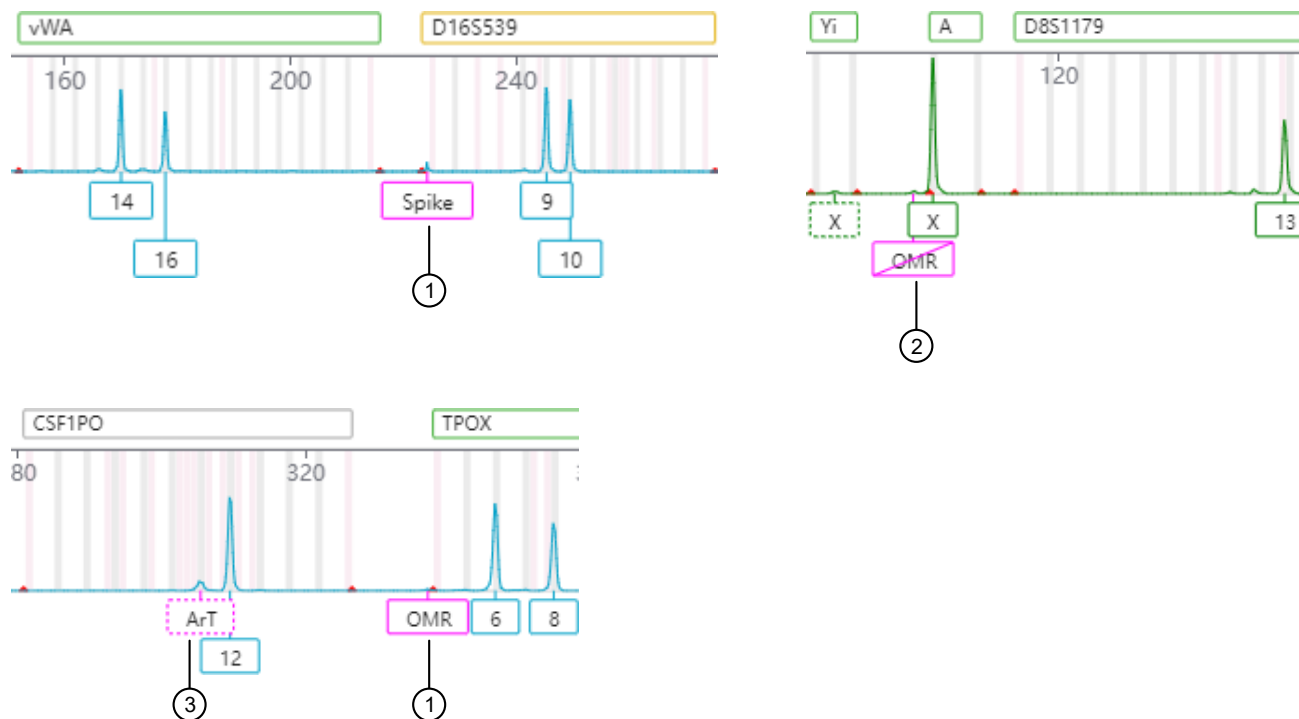


Figure 7 Artifact examples

- ① **Artifact:** Pink outline—Indicates an artifact that was defined by the system and has not been changed. The system-defined artifacts are **OMR** and **Spike**.
- ② **Artifact:** Pink outline with a diagonal line—Indicates an artifact that was deleted by a user.
- ③ **Artifact:** Pink dotted outline—Indicates an artifact that was added or edited by a user.

Note: In the RapidLINK™ Software, the term *artifact* can refer to an artifact or a non-allelic peak.

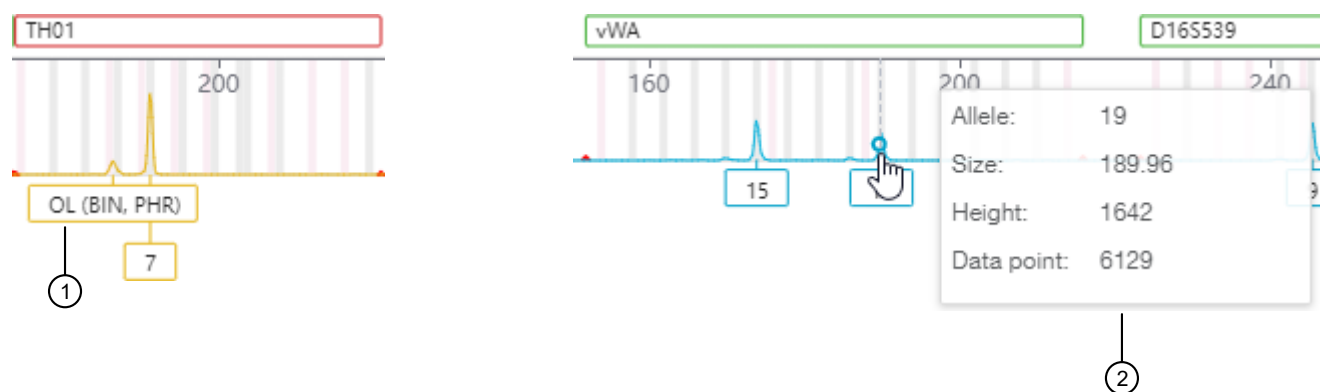


Figure 8 PQV Trigger Peak and Peak information examples

- ① **PQV Trigger Peak**
- ② **Peak information**

Profile quality: Positive controls, negative controls, and allelic ladders

Only the following profile qualities can be assigned to positive control, negative control, and allelic ladder DNA profiles:

- The RapidLINK™ Software assigns an initial profile quality of  **Pass** or  **Fail**. See Table 2.
- Depending on the workflow, a user may be able to update the profile quality to  **Pass w. review** or  **Fail w. review**.

Table 2 Initial profile quality assignments by the RapidLINK™ Software for positive control, negative control, and allelic ladder DNA profiles

Profile quality	Description
 Pass	A DNA profile was generated, <i>and</i>: • Expected alleles are called in the positive control and the allelic ladder DNA profiles. • No peaks are called in the negative control DNA profile. • There are no sizing failure or quality flags.
 Fail	• A DNA profile was not generated. • A DNA profile was generated, but one or more of the following occurred: – Unexpected alleles were called. – There was a sizing failure. – Process Quality Value (PQV) flags were raised. For more information, see Appendix B, “Process Quality Value (PQV) flags”.

Review and edit a DNA profile (review mode)

To review and edit a DNA profile, the following criteria must be met:

- The run must have a status of  **Review awaiting** or  **Review in progress**.
- You must have the **Runs dashboard: Review samples in Results Viewer** permission.

Review and edit a DNA profile: Required tasks

Review and edit a DNA profile	
	Open the Results Viewer in review mode (page 32)
	Check for flags and changes made by other users (page 33)
	(If needed) Make changes to the DNA profile (page 36) You can make the following types of changes to the DNA profile: • “Alleles and artifacts: Edit, add, or delete” on page 37 • “Marker: Override GQ” on page 38 • “Sample: Override CGQ” on page 39
	Complete the review (page 40)

Open the Results Viewer—Review mode (includes editing)

Review mode allows you to review and edit the DNA profile for a selected sample.

Note: To view any DNA profile without the ability to edit, see “Open the Results Viewer—View mode” on page 23.

1. In the main screen, click the **Runs** tab (default selection) to display the **Runs** dashboard.
2. Select **Status** ▶ **Review awaiting** or **Status** ▶ **Review in progress**.
3. (Optional) Use the remaining filter tools as needed. See “Filter tables (includes search)” on page 12.
4. In the runs table, select the checkbox for the run to review and edit. You can select only one run at a time.
5. Click **Review sample**.
 - The Results Viewer opens, displaying the DNA profile for the selected sample. A legend is provided in “Marker and allele legend for the trace (Results Viewer)” on page 28.
 - The run is automatically locked. For more information, see “About locked and unlocked runs” on page 33.

If needed, you can adjust the trace display or set display preferences. See “Adjust the trace display” on page 23 or “Set display preferences for the Results Viewer” on page 27.

Proceed to “Check for flags and changes made by other users” on page 33.

About locked and unlocked runs

Locked runs

A run is automatically locked in the RapidLINK™ Software when a user opens the Results Viewer in review mode.

When a run is locked:

- To prevent concurrent reviews and data loss, no other users can open the Results Viewer in review mode (see “Open the Results Viewer—Review mode (includes editing)” on page 32)
- Other users can still open the Results Viewer in view mode (see “Open the Results Viewer—View mode” on page 23).

Unlocked runs

A run is automatically unlocked in the following scenarios:

- The user completes their review. See “Complete the review” on page 40.
- The user navigates away from the Results Viewer.
- The user signs out, or signs in to the RapidLINK™ Software in a new browser window or on a different device.
- The user is signed out of the software after 30 minutes of inactivity.

Note: After 29 minutes, a message is displayed asking if the user wants to remain connected. The user can click **Stay connected** to maintain the lock and reset the timer.

IMPORTANT! If a run is unlocked before a user completes their review, any edits made to the DNA profile in the Results Viewer are retained, but the run status does not progress to the next step in the workflow.

Check for flags and changes made by other users

1. Check for Process Quality Value (PQV) flags at the sample and marker levels.

- **Sample-level flags**—Appear above the trace. Most of the sample-level flags that pass  quality thresholds are not displayed in the Results Viewer. For a description of each flag and its display behavior in the Results Viewer, see “Sample-level PQV flags” on page 103.

Note: If **RHID ERR: <DX code>** is displayed above the trace, an error occurred on the RapidHIT™ ID instrument during the run, and the instrument generated a critical DX code. See “Troubleshoot DX codes” on page 101.

- **Marker-level flags**—Appear in the **Quality** tab. To view the flags, click the **Traceviewer info** tab, then click the **Quality** tab. For a description of each flag, see “Marker-level PQV flags” on page 110.

Flag indicator		Value	Definition
Sample-level	Marker-level		
		Pass	The results are in the Pass range, or the results have been overridden. A gray flag indicates that at least one user edited a marker quality, affecting the CGQ and GQ.
			
		Check	The results are between the Pass range and the Low Quality range. The DNA profile requires user review. A gray flag indicates that at least one user edited a marker quality, affecting the CGQ and GQ.
			
		Low Quality	The results are in the Low Quality range. A gray flag indicates that at least one user edited a marker quality, affecting the CGQ and GQ.
			

2. Check for user changes in the **Audit** tab or in the trace.

- **Trace**—Select **More actions** ► **User edits** to display the history of any changes made to the peaks. User changes appear in the trace as shown in Figure 9.
- **Audit tab**—Click the **Traceviewer info** tab, then click the **Audit** tab to display the history of changes made to the markers. User changes appear in the table as shown in Figure 10.

Note: If multiple changes are made to the same marker, a row is displayed for each change. The rows are displayed in chronological order, with the most recent change at the top.

Note: In the RapidLINK™ Software, the term *artifact* can refer to an artifact or a non-allelic peak.

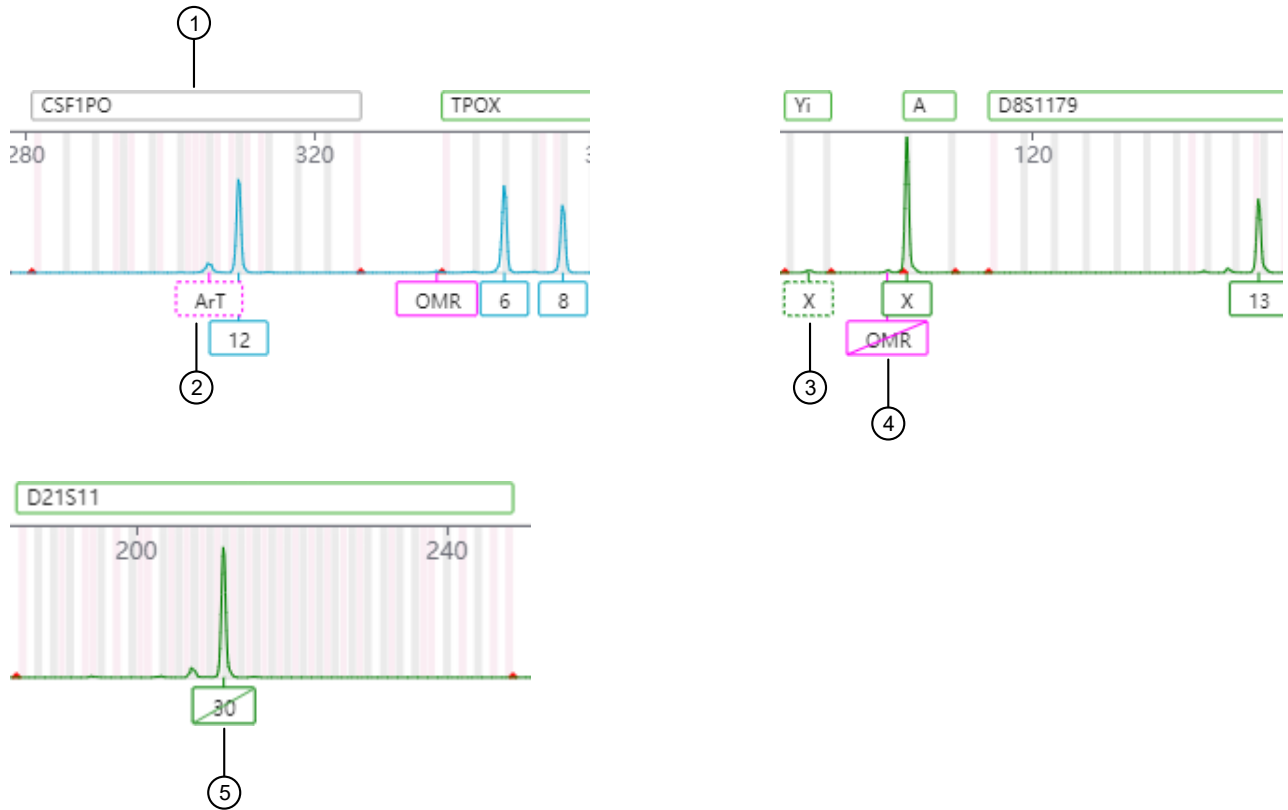


Figure 9 User changes in the trace

- ① **Marker:** Gray outline—Indicates that a user made a change at the marker level (for example, a user edited an allele or artifact).
- ② **Artifact:** Pink dotted outline—Indicates an artifact that was added or edited by a user.
- ③ **Allele:** Dye-colored dotted outline—Indicates an allele that was added or edited by a user.
- ④ **Artifact:** Pink outline with a diagonal line—Indicates an artifact that was deleted by a user.
- ⑤ **Allele:** Dye-colored outline with a diagonal line—Indicates an allele that was deleted by a user.

Dye	Marker	Old value	New value	User action	Comments	User name	Timestamp
-	-	■	■	Override Composite Genotype	-		2023-08-15 04:41
Blue	D16S539	■	■	Override Marker Genotype	-		2023-08-15 04:40
-	-	■	■	Edit Composite Genotype	-		2023-08-15 04:39
Blue	D16S539	■	■	Edit Marker Genotype Quality	-		2023-08-15 04:39
Blue	D16S539	12	13	Edit Allele	jdbfh		2023-08-15 04:39

Figure 10 User changes in the Audit tab

- ① The old and new values for the marker, based on user changes

Note: If multiple changes are made to the same marker, a row is displayed for each change. The rows are displayed in chronological order, with the most recent change at the top.

- ② The change made by the user
③ The name of the user who made the change
④ The date and time that the change was made

Proceed to “(If needed) Make changes to the DNA profile” on page 36.

(If needed) Make changes to the DNA profile

You can make changes to the DNA profile as indicated in Table 3. A link to each procedure is provided in the table.

Table 3 Changes allowed in a DNA profile

Item	Edit	Delete	Add	Override	See
Allele	Yes ^[1]	Yes	Yes	No	“Alleles and artifacts: Edit, add, or delete” on page 37
Artifact	Yes ^[1]	Yes	Yes	No	
Marker	No	No	No	Yes	“Marker: Override GQ” on page 38
Composite Genotype Quality	No	No	No	Yes	“Sample: Override CGQ” on page 39

^[1] Includes changing an allele to an artifact, or changing an artifact to an allele.

Note: All changes are audited. For more information, see “Audited actions” on page 95.

Proceed to “Alleles and artifacts: Edit, add, or delete” on page 37.

Alleles and artifacts: Edit, add, or delete

(If needed) In the Results Viewer, edit, add, or delete alleles and artifacts.

IMPORTANT! Any changes that you make to an allele or artifact affect the genotype quality (GQ) of the marker and the composite genotype quality (CGQ) of the sample.

Note: In the RapidLINK™ Software, the term *artifact* can refer to an artifact or a non-allelic peak.

Note: You cannot use the edit/add/delete functions to pass the GQ or CGQ. To pass the GQ (G) or CGQ (C), use the appropriate override function. See “Marker: Override GQ” on page 38 and “Sample: Override CGQ” on page 39.

1. If a peak/label that you do not want to change is currently highlighted in the trace, deselect it: Press **Ctrl**, then click the highlighted peak/label.

Note: You can change only one allele or artifact at a time. This step ensures that you are changing only the allele or artifact of interest.

2. Edit an allele or artifact.

1. In the trace, click the label or peak of the allele or artifact to edit. The label and peak are highlighted.
2. Right-click the highlighted label/peak, then select **Edit**.
3. Complete the **Edit label** dialog box as needed:
 - Select **Allele** or **Artifact**.
 - If you are changing from an artifact to an allele, select a marker.
 - Enter a custom label.
 - You cannot use the following characters: ?, |, *, :, ", or "
 - Do not use **OMR** (case-insensitive) or **Spike** (case-insensitive). **OMR** and **Spike** are system-defined artifacts; using them as custom labels may cause issues when exporting allele or peak tables. (See “Export run files” on page 43.)
 - Enter a comment.
4. Click **Save**.

3. Delete an allele or artifact.

1. In the trace, click the label or peak of the allele or artifact to delete. The label and peak are highlighted.
2. Right-click the highlighted label/peak, then select **Delete**.
3. Complete the **Delete label** dialog box:
 - Ensure that the correct allele or artifact is selected.
 - Enter a comment.
4. Click **Delete**.

4. Add an allele or artifact.

1. In the trace, click the peak to add an allele or artifact to. The peak is highlighted.
2. Right-click the highlighted peak, then select **Add**.
3. Complete the **Add label** dialog box:
 - Select **Allele** or **Artifact**.
 - Enter a custom label.
 - You cannot use the following characters: **?**, **|**, *****, **:**, **"**, or **"**
 - Do not use **OMR** (case-insensitive) or **Spike** (case-insensitive). **OMR** and **Spike** are system-defined artifacts; using them as custom labels may cause issues when exporting allele or peak tables. (See “Export run files” on page 43.)
 - Enter a comment.
4. Click **Add**.

Changes are displayed as follows:

- Above the trace, the CGQ flag indicator changes to gray (, , or ).
- In the trace: Edits and additions are displayed with a dotted outline; deletions are displayed with a diagonal line.
- In the **Quality** tab, the flag indicators for the affected markers change to gray (, , or .
- The changes are also captured in the **Allele**, **All peaks**, and **Audit** tabs, and in audit reports.

Note: A call legend is displayed in “Marker and allele legend for the trace (Results Viewer)” on page 28.

Proceed to “Marker: Override GQ” on page 38.

Marker: Override GQ

(If needed) In the Results Viewer, override the genotype quality (GQ) of a marker.

Overriding allows you to pass the GQ. You can change any of the following GQ flag indicators to Pass ():

- Check () or edited Check ()
- Low Quality () or edited Low Quality ()
- Edited Pass ()

1. If a peak/label is currently highlighted in the trace, deselect it: Press **Ctrl**, then click the highlighted peak/label.

Note: You cannot select a marker if a peak/label is selected.

2. Override the GQ from the trace or from the **Quality** tab.

Option	Action
Override the GQ from the trace	1. In the trace, right-click the marker to override, then select Override. 2. In the Override genotype quality for marker dialog box, enter a comment, then click Override.
Override the GQ from the Quality tab	1. Click the Traceviewer info tab, then click the Quality tab. 2. In the GQ column, click the GQ flag of the marker to override. You may need to scroll right to see the GQ column. 3. In the Quality value details dialog box, click Override. 4. In the Override genotype quality for marker dialog box, enter a comment, then click Override.

3. (If needed) Repeat step 2 to override additional markers.

Note: If all check, fail, and edited GQ flags for all markers are overridden, the software automatically prompts you to override the CGQ.

The override is displayed as follows:

- In the trace, the marker outline changes to green.
- In the **Quality** tab, the GQ flag indicator changes to Pass (G).

Note: The remaining marker-level flags in the affected marker row change to gray, but retain the same flag indicator. For example, if the ACC flag indicator is Check (A), passing the GQ does not pass the ACC; instead, the ACC flag indicator changes to Check (A).

- The override is captured in the **Audit** tab and in audit reports.

Proceed to “Sample: Override CGQ” on page 39.

Sample: Override CGQ

(If needed) In the Results Viewer, override the composite genotype quality (CGQ) of a sample.

Overriding allows you to pass the CGQ. You can change any of the following CGQ flag indicators to Pass (G):

- Check (A) or edited Check (A)
- Low Quality (R) or edited Low Quality (R)
- Edited Pass (G)

Note: Overriding the CGQ in the RapidLINK™ Software does not affect the RapidHIT™ ID instrument results or the instrument run logs.

1. If a peak/label is currently highlighted in the trace, deselect it: Press **Ctrl**, then click the highlighted peak/label.

Note: You cannot select the CGQ flag if a peak/label is selected.

2. Above the trace, right-click the CGQ flag.
3. In the **Override composite genotype quality** dialog box, enter a comment, then click **Override**.

The override is displayed as follows:

- Above the trace, the CGQ flag indicator changes to Pass (■).
- The override is captured in the **Audit** tab and in audit reports.

Proceed to “Complete the review” on page 40.

Complete the review

To complete the review you must do one of the following:

- Pass the sample
- Fail the sample

If you exit the Results Viewer without completing the review, the following occurs:

- The run is unlocked.
- Any edits made to the DNA profile in the Results Viewer are retained, but the run status does not progress to the next step in the workflow.
- The profile quality is not updated.

Pass a sample

1. In the Results Viewer, click **Complete Review**, then select **Pass sample**.
2. In the **Pass sample** dialog box, enter a comment, then click **Pass sample**.

Note: Comments made in the **Pass sample** dialog box appear in the **Comments** column in the runs tables. For more information, see “Add or edit a comment (runs tables)” on page 48.

After you click **Pass sample**, the following occurs:

- The Results Viewer closes and the **Runs** dashboard is displayed.
- The run is unlocked.
- The profile quality is updated to ■ **Pass w. review**.
- The run status progresses to the next step in the workflow. For example, if the workflow requires a second review, the status is updated to 👤... **Review in progress**.

Fail a sample

1. In the Results Viewer, click **Complete Review**, then select **Fail sample**.
2. In the **Fail sample** dialog box, enter a comment, then click **Fail sample**.

Note: Comments made in the **Fail sample** dialog box appear in the **Comments** column in the runs tables. For more information, see “Add or edit a comment (runs tables)” on page 48.

After you click **Fail sample**, the following occurs:

- The Results Viewer closes and the **Runs** dashboard is displayed.
- The run is unlocked.
- The profile quality is updated to  **Fail w. review**.
- The run status progresses to the next step in the workflow. For example, if the workflow requires a second review, the status is updated to  **Review in progress**.

Export tables for a single sample (Results Viewer)

1. Open the Results Viewer. See “Open the Results Viewer—View mode” on page 23 or “Open the Results Viewer—Review mode (includes editing)” on page 32.
2. Above the trace (top-right), click , then select the table to export.
 - **Export allele table (.csv)**
 - **Export quality table (.csv)**
 - **Export all peaks table (.csv)**
 - **Export user audit table (.pdf)**

Note: If the sample is locked by another user, you will not be allowed to export.

Note: The tables contain the same information that is displayed in the corresponding **Traceviewer info** and **Audit** subtabs.

A file for the selected table is saved to the default download folder on your desktop.

■ Import a run (ZIP file)	42
■ Export run files	43
■ Generate sample or run reports	45
■ Manually delete sample runs	47
■ Add or edit a comment (runs tables)	48
■ Move a run to Review awaiting	48
■ Re-upload a run	49

Import a run (ZIP file)

Before importing a run (ZIP file) into the RapidLINK™ Software:

- Manually export the run in one of the following ways:
 - Export the run (ZIP file) from a different instance of the RapidLINK™ Software. See “Export run files” on page 43.
 - Export the run (ZIP file) from a RapidHIT™ ID instrument. This function may be useful if an instrument fails to upload a run. See the *RapidHIT™ ID System v2.0 User Guide* (Pub. No. MAN0026593).
- Ensure that the corresponding workflow for the run exists in the RapidLINK™ Software instance that you are importing the run into. If the workflow does not exist, import the workflow into the software. See “Import a workflow (ZIP file)” on page 81.

1. In the main screen, click the **Runs** tab (default selection) to display the **Runs** dashboard.
2. Click **Import**.
3. In the **Import run** dialog box, click **Choose file**, then navigate to the appropriate location.
4. Select the run (ZIP file) to import, then click **Open**.

Note: You can import only one run at a time. Only ZIP files ≤50 MB are supported.

The selected ZIP file is displayed in the **Import run** dialog box.

5. Click **Import**.

If the import is successful, the following occurs in the RapidLINK™ Software instance that you imported the run into:

- The run is listed in the runs tables, in the appropriate tab and with the correct run status.
- If you exported the run from one instance of the RapidLINK™ Software to another, any edits made by a user in the first instance are retained. However, the profile quality reverts to the initial profile quality assigned by the RapidHIT™ ID instrument.

Export run files

1. Perform this procedure for all instruments or for a single instrument.
 - **All instruments**—View the runs table in the **Runs** dashboard: In the main screen, click the **Runs** tab (default selection) to display the **Runs** dashboard.
 - **A single instrument**—View the runs table in the **Runs** pane, which is accessed from the **Instruments** dashboard: See “View details for a single instrument” on page 55.
2. *(Optional)* Use the search and filter tools. See “Filter tables (includes search)” on page 12.
3. In the runs table, select the checkbox for each run to export.

4. Click **Export**, then select the appropriate option.

Option	Description	Export criteria
CMF (.xml)	Contains run data	To export a CMF file, each selected run must meet the following criteria: • Must be a sample run. Positive control, negative control, and allelic ladder runs cannot be included in the export.) • The profile quality must be  Pass,  Pass partial, or  Pass w. review. • Must contain data. • A sample category must be selected. • There must be at least one allele label. • The allele labels can contain only the following characters: numbers, decimal points (.), the letters X and Y for Amelogenin, and the symbols < (less than) or > (greater than). • Text strings cannot contain pipebars () or semicolons (;), but can include any combination of letters, other symbols, or numbers.
Allele table (.csv)	Contains information for each allele in a sample.	To export any of these files, the run must contain data. The following runs cannot be exported: • Any run that failed to generate a DNA profile. • Any run currently in progress ( Run in progress). • Any run currently locked for review (  Review locked).
Peak table (.csv)	Contains information for each allele and artifact in a sample. Note: In the RapidLINK™ Software, the term <i>artifact</i> can refer to an artifact or a non-allelic peak.	
Run (.zip)	Contains results files and RapidHIT™ ID instrument data for the run.	
Run logs	Contains RapidHIT™ ID instrument data that may be useful for troubleshooting. Note: The run logs do not contain personally identifiable DNA information.	

5. Complete the **Export** dialog box.
 - a. View the export status for each of the selected runs.
 - **Success**—The run meets the export criteria and will be exported.
 - **Failed**—
 - The run does not contain data (that is, the run failed to generate a DNA profile). The run cannot be exported.
 - The run meets the export criteria, but the software is not able to generate the export file because of unexpected errors. Try exporting the run at a later time. If the export fails again, contact Technical Support.
 - **Not eligible**—The run is not eligible for export; see step 4.
 - b. Click **Export**.

A ZIP file is saved to the default download folder on your desktop. Depending on the export type that you selected, the ZIP file contains one file or one folder for each selected run:

- **CMF (.xml), Allele table (.csv), and Peak table (.csv)** exports—One file for each selected run. For example, if you select two runs, then select **Export ▶ Peak table (.csv)**, the ZIP file will contain two CSV files.
- **Run** exports—One ZIP file for each selected run.
- **Run log** exports—One folder for each selected run.

Generate sample or run reports

1. Perform this procedure for all instruments or for a single instrument.
 - **All instruments**—View the runs table in the **Runs** dashboard: In the main screen, click the **Runs** tab (default selection) to display the **Runs** dashboard.
 - **A single instrument**—View the runs table in the **Runs** pane, which is accessed from the **Instruments** dashboard: See “View details for a single instrument” on page 55.

2. (Optional) Use the search and filter tools. See “Filter tables (includes search)” on page 12.

3. Select a report type.

Report type	Description	Action
Generate the report for all instruments (Runs dashboard)		
Sample results report (PDF file)	Contains sample results for the selected run: summary information, trace, allele table, quality table, and user audit information. Note: This is the same information that is displayed in the Results Viewer. For detailed descriptions of the Results Viewer, see “Adjust the trace display” on page 23 and “Set display preferences for the Results Viewer” on page 27.	1. In the runs table, select the checkbox for the run of interest. You can select only one run. 2. Select Reports ▶ Sample results (.pdf). A new (empty) tab opens while the report is being generated. You can return to the Runs tab to continue using the software. IMPORTANT! Do not close the new tab. Closing the tab too soon will prevent the report from being generated. The tab will automatically close after the report is generated.
Runs report (PDF file)	Provides a snapshot of the runs table on the current page of the Runs dashboard. All runs and columns displayed on the page appear in the Runs report. Note: If the runs table spans multiple pages, only the currently selected page is captured in the Runs report.	1. (If needed) Scroll to the page of interest. 2. Click .
Generate the report for a single instrument (Runs pane)		
Sample results report (PDF file)	Contains sample results for the selected run: summary information, trace, allele table, quality table, and user audit information. Note: This is the same information that is displayed in the Results Viewer. For detailed descriptions of the Results Viewer, see “Adjust the trace display” on page 23 and “Set display preferences for the Results Viewer” on page 27.	1. In the runs table, select the checkbox for the run of interest. You can select only one run. 2. Select Reports ▶ Sample results (.pdf). A new (empty) tab opens while the report is being generated. You can return to the Instruments tab to continue using the software. IMPORTANT! Do not close the new tab. Closing the tab too soon will prevent the report from being generated. The tab will automatically close after the report is generated.
Instrument runs report (PDF file)	Provides a snapshot of the runs table on the current page of the Runs pane. All runs and columns displayed in the page appear in the Instrument runs report. Note: If the runs table spans multiple pages, only the currently selected page is captured in the Instrument runs report.	1. (If needed) Scroll to the page of interest. 2. Click .

A PDF file is saved to the default download folder on your desktop.

Manually delete sample runs

Note: You cannot delete positive control, negative control, or allelic ladder runs.

You can manually delete sample runs from the RapidLINK™ Software. Deleting a sample run deletes the DNA profile, DNA data, and all personally identifiable information. Metadata associated with the run (for example, sample name, status, start date, and cartridge type) is preserved for auditing purposes.

1. Perform this procedure for all instruments or for a single instrument.
 - **All instruments**—View the runs table in the **Runs** dashboard: In the main screen, click the **Runs** tab (default selection) to display the **Runs** dashboard.
 - **A single instrument**—View the runs table in the **Runs** pane, which is accessed from the **Instruments** dashboard: See “View details for a single instrument” on page 55.
2. (Optional) Use the search and filter tools. See “Filter tables (includes search)” on page 12.
3. Select the checkbox for each sample run to delete.
The following runs are not eligible for deletion:
 - Positive control, negative control, or allelic ladder runs.
 - Sample runs with any of the following statuses:  **Run in progress**,  **Review in progress**,  **Upload in progress**,  **Export in progress**, or  **Review locked**.
4. Select **More actions** ▶ **Delete runs**.
5. Complete the **Delete runs** dialog box.
 - a. View the deletion status for each of the selected runs.
 - **Eligible**—The run is eligible for deletion.
 - **Not eligible**—The run is not eligible for deletion; see step 3.
 - b. Select () **Delete runs**.
 - c. Click **Delete**.

IMPORTANT! Deletions cannot be undone after you click **Delete**.

The following occurs for all of the selected sample runs that are eligible for deletion (the deletion status in substep 5a is **Eligible**):

- Depending on your display preferences, the deleted runs are removed from the runs table or the row for each deleted run is gray. See “Set display preferences for tables” on page 15.
- The runs are marked for deletion. Every 15 minutes, the deletion scheduler removes runs marked for deletion from the RapidLINK™ Software.
- Deleted runs are audited in the SAE Administrator Console. See “Audited actions” on page 95

Add or edit a comment (runs tables)

Note: Comments made in the runs tables appear in the **Comments** column in the Results Viewer. For information on Results Viewer comments, see “Complete the review” on page 40.

1. Perform this procedure for all instruments or for a single instrument.
 - **All instruments**—View the runs table in the **Runs** dashboard: In the main screen, click the **Runs** tab (default selection) to display the **Runs** dashboard.
 - **A single instrument**—View the runs table in the **Runs** pane, which is accessed from the **Instruments** dashboard: See “View details for a single instrument” on page 55.
 2. (Optional) Use the search and filter tools. See “Filter tables (includes search)” on page 12.
 3. In the runs table, select the checkbox for the run of interest. You can select only one run.
For commenting, the run does not need to meet any criteria:
 - You can add comments to any run, regardless of run type, status, or profile quality.
 - You can edit all comments, including comments from other users.
 4. Select **More actions** ▶ **Add or edit comments**.
 5. Complete the **Add or edit comments** dialog box.
 - a. Enter or edit the comment.
 - b. Click **Add** to add the new comment, or click **Update** to save changes to the edited comment.
- The comment is displayed in the **Comments** column in the runs table.

Note: You may need to set preferences to display the **Comments** column. See “Set display preferences for tables” on page 15.

- Comments are audited in the SAE Administrator Console. See “Audited actions” on page 95.

Move a run to Review awaiting

1. Perform this procedure for all instruments or for a single instrument.
 - **All instruments**—View the runs table in the **Runs** dashboard: In the main screen, click the **Runs** tab (default selection) to display the **Runs** dashboard.
 - **A single instrument**—View the runs table in the **Runs** pane, which is accessed from the **Instruments** dashboard: See “View details for a single instrument” on page 55.
2. Click the **All**, **Complete**, or **Upload** tab.
3. (Optional) Use the remaining filter tools as needed. See “Filter tables (includes search)” on page 12.

4. In the runs table, select the checkbox for the run of interest. You can select only one run.

The run must meet the following criteria:

- The run status must be one of the following:  **Review complete**,  **Export complete**,  **Upload complete**,  **Upload not required**, or  **Upload error**.
- In the workflow, the review method must be **Enable review in the RapidLINK Software**.

5. Select **More actions** ▶ **Move to review**.

Note: If all criteria from are not met, the **Move to review** button is inactive.

6. Complete the **Move to review** dialog box.

- a. Based on the workflow, select the appropriate profile quality.

-  **Pass**
-  **Pass partial**
-  **Quality flag**
-  **Fail**

- b. Click **Move to review**.

The **Move to review** button will not be active if the workflow does not allow a specific profile quality to be reviewed.

Note: If positive controls, negative controls, or allelic ladders are not set for review in the workflow, they cannot be moved to review even if the **Move to review** button is active.

The run status is updated to  **Review awaiting**.

Re-upload a run

If required by the workflow, the RapidLINK™ Software automatically uploads a run to the specified external location. If the upload fails, follow this procedure to manually re-upload the run.

1. Perform this procedure for all instruments or for a single instrument.
 - **All instruments**—View the runs table in the **Runs** dashboard: In the main screen, click the **Runs** tab (default selection) to display the **Runs** dashboard.
 - **A single instrument**—View the runs table in the **Runs** pane, which is accessed from the **Instruments** dashboard: See “View details for a single instrument” on page 55.
2. Click the **All** or **Upload** tab.
3. From the **Status** dropdown menu, select  **Upload error**.

You can only re-upload runs with a status of  **Upload error**.

4. In the runs table, select the checkbox for the run of interest. You can select only one run.
5. Select **More actions** ▶ **Re-upload**.
 - If the re-upload is successful, the run status is updated to  **Upload complete**.
 - If the re-upload is not successful, the run status remains  **Upload error**. See “A run fails to upload to the specified external location” on page 100.

- View RapidHIT™ ID instruments in the Instruments dashboard 51
- Add an instrument (Instruments dashboard) 52
- Disconnect an instrument (Instruments dashboard) 53
- Generate an Instruments report 54

View RapidHIT™ ID instruments in the Instruments dashboard

1. In the main screen, click the **Instruments** tab to display the **Instruments** dashboard.
By default, all RapidHIT™ ID instruments added to the RapidLINK™ Software are listed in the instruments table.
2. Depending on your user role permissions, you can use the dashboard tools to perform the functions shown in Figure 11.

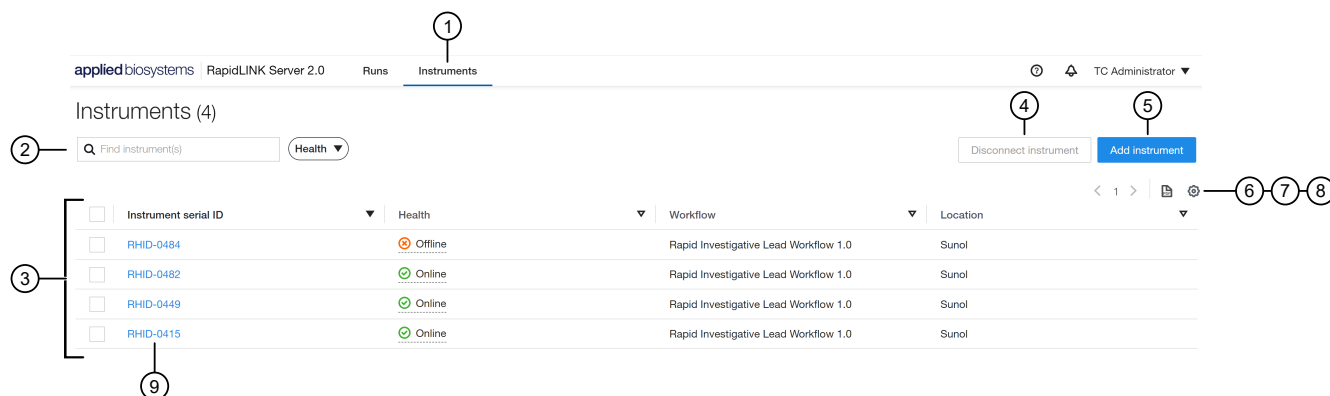


Figure 11 Instruments dashboard

- ① Opens the **Instruments** dashboard for monitoring RapidHIT™ ID instruments
- ② Search and filter tools (see “Filter tables (includes search)” on page 12)
- ③ Instruments table—Depending on your display preferences, displays all instruments or a subset of instruments in the RapidLINK™ Software instance (see “Set display preferences for tables” on page 15 and “Instruments table” on page 52)
- ④ Disconnects an instrument (see “Disconnect an instrument (Instruments dashboard)” on page 53)
- ⑤ Adds an instrument (see “Add an instrument (Instruments dashboard)” on page 52)
- ⑥ Scrolls through the instruments table, if the table spans multiple pages
- ⑦ Generates an **Instruments report** (see “Generate an Instruments report” on page 54)
- ⑧ Display preferences (see “Set display preferences for tables” on page 15)
- ⑨ Blue instrument serial ID (active link)—Opens information for a single instrument (see Chapter 6, “Monitor a single instrument”)

Instruments table

The information that is displayed varies, depending on your display preferences. See “Set display preferences for tables” on page 15.

Column	Description
Instrument serial ID	The serial number of the RapidHIT™ ID instrument (located on the back plate of the instrument). Click a blue instrument serial ID (active link) to view detailed information for the instrument. See “View details for a single instrument” on page 55.
Health	The health of the RapidHIT™ ID instrument: ⊖ Disconnected—The instrument has been disconnected from the RapidLINK™ Software. ⚠ Error—The instrument generated a DX code during the most recent run and the code has not been cleared on the instrument. ⊖ Never connected—The instrument was added to the RapidLINK™ Software, but the instrument has never initiated a connection. ⊗ Offline—The instrument is connected to the RapidLINK™ Software, but is powered off or is not currently communicating because of network issues. ✓ Online—The instrument is connected to the RapidLINK™ Software and is powered on. Note: If you click health status for an instrument, the last three health status changes for that instrument are displayed.
Workflow	The workflow that the RapidHIT™ ID instrument is assigned to. For more information, see “Manage workflows” on page 68.
Location	The location assigned to the RapidHIT™ ID instrument.
IP address/ Host name	The IP address or host name of the RapidHIT™ ID instrument.

Add an instrument (Instruments dashboard)

Before adding an instrument, ensure that the instrument location and the appropriate workflow are available in the RapidLINK™ Software. For more information, see “Add an instrument location” on page 83 and “Manage workflows” on page 68.

1. Open the **Instruments** dashboard. See “View RapidHIT™ ID instruments in the Instruments dashboard” on page 51.
2. Click **Add instrument**.

3. Complete the **Add instrument** dialog box.

Item	Action
Instrument serial ID	Enter the RapidHIT™ ID instrument serial number (located on the back plate of the instrument). Note: After the instrument settings are saved, the serial ID cannot be changed.
Location	Select a location for the instrument. Note: If the location does not appear in the dropdown menu, the location has not been added yet. See “Add an instrument location” on page 83.
Workflow	Select a workflow for the instrument. Note: If needed, you can edit, duplicate, or import workflows. See “Manage workflows” on page 68.

4. Click **Add**.

The new instrument is added to the table, with a health status of **Never connected**. You must wait for a RapidHIT™ ID instrument user at the instrument location to initiate the connection.

After the RapidHIT™ ID instrument is connected, you will be able to see current information for the instrument in the RapidLINK™ Software, such as the instrument health, the instrument users, and the runs from the instrument.

Alternatively, you can add an instrument from the **Instruments** screen in the **Systems settings** dashboard. See “Add an instrument (System settings dashboard)” on page 86.

Disconnect an instrument (Instruments dashboard)

This procedure disconnects a RapidHIT™ ID instrument from the RapidLINK™ Software.

Note: You cannot use the RapidLINK™ Software to connect an instrument. Connection between a RapidHIT™ ID instrument and the RapidLINK™ Software must be initiated from the instrument.

1. Open the **Instruments** dashboard. See “View RapidHIT™ ID instruments in the Instruments dashboard” on page 51.
2. Select the checkbox for the instrument to disconnect. You can select only one instrument at a time.
3. Click **Disconnect instrument**.
4. In the **Disconnect instrument** dialog box, select  **Disconnect**, then click **Disconnect**.
5. Close the confirmation message.
The health state of the instrument changes to **Disconnected**.

Alternatively, you can disconnect an instrument in the following ways:

- Disconnect from the **<ID> instrument details** pane. See “Disconnect an instrument (<ID> instrument details pane)” on page 61.
- Disconnect from the **Instruments** screen in the **Systems settings** dashboard. See “Disconnect an instrument (System settings dashboard)” on page 88.

Generate an Instruments report

The **Instruments report** provides a snapshot of the instruments table on the current page of the **Instruments** dashboard. All instruments and columns displayed on the page appear in the **Instruments report**.

1. In the main screen, click the **Instruments** tab to display the **Instruments** dashboard.
2. *(Optional)* Use the search and filter tools. See “Filter tables (includes search)” on page 12.
3. *(If needed)* Scroll to the page of interest.

Note: If the instruments table spans multiple pages, only the currently selected page is captured in the **Instruments report**.

4. Click .

A PDF file is saved to the default download folder on your desktop.



Monitor a single instrument

■ View details for a single instrument	55
■ Remotely access the instrument touchscreen	60
■ Disconnect an instrument (<ID> instrument details pane)	61
■ Download primary cartridge logs	61
■ Edit an instrument (<ID> instrument details pane)	62
■ Generate an Instrument users report for a single instrument	62
■ RapidHIT™ ID instrument user accounts: Deauthorize users from a single instrument	63
■ RapidHIT™ ID instrument user accounts: Authorize users for a single instrument	63

View details for a single instrument

1. In the main screen, click the **Instruments** tab to display the **Instruments** dashboard.
2. *(Optional)* Use the search and filter tools. See “Filter tables (includes search)” on page 12.
3. In the instruments table, click the blue instrument serial ID (active link) to display information, runs, and users for the selected instrument.
4. Depending on your user role permissions, you can perform the functions shown in Figure 12, Figure 13, and Figure 14.

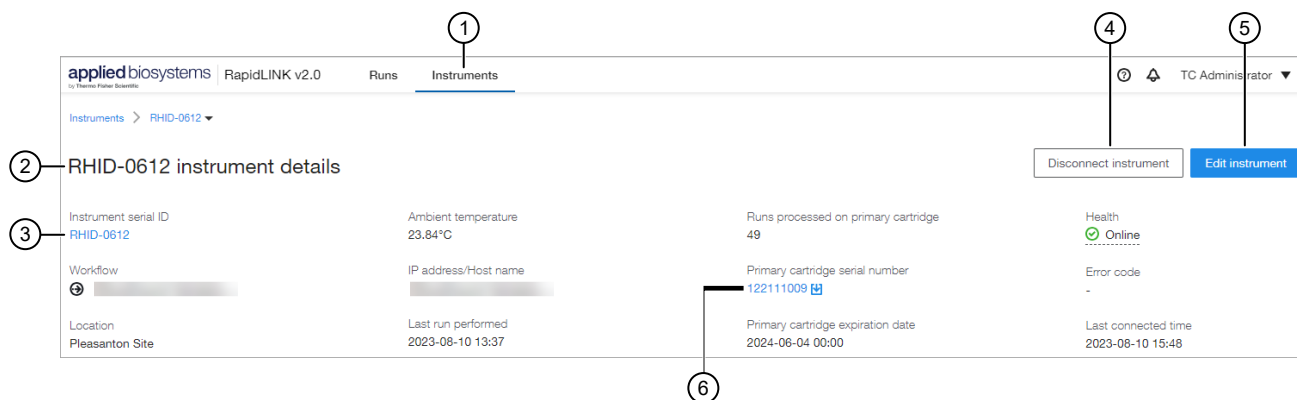


Figure 12 <ID> instrument details pane

- ① The pane is accessed through the **Instruments** dashboard
- ② <ID> instrument details pane, where <ID> is the serial ID of the selected instrument; for a description of all items in this pane, see “<ID> instrument details pane” on page 58
- ③ Blue instrument serial ID—Active link that allows users to remotely access the instrument touchscreen using the Tight VnC Viewer (see “Remotely access the instrument touchscreen” on page 60)
- ④ Disconnects an instrument (see “Disconnect an instrument (<ID> instrument details pane)” on page 61)
- ⑤ Allows you to edit an instrument (see “Edit an instrument (<ID> instrument details pane)” on page 62)
- ⑥ Downloads primary cartridge logs (see “Download primary cartridge logs” on page 61)

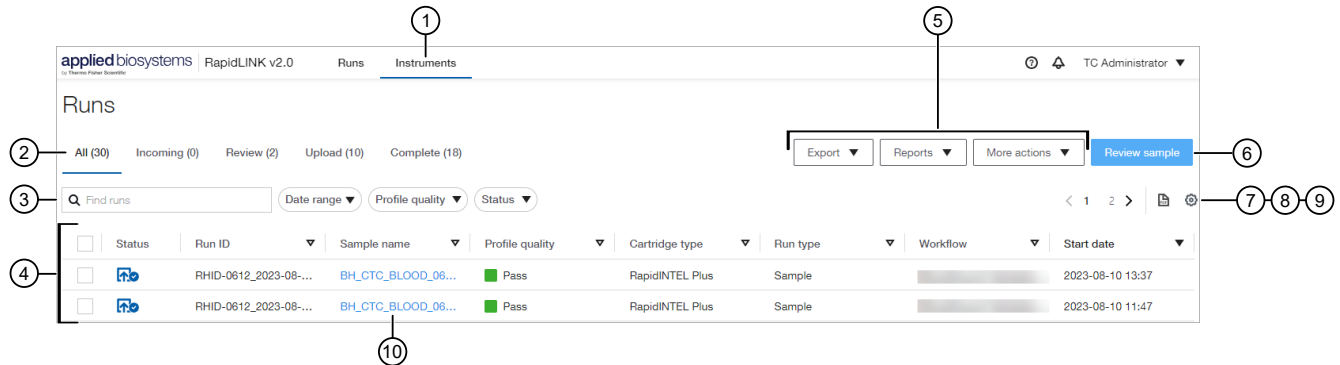


Figure 13 Runs pane

Note: The **Runs** pane provides the same information and functionality for a single RapidHIT™ ID instrument as the **Runs** dashboard provides for all instruments in the RapidLINK™ Software instance, with the exception of the **Import** function.

- ① The pane is accessed through the **Instruments** dashboard
 - ② Tabs to display only a subset of runs (see “Filter tables (includes search)” on page 12)
 - ③ Search and filter tools (see “Filter tables (includes search)” on page 12)
 - ④ Runs table—Depending on your display preferences, displays all runs or a subset of runs that have been performed on the selected RapidHIT™ ID instrument (see “Set display preferences for tables” on page 15 and “Runs table” on page 19)
- Note:** Runs are automatically sent to the RapidLINK™ Software from connected RapidHIT™ ID instruments. Additionally, runs can be manually imported into the RapidLINK™ Software.
- ⑤ Tools for managing runs:
 - “Export run files” on page 43
 - Generate a **Sample results report** (see “Generate sample or run reports” on page 45)
 - “Manually delete sample runs” on page 47
 - “Add or edit a comment (runs tables)” on page 48
 - “Move a run to Review awaiting” on page 48
 - “Re-upload a run” on page 49
 - ⑥ Opens the Results Viewer in review mode; review mode allows users to edit DNA profiles (see “Open the Results Viewer—Review mode (includes editing)” on page 32)
 - ⑦ Scrolls through the runs table, if the table spans multiple pages
 - ⑧ Generates an **Instrument runs report** (see “Generate sample or run reports” on page 45)
 - ⑨ Display preferences (see “Set display preferences for tables” on page 15)
 - ⑩ Blue sample name—Active link that opens the Results Viewer in view mode; view mode does not allow users to edit DNA profiles (see “Open the Results Viewer—View mode” on page 23)

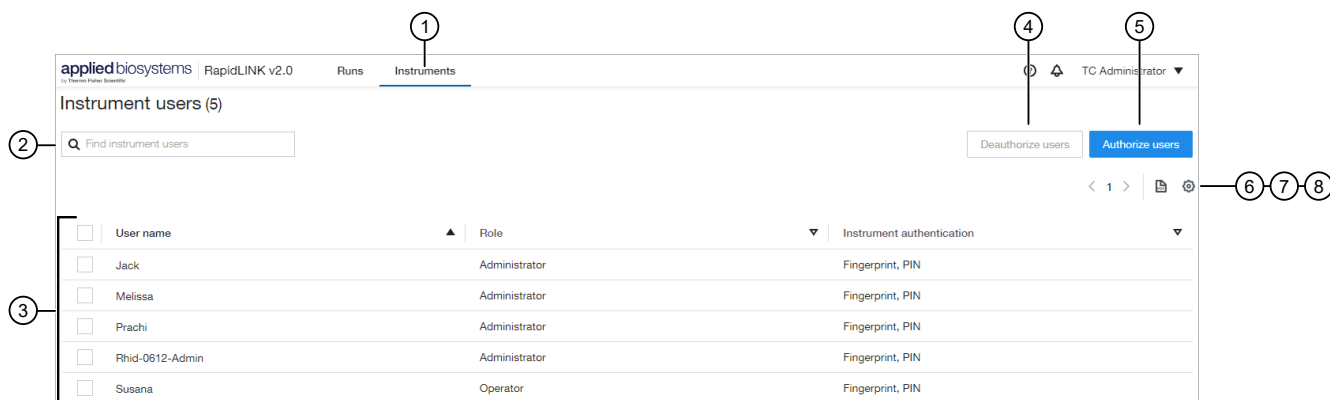


Figure 14 Instrument users pane

- ① The pane is accessed through the **Instruments** dashboard
- ② Search tool (see “Filter tables (includes search)” on page 12)
- ③ Instrument users table—Displays all users currently authorized on the selected RapidHIT™ ID instrument (see “Instrument users table” on page 60)
- ④ Deauthorizes users (“RapidHIT™ ID instrument user accounts: Deauthorize users from a single instrument” on page 63)
- ⑤ Authorizes users (“RapidHIT™ ID instrument user accounts: Authorize users for a single instrument” on page 63)
- ⑥ Scrolls through the instrument users table, if the table spans multiple pages
- ⑦ Generates an **Instrument users report** (see “Generate an Instrument users report for a single instrument” on page 62)
- ⑧ Display preferences (see “Set display preferences for tables” on page 15)

<ID> instrument details pane

Note: <ID> is the serial ID of the selected instrument.

Column	Description
Instrument serial ID	The serial number of the RapidHIT™ ID instrument (located on the back plate of the instrument). Click a blue instrument serial ID (active link) to remotely access the instrument touchscreen using the Tight VnC Viewer. See “Remotely access the instrument touchscreen” on page 60.
Workflow	The workflow that the RapidHIT™ ID instrument is assigned to, and the status of the workflow: ➡<workflow name>—Indicates that the listed workflow has been assigned to the instrument and successfully downloaded on the instrument. ✖<workflow name>—Indicates that the listed workflow has been assigned to the instrument, but has not yet been downloaded on the instrument. Additionally, a red banner message is displayed at the top of the screen until the workflow is downloaded on the instrument. For information on downloading a workflow, see the <i>RapidHIT™ ID System v2.0 User Guide</i> (Pub. No. MAN0026593). For more information, see “Manage workflows” on page 68.
Location	The location assigned to the RapidHIT™ ID instrument.
Ambient temperature	The current ambient temperature of the RapidHIT™ ID instrument. Note: If the instrument health is Offline , Disconnected , or Never connected , — is displayed.

(continued)

Column	Description
IP address/ Host name	The IP address or host name of the RapidHIT™ ID instrument.
Last run performed	The most recent date and time that a run was performed on the instrument.
Runs processed on primary cartridge	The number of runs performed on the instrument with the current primary cartridge. Note: If the instrument health is Offline , the last known number of runs is displayed. If the instrument health is Disconnected or Never connected , — is displayed.
Primary cartridge serial number	The serial number of the primary cartridge. Click the blue serial number (active link) to download primary cartridge logs. For more information, see “Download primary cartridge logs” on page 61. Note: If the instrument health is Offline , the last known serial number is displayed. If there is no primary cartridge in the instrument or if the instrument health is Disconnected or Never connected , — is displayed.
Primary cartridge expiration date	The date and time that the primary cartridge will expire. Note: If the instrument health is Offline , the last known expiration date and time is displayed. If there is no primary cartridge in the instrument or if the instrument health is Disconnected or Never connected , — is displayed.
Health	The health of the RapidHIT™ ID instrument: ⊖ Disconnected—The instrument has been disconnected from the RapidLINK™ Software. ⚠ Error—The instrument generated a DX code during the most recent run and the code has not been cleared on the instrument. ⊖ Never connected—The instrument was added to the RapidLINK™ Software, but the instrument has never initiated a connection. ⊗ Offline—The instrument is connected to the RapidLINK™ Software, but is powered off or is not currently communicating because of network issues. ✔ Online—The instrument is connected to the RapidLINK™ Software and is powered on.
Error code	A critical DX code, if the instrument generated a critical DX code during the most recent run and the code has not been cleared on the instrument. See “Troubleshoot DX codes” on page 101.
Last connected time	The most recent date and time that the instrument was connected to the RapidLINK™ Software.

Instrument users table

The information that is displayed varies, depending on your display preferences. See “Set display preferences for tables” on page 15.

Column	Description
User name	The name assigned to the RapidHIT™ ID instrument user and displayed in the software.
Role	The role assigned to the RapidHIT™ ID instrument user. User roles determine the functions that a user can perform on the instrument.
Instrument authentication	The method used to authenticate the user on the RapidHIT™ ID instrument: • Face ID (face scan) • Fingerprint • PIN

Remotely access the instrument touchscreen

To remotely access the RapidHIT™ ID instrument touchscreen, the following criteria must be met:

- You must be signed in to the RapidLINK™ Software from the host computer (that is, the computer on which the RapidLINK™ Software was installed).
- You must have the **Instrument dashboard: Remote access** permission.
- The health status of the instrument must be **Online**.

1. View details for a single instrument. See “View details for a single instrument” on page 55.

2. In the <ID> **instrument details** pane, click the blue instrument serial ID (active link).

You may receive a timeout error message if there are connectivity issues (for example, if the network connection is slow). As long as the instrument health status is **Online**, the software will continue trying to connect until the issue is resolved. You can close/ignore the message.

A command window appears, then the Tight VnC Viewer opens for the RapidHIT™ ID instrument.

IMPORTANT! Do not close the command window. If you close the command window, connection to the instrument touchscreen will be lost.

3. On the instrument touchscreen, sign in using your RapidHIT™ ID instrument credentials.

For instrument procedures, see the *RapidHIT™ ID System v2.0 User Guide* (Pub. No. MAN0026593).

Disconnect an instrument (<ID> instrument details pane)

This procedure disconnects a RapidHIT™ ID instrument from the RapidLINK™ Software.

Note: You cannot use the RapidLINK™ Software to connect an instrument. Connection between a RapidHIT™ ID instrument and the RapidLINK™ Software must be initiated from the instrument.

1. View details for a single instrument. See “View details for a single instrument” on page 55.
2. In the <ID> **instrument details** pane, click **Disconnect instrument**.
3. In the **Disconnect instrument** dialog box, select  **Disconnect**, then click **Disconnect**.
4. Close the confirmation message.
The health of the instrument changes to **Disconnected**.

Alternatively, you can disconnect an instrument in the following ways:

- Disconnect from the **Instruments** dashboard. See “Disconnect an instrument (Instruments dashboard)” on page 53.
- Disconnect from the **Instruments** screen in the **Systems settings** dashboard. See “Disconnect an instrument (System settings dashboard)” on page 88.

Download primary cartridge logs

The logs contain information about the primary cartridge and the RapidHIT™ ID instrument, such as calibrations, consumable levels, and when the cartridge was inserted or re-inserted into the instrument.

1. View details for a single instrument. See “View details for a single instrument” on page 55.
2. In the <ID> **instrument details** pane, under **Primary cartridge serial number**, click the blue cartridge serial number (active link).

Note: If the instrument health is **Offline**, the last known serial number is displayed. If there is no primary cartridge in the instrument or if the instrument health is **Disconnected** or **Never connected**, — is displayed.

3. In the **Download primary cartridge logs** dialog box, select the checkbox for each log to download.
4. Click **Download**.

A ZIP file is saved to the default download folder on your desktop. The ZIP file contains one ZIP file for each selected log.

Edit an instrument (<ID> instrument details pane)

1. View details for a single instrument. See “View details for a single instrument” on page 55.
2. In the <ID> **instrument details** pane, click **Edit instrument**.
3. Complete the **Edit instrument** dialog box.

Item	Action
Instrument serial ID	NA You cannot edit the instrument serial ID.
Location	Select a location for the instrument. Note: If the location does not appear in the dropdown menu, the location has not been added yet. See “Add an instrument location” on page 83.
Workflow	Select a workflow for the instrument. Note: If needed, you can edit, duplicate, or import workflows. See “Manage workflows” on page 68.

4. Click **Update** to save your changes.

Alternatively, you can edit an instrument from the **Instruments** screen in the **System settings** dashboard. See “Edit an instrument (System settings dashboard)” on page 87.

Generate an Instrument users report for a single instrument

The **Instrument users report** provides a snapshot of the instrument users table for the selected RapidHIT™ ID instrument. All users and columns displayed on the page appear in the **Instrument users report**.

1. View details for a single instrument. See “View details for a single instrument” on page 55.
2. (If needed) In the **Instrument users** pane, scroll to the page of interest.

Note: If the instrument users table spans multiple pages, only the currently selected page is captured in the **Instrument users report**.

3. Click .

A PDF file is saved to the default download folder on your desktop.

RapidHIT™ ID instrument user accounts: Deauthorize users from a single instrument

Deauthorizing a user prevents the user from signing in to the RapidHIT™ ID instrument.

1. View details for a single instrument. See “View details for a single instrument” on page 55

2. In the **Instrument users** pane, select the checkbox for each user to deauthorize.

Users only appear in the **Instrument users** pane if the following criteria are met:

- The user account status is **Active**. See “RapidHIT™ ID instrument user accounts: Activate or inactivate an account” on page 90.
- The user name is unique. If the user name is not unique, a triangle icon () appears next to the user name in the **User authorization** screen. See “RapidHIT™ ID instrument user accounts: Manage users” on page 88

3. Click **Deauthorize users** to open the **Remove user authorization** dialog box.

4. Select () **Deauthorize**, then click **Deauthorize**.

The selected users are removed from the **Instrument users** pane and will not be able to sign in to the RapidHIT™ ID instrument.

Alternatively, you can deauthorize users from the **User authorization** screen in the **System settings** dashboard. See “RapidHIT™ ID instrument user accounts: Authorize or deauthorize instruments” on page 91.

RapidHIT™ ID instrument user accounts: Authorize users for a single instrument

Authorizing a user allows the user to sign in to and use the RapidHIT™ ID instrument.

1. View details for a single instrument. See “View details for a single instrument” on page 55

2. In the **Instrument users** pane, click **Authorize users** to open the **Add user authorization** dialog box.

3. Select the checkbox for each user to authorize.

Users only appear in the dialog box if the following criteria are met:

- The user account status is **Active**. See “RapidHIT™ ID instrument user accounts: Activate or inactivate an account” on page 90.
- The user name is unique. If the user name is not unique, a triangle icon () appears next to the user name in the **User authorization** screen. See “RapidHIT™ ID instrument user accounts: Manage users” on page 88

The selected users are added to the list field. If you need to remove a user from the list, click **X**.

4. Click **Authorize**.

The selected users are added to the **Instrument users** pane and will be able to sign in to and use the RapidHIT™ ID instrument.

Alternatively, you can authorize users from the **User authorization** screen in the **System settings** dashboard. See “RapidHIT™ ID instrument user accounts: Authorize or deauthorize instruments” on page 91.



Manage system settings

■ Open the System settings dashboard	65
■ Manage applications and licenses	66
■ Manage workflows	68
■ Manage instrument locations	82
■ Manage instruments	85
■ RapidHIT™ ID instrument user accounts: Manage users	88
■ Manage security and audit settings	92

Open the System settings dashboard

1. At the top-right of any screen, click ▼ next to your user name, then select **System settings** to display the **System settings** dashboard.
2. Depending on your user role permissions, you can use the dashboard tools to perform the functions shown in Figure 15.

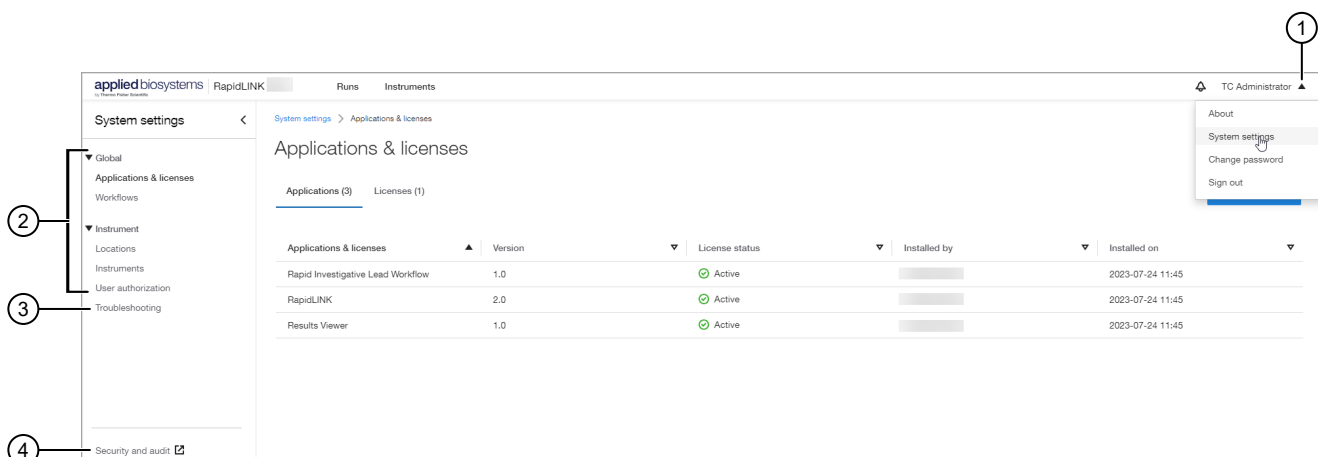


Figure 15 System settings dashboard

- ① Access the **System settings** dashboard
- ② Manage all system settings:
 - “Manage applications and licenses” on page 66
 - “Manage workflows” on page 68
 - “Manage instrument locations” on page 82
 - “Manage instruments” on page 85
 - “RapidHIT™ ID instrument user accounts: Manage users” on page 88
- ③ Access troubleshooting for critical DX codes (see “DX codes” on page 100)
- ④ Open the SAE Administrator Console to configure security and audit functionality (see “Manage security and audit settings” on page 92)

Manage applications and licenses

The following applications are included in the RapidLINK™ Software bundle:

- RapidLINK™ Software
- Rapid Investigative Lead Workflow
- Results Viewer

View applications and license status

1. At the top-right of any screen, click ▼ next to your user name, then select **System settings** to display the **System settings** dashboard.
2. In the navigation pane, select **Global ▶ Applications & licenses**.
3. Click the **Applications** tab (default selection).
The currently installed applications are listed.

4. in the **License status** column, view the current license status of each application.
 - **Active**—The license is current. No further action is required.
 - **Pending**—The license is not installed. The application cannot be used until the license is installed.
 - **Expired**—The license is expired. The application cannot be used until the license is renewed.

To install a license for an **Expired** or **Pending** application, see “Install a license” on page 67.

Install a license

Perform this procedure to install a license for an **Expired** or **Pending** application.

Note: After the initial purchase and installation, the RapidLINK™ Software v2.0 license will not expire.

1. Purchase an application to obtain an activation code.
2. Open the **Applications & licenses** screen. See “View applications and license status” on page 66.
3. Click the **Licenses** tab.
4. Click **Generate request file**.
5. Complete the **Generate request file** dialog box.
 - a. Select an application from the dropdown list.
 - b. Enter the activation code supplied when you purchased the application.
 - c. Click **Generate and download**.

The RapidLINK™ Software generates and downloads a capability request file (request.bin) for the device where the RapidLINK™ Software is hosted. The capability request file is downloaded to the default download folder on your desktop.

6. Use the capability request file (request.bin) in FlexNet Manager to generate a license for the device.
 - a. Go to the FlexNet Manager on the Thermo Fisher Scientific website (thermofisher.com).
 - b. In the FlexNet Manager customer portal, select **Offline device management**.
 - c. Select **Generate license or confirm license reduction or return** as the upload type, navigate to the request file (request.bin), then click **Upload**.

FlexNet Manager generates a license file (response.bin) for the device.

7. In the success message, click the link to download the response.bin file to the default download folder on your desktop.
8. In the RapidLINK™ Software, return to the **Licenses** tab in the **Applications & licenses** screen.
9. Click **Install license**, navigate to and upload the FlexNet Manager license file (response.bin), then click **Install**.

After installation, the following occurs:

- In the **Applications** tab, the application status is **Active**.
- In the **Licenses** tab, the license is displayed with an expiration date.

You can begin using the application.

Manage workflows

A workflow provides the following functions:

- On the RapidHIT™ ID instrument, the workflow specifies the instrument run and data analysis parameters.
- In the RapidLINK™ Software, the workflow determines how a run progresses in the software, based on the profile quality and run status.

Each RapidHIT™ ID instrument is shipped with the default system-defined workflow. If needed, you can assign an instrument to a different workflow. This section describes how to create new workflows by editing, duplicating, or importing existing workflows.

Note: An instrument can be assigned to only one workflow at a time. Different instruments connected to the same RapidLINK™ Software instance can be assigned to different workflows. For example, Instrument 1 can be assigned to Workflow A, but Instrument 2 can be assigned to Workflow B.

View workflows

1. At the top-right of any screen, click ▼ next to your user name, then select **System settings** to display the **System settings** dashboard.
2. In the navigation pane, select **Global ▶ Workflows**.
By default, all workflows added to the RapidLINK™ Software are listed in the workflows table.
3. Depending on your user role permissions, you can use the screen tools to perform the functions shown in Figure 16.

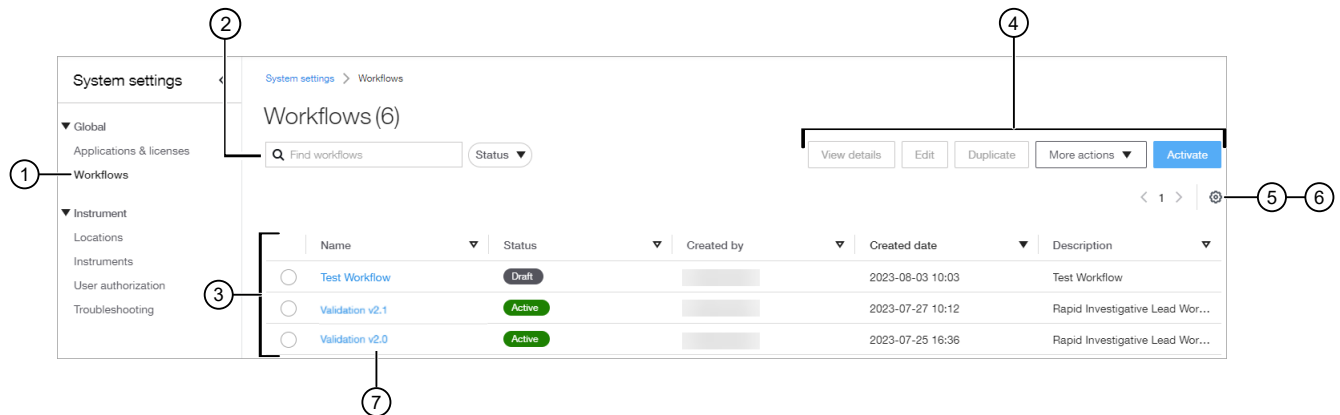


Figure 16 Workflows screen

- ① Opens the **Workflows** screen for managing workflows
- ② Search and filter tools (see “Filter tables (includes search)” on page 12)
- ③ Workflows table (see “Workflows table” on page 69)
- ④ Manage workflows:
 - “View workflow details” on page 70
 - “Edit a workflow” on page 71
 - “Duplicate a workflow” on page 80
 - “Deactivate a workflow” on page 80
 - “Export a workflow (ZIP file)” on page 81
 - “Import a workflow (ZIP file)” on page 81
 - “Activate a workflow” on page 80
- ⑤ Scrolls through the workflows table, if the table spans multiple pages
- ⑥ Display preferences (see “Set display preferences for tables” on page 15)
- ⑦ Blue workflow name—Active link that opens the **<cartridge> settings** screen, where **<cartridge>** is the cartridge type; use this screen to view or edit the workflow cartridge settings (see “View workflow details” on page 70 or “Edit a workflow” on page 71)

Workflows table

The information that is displayed varies, depending on your display preferences. See “Set display preferences for tables” on page 15.

Column	Description
Name	The name of the workflow.
Status	The status of the workflow: • Active—RapidHIT™ ID instruments can be assigned to the workflow. Active workflows can be exported, but cannot be edited. See “Assign instruments to a workflow” on page 87 and “Export a workflow (ZIP file)” on page 81. • Draft—RapidHIT™ ID instruments cannot be assigned to the workflow. Draft workflows can be edited, but cannot be exported. See “Edit a workflow” on page 71. • Inactive—RapidHIT™ ID instruments cannot be assigned to the workflow. Inactive workflows can be exported, but cannot be edited. See “Export a workflow (ZIP file)” on page 81.

(continued)

Column	Description
Created by	The user name of the person who created the workflow.
Created date	The date and time that the workflow was created.
Description	A description of the workflow.

View workflow details

1. Open the **Workflows** screen. See “View workflows” on page 68.
2. View details (cartridge settings) for the workflow.

In the workflows table, do one of the following for the workflow to view:

- Select the radio button for the workflow, then click **View details**.
- Click the blue workflow name (active link).

The **<cartridge> settings** screen is displayed.

Note: <cartridge> is the cartridge type.

- The information that is displayed in the **<cartridge> settings** screen in view mode is the same information that is displayed in edit mode. For detailed descriptions of each tab in the screen, see “Edit a workflow” on page 71.
- In view mode, you cannot make any edits in the **<cartridge> settings** screen.

Edit a workflow

Editing allows you to make changes to any workflow with a status of **Draft**. You cannot edit **Active** or **Inactive** workflows.

Note: To create a workflow with a status of **Draft**, duplicate any existing workflow. See “Duplicate a workflow” on page 80.

Edit a workflow: Required tasks

Edit a workflow

**Select the workflow to edit (page 72)**

**Select settings for the cartridge type (page 72)**

IMPORTANT! You can include both cartridge types in a single workflow. Complete the required tasks listed here for the first cartridge type, then complete the tasks again for the second cartridge type. Ensure that you save your changes after each step in the edit procedure.

**Select a protocol (page 73)**

This task is required only for the RapidINTEL™ Plus Sample Cartridge.

**Configure profile evaluation settings (page 73)**

This task is required only for sample cartridges.

**Configure review settings (page 74)**

**Configure sample category settings (page 75)**

**Configure upload settings (page 76)**

Select the workflow to edit

You can edit any workflow with a status of **Draft**.

1. Open the **Workflows** screen. See “View workflows” on page 68.
2. Select the workflow to edit. You can select only one workflow at a time.

You can select the workflow in one of the following ways:

- Select the radio button for the workflow, then click **Edit** to open the **<cartridge> settings** screen.
- Click the blue workflow name (active link) to open the **<cartridge> settings** screen, then click **Edit**.

Note: **<cartridge>** is the cartridge type.

Note: If the workflow status is **Active** or **Inactive**, the **Edit** button is inactive or missing.

Proceed to “Select settings for the cartridge type” on page 72.

Select settings for the cartridge type

1. On the left side of the **<cartridge> settings** screen, select the appropriate settings for the cartridge type.
 - **ACE GlobalFiler Express settings**—Displays the workflow settings tabs for the RapidHIT™ ID ACE GlobalFiler™ Express Sample Cartridge.
 - **RapidINTEL Plus settings**—Displays the workflow settings tabs for the RapidINTEL™ Plus Sample Cartridge.
2. At the top-right of the screen, select () **Enable cartridge**.

Note: If you select () **Disable cartridge**, you will not be able to edit the cartridge settings or use the cartridge on the instrument.

Proceed to the next procedure, depending on your selection in step 1:

- If you selected **ACE GlobalFiler Express settings**—Proceed to “(Sample cartridges only) Configure profile evaluation settings” on page 73.
- If you selected **RapidINTEL Plus settings**—Proceed to “(RapidINTEL™ Plus Sample Cartridge only) Select a protocol” on page 73.

(RapidINTEL™ Plus Sample Cartridge only) Select a protocol

Protocol selection determines the protocols that a user can select when performing a run on a RapidHIT™ ID instrument.

1. In the **RapidINTEL Plus settings** screen, click the **Protocol selection** tab.
2. Select the appropriate protocol type.
 - **General protocol only**—Automatically selects the general protocol when a user runs a RapidINTEL™ Plus Sample Cartridge.
 - **Specialized protocol only**—Automatically selects the specialized protocol when a user runs a RapidINTEL™ Plus Sample Cartridge. The specialized protocol is a higher sensitivity protocol than the general protocol.
 - **Dual protocol**—Allows a user to select the general protocol or the specialized protocol during run setup.
3. Click **Save**.

Proceed to “(Sample cartridges only) Configure profile evaluation settings” on page 73.

(Sample cartridges only) Configure profile evaluation settings

Profile evaluation settings determine the markers required for  **Pass** and  **Pass partial** DNA profiles. These settings apply only to sample cartridges; the settings do not apply to allelic ladder or control cartridges.

1. In the <cartridge> **settings** screen, click the **Profile evaluation** tab.
2. Click  **Pass**, then select the CODIS and non-CODIS markers required for a passing DNA profile.

Note: You cannot change the pass criteria for positive controls, negative controls, or allelic ladders.

3. Click  **Pass partial**, then select whether to define passing partial DNA profiles.
If you select **Yes**, select at least one criterion to define a passing partial DNA profile:
 - **Minimum number of flag-free markers**—If selected () , enter the minimum number of flag-free markers required for a passing partial DNA profile.
 - **Select the required markers**—If selected () , select the CODIS and non-CODIS markers required for a passing partial DNA profile. You can select only from the markers required for passing DNA profiles (defined in step 2).

Note: You cannot change the pass criteria for positive controls, negative controls, or allelic ladders.

4. Click **Save**.

Proceed to “Configure review settings” on page 74.

Configure review settings

Review settings determine the types of DNA profiles that can be reviewed, and whether users can review the profiles in the RapidLINK™ Software or offline.

1. In the **<cartridge> settings** screen, click the **Review settings** tab.
2. Select a review method.
 - **Enable review in the RapidLINK Software**— Users will be able to review and edit DNA profiles within the RapidLINK™ Software.
 - **Enable offline review** —Users will be able to export DNA profiles to review the profiles offline.
3. Complete the **Review settings** tab, based on the review method that you selected in step 2. See Table 4 or Table 5.

Table 4 Review method: Enable review in the RapidLINK Software

Item	Action
Minimum reviewers	Select the minimum number of reviewers required to complete the review: 1 or 2 .
Select the profile quality that requires review	Select one or more profile qualities that require review: •  Pass •  Pass partial •  Quality flag •  Fail
Review control samples	Select whether to review controls. Controls include positive controls, negative controls, and allelic ladders. • Yes—Controls that have one of the profile qualities selected in Select the profile quality that requires review (see the row above) will require review. For example, if only the  Fail profile quality is selected, only failed controls will require review. • No—No controls require review.

Table 5 Review method: Enable offline review

Item	Action
Select the profile quality that requires review	Select one or more profile qualities that require review: •  Pass •  Pass partial •  Quality flag •  Fail

Table 5 Review method: Enable offline review (continued)

Item	Action
Review control samples	Select whether to review controls. Controls include positive controls, negative controls, and allelic ladders. Yes—Controls that have one of the profile qualities selected in Select the profile quality that requires review (see the row above) will require review. For example, if only the  Fail profile quality is selected, only failed controls will require review. No—No controls require review.
Do you want to configure export settings for the offline review?	Select whether to configure export settings for the offline review:  No—If you do not configure export settings, a run file will not be exported for offline review. No further items need to be completed in this table. Proceed to step 4.  Yes—If you configure export settings, a run file will be exported for offline review according to the settings that you select—see the remaining items in this table. IMPORTANT! If you select  No, DNA profiles with  Pass,  Pass partial, or  Pass w. review profile qualities may still be available offline. These DNA profiles can be uploaded to the locations configured in the Upload settings tab; see “Configure upload settings” on page 76.
File type	Select the file type to export: Sample file (.fsa) Project file (.ser) All run files
Send files via	Select the export method: File upload—Enter the path for the export location and <i>(if required)</i> the user name and password for the export location. SFTP—Enter the path for the export location, SFTP host name, SSH key fingerprint, and <i>(if required)</i> the user name and password for the export location.
Test connection	Click Test connection to ensure that the location is accessible.

4. Click **Save**.

Proceed to “Configure sample category settings” on page 75.

Configure sample category settings

Sample categories are defined in the workflows and are used to:

- Determine where DNA profiles should be uploaded (also referred to as *location mapping*). The RapidLINK™ Software can automatically upload DNA profiles to an external location, depending on the upload settings in the workflow.
- Assign sample categories on the RapidHIT™ ID instrument. Instrument users can assign a sample category to a sample, depending on the sample categories that are available in the workflow that the instrument is currently running.

1. In the <cartridge> **settings** screen, click the **Sample category** tab.
2. Select the sample categories to include or deselect the categories to exclude.

Note: You cannot deselect any sample categories that are mapped to an upload location in the current workflow. See “Configure upload settings” on page 76.

Tab	Description	Action
CODIS	The CODIS sample categories are the same as the specimen categories listed in <i>CODIS STR Import Interface Specification Document (STR CMF 3.3) Revision 16</i> . You cannot add or delete CODIS sample categories.	Click the CODIS tab, then select and deselect the categories as needed.
User-defined	You may want to define your own sample categories (for example, if you do not want to use the CODIS sample categories). You can add and delete user-defined sample categories: • Add criteria—A new sample category can be added to any workflow with a status of Draft. • Delete criteria—A sample category cannot be deleted if it is currently being used in any workflow. If the category is not being used, it can be deleted only in the workflow that it was initially added to, and only if that workflow has a status of Draft.	Click the User-defined tab. You can do any of the following: • Add a sample category: Click Add sample category, then enter a category name. After you save the Sample category page, the new category will be available for selection in other Draft workflows. • Select and deselect any existing user-defined categories as needed. • Delete a sample category: Click  next to the category.
System default	The RapidLINK™ Software includes two system default sample categories: • Test • Training The default categories cannot be changed or deselected.	Click the System default tab to view the system default categories. You cannot add, delete, or deselect system default categories.

3. Click **Save**.

Proceed to “Configure upload settings” on page 76.

Configure upload settings

Upload settings allow the RapidLINK™ Software to automatically upload DNA profiles to an external location.

1. In the <cartridge> **settings** screen, click the **Upload settings** tab.
2. (If needed) Add or delete upload settings.
 - **Add**—If upload settings do not exist, and you want to automatically upload DNA profiles to an external location: Click **Add settings**, then proceed to step 3.
 - **Delete**—If upload settings exist, and you *do not* want to automatically upload DNA profiles to an external location: Click  to delete the settings, then proceed to step 5

3. Edit the upload settings.

- For CODIS uploads, see Table 6.
- For non-CODIS uploads, see Table 7.

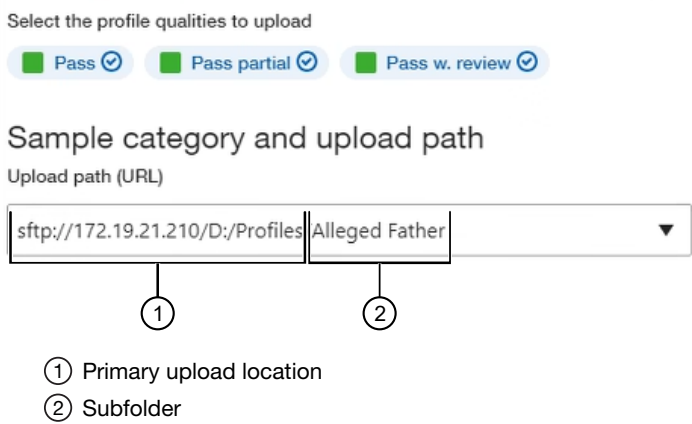
Table 6 Settings for DNA profiles that will be uploaded to CODIS

Item	Action
Name and Description	Enter a name and description for the upload location.
Send files via	Select the upload method: • File upload—Enter the path for the upload location and <i>(if required)</i> the user name and password for the upload location. • SFTP—Enter the path for the upload location, SFTP host name, SSH key fingerprint, and <i>(if required)</i> the user name and password for the upload location.
Test connection	Click Test connection to ensure that the location is accessible.
Compatible with CODIS	Select  Yes. The software will generate CMF files that are compatible with CODIS, then upload the files to the configured locations.
Select the profile qualities to upload	Select one or more profile qualities that require upload: •  Pass •  Pass partial •  Pass w. review Note: DNA profiles with a profile quality of  Quality flag,  Fail, or  Fail w. review cannot be uploaded.
Select the sample categories to upload	Select the sample categories to upload. For example, you may want to send DNA profiles in the Arrestee category, but not send DNA profiles in the Staff category. The categories listed are the categories selected in the Sample category tab for the workflow. See “Configure sample category settings” on page 75.
Source lab	Enter the ORI (Originating Agency Identifier) for the booking agency that is processing the arrestee. The ORI validates legal authorization to access Criminal Justice Information (CJI).
Destination ORI	Enter the ORI (Originating Agency Identifier) for the destination booking agency that operates the CODIS Rapid Enrollment (CRE) application and processes the CMF files. The ORI validates legal authorization to access Criminal Justice Information (CJI). Note: Typically, the ORI entered in the Source lab and Destination ORI fields is the same because the RapidHIT™ ID instrument and the CRE tool are located at and registered to the same agency location.

Table 7 Settings for DNA profiles that will be uploaded to a location other than CODIS

Item	Action
Name and Description	Enter a name and description for the upload location.
Send files via	Select the upload method, then enter the required file path information: • File upload—Enter the file path and (<i>if required</i>) the user name and password for the upload location. • SFTP—Enter the file path, SFTP host name, SSH key fingerprint, and (<i>if required</i>) the user name and password for the upload location. Note: The file path that you enter here is the <i>primary upload location</i>. The files for DNA profiles that meet the upload criteria are uploaded as follows: • If you choose to map sample categories to subfolders, the subfolders are located in the primary upload location. The files will be uploaded to the appropriate subfolder, based on sample category. To create subfolders, see the Sample category and upload path row below. • If you choose not to map sample categories to subfolders, all files will be uploaded directly to the primary upload location.
Test connection	Click Test connection to ensure that the location is accessible.
Compatible with CODIS	Select  No . CMF files will not be uploaded to CODIS.
File type	Select the file type to upload to the specified location: • CMF (xml) • Peak table (csv) • Allele table (csv)
Select the profile qualities to upload	Select one or more profile qualities that require upload: •  Pass •  Pass partial •  Pass w. review Note: DNA profiles with a profile quality of  Quality flag,  Fail, or  Fail w. review cannot be uploaded.

Table 7 Settings for DNA profiles that will be uploaded to a location other than CODIS (continued)

Item	Action
Sample category and upload path	(Optional) Map sample categories to subfolders in the primary upload location: - Click Add category. - From the Upload path (URL) dropdown list, select a subfolder. Note: Subfolders are created by your RapidLINK™ Software administrator. If the appropriate subfolder does not appear in the dropdown list, contact your RapidLINK™ Software administrator. - From the Sample category dropdown list, select a category. The sample categories listed are the categories selected in the Sample category tab for the workflow. See “Configure sample category settings” on page 75. (If needed) Repeat steps a–c to map additional sample categories. Note: The file path that you entered in the Send files via row above is the <i>primary upload location</i>. The files for DNA profiles that meet the upload criteria are uploaded as follows: - If you choose to map sample categories to subfolders, the subfolders are located in the primary upload location. The files will be uploaded to the appropriate subfolder, based on the sample category. - If you choose not to map sample categories to subfolders, all files will be uploaded directly to the primary upload location. The following statement appears in the Sample category and upload path section: All profiles will be uploaded to the same upload path, as location mapping is not provided.  ① Primary upload location ② Subfolder

- (Optional) To include multiple upload settings in the workflow: At the bottom of the screen, click **Add settings**, then repeat step 3.

Note: Multiple upload settings allow you to send the same file or different files to different locations. For example, you can send an allele table (CSV file) to two locations, or you can send a CMF file to CODIS, but send an allele table (CSV file) to a different location.

- Click **Save**.

To activate the workflow, see “Activate a workflow” on page 80.

Duplicate a workflow

Duplicating allows you to create a new workflow by copying and editing an existing workflow.

1. Open the **Workflows** screen. See “View workflows” on page 68.
2. Select the radio button for the workflow to duplicate. You can select only one workflow at a time. You can duplicate any workflow—the status can be **Draft**, **Active** or **Inactive**.
3. Click **Duplicate**, then complete the **Duplicate** dialog box.
 - Enter a name and description for the new workflow.
 - Click **Save**.

The duplicate workflow appears in the workflows table with a status of **Draft**.

- To edit the workflow, see “Edit a workflow” on page 71.

Activate a workflow

Activating a workflow allows users to assign RapidHIT™ ID instruments to the workflow.

1. Open the **Workflows** screen. See “View workflows” on page 68.
2. Select the radio button for the workflow to activate. You can select only one workflow at a time. You can activate any workflow with a status of **Draft** or **Inactive**.
3. Click **Activate**.
4. In the **Activate workflow** dialog box, click **Save** to confirm the activation.

After a workflow is activated, the following occurs:

- The workflow status changes to **Active**.
- No further edits can be made to the workflow.
- RapidHIT™ ID instruments can be assigned to the workflow. See “Assign instruments to a workflow” on page 87.

Deactivate a workflow

Deactivating a workflow prevents users from assigning RapidHIT™ ID instruments to the workflow.

1. Open the **Workflows** screen. See “View workflows” on page 68.
2. Select the radio button for the workflow to deactivate. You can select only one workflow at a time. You cannot deactivate a workflow if its currently assigned to an instrument.
3. Select **More actions** ► **Deactivate**.
4. In the **Deactivate workflow** dialog box, click **Save** to confirm the deactivation.

After a workflow is deactivated, the following occurs:

- The workflow status changes to **Inactive**.

Note: Runs that used the workflow before it was deactivated can still be imported into the RapidLINK™ Software. However, you must first activate the workflow again; see “Activate a workflow” on page 80.

- No edits can be made to the workflow.
- RapidHIT™ ID instruments cannot be assigned to the workflow.

Export a workflow (ZIP file)

Exporting a workflow allows the workflow to be imported for use in a different instance of the RapidLINK™ Software.

1. Open the **Workflows** screen. See “View workflows” on page 68.
2. Select the radio button for the workflow to export. You can select only one workflow at a time. You can export any workflow with a status of **Active** or **Inactive**.
3. Select **More actions** ▶ **Export**.
A ZIP file is saved to the default download folder on your desktop.

After a workflow is exported, it can be imported into a different instance of the RapidLINK™ Software. See “Import a workflow (ZIP file)” on page 81. An exported workflow can also be manually installed on a RapidHIT™ ID instrument using a USB device. See the *RapidHIT™ ID System v2.0 User Guide* (Pub. No. MAN0026593).

Import a workflow (ZIP file)

Before importing a workflow (ZIP file) into the RapidLINK™ Software, the workflow must be exported from a different instance of the RapidLINK™ Software. See “Export a workflow (ZIP file)” on page 81.

1. Open the **Workflows** screen. See “View workflows” on page 68.
2. Select **More actions** ▶ **Import**.
3. In the **Import workflow** dialog box, click **Choose file**, then navigate to the appropriate location.
4. Select the workflow (ZIP file) to import, then click **Open**.
You can import only one workflow at a time. Only ZIP files ≤50 MB are supported.
The selected ZIP file is displayed in the **Import workflow** dialog box.
5. Click **Import**.

If the import is successful, the following occurs in the RapidLINK™ Software instance that you imported the workflow into:

- The imported workflow is listed in the workflows table.
- The workflow status is set to **Draft** in the new instance of the RapidLINK™ Software. The **Draft** status allows users to make changes and to test the connections for the export and upload locations.

Manage instrument locations

View instrument locations

1. At the top-right of any screen, click ▼ next to your user name, then select **System settings** to display the **System settings** dashboard.
2. In the navigation pane, select **Instrument ► Locations**.
By default, all instrument locations added to the RapidLINK™ Software are listed in the locations table.
3. Depending on your user role permissions, you can use the screen tools to perform the functions shown in Figure 17.

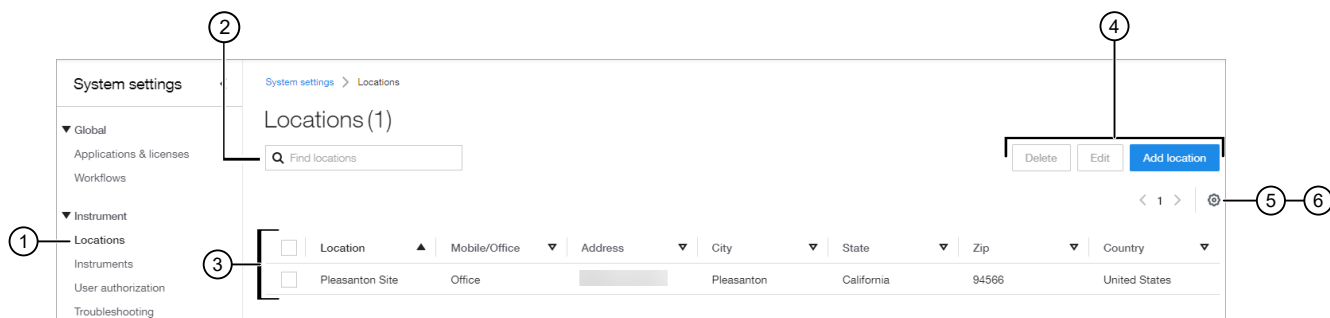


Figure 17 Locations screen

- ① Opens the **Locations** screen for managing RapidHIT™ ID instrument locations
- ② Search for locations (see “Filter tables (includes search)” on page 12)
- ③ Locations table (see “Locations table” on page 83)
- ④ Manage locations:
 - “Delete an instrument location” on page 84
 - “Edit an instrument location” on page 84
 - “Add an instrument location” on page 83
- ⑤ Scrolls through the locations table, if the table spans multiple pages
- ⑥ Display preferences (see “Set display preferences for tables” on page 15)

Locations table

The information that is displayed varies, depending on your display preferences. See “Set display preferences for tables” on page 15.

Item	Description
Location	The name of the instrument location (user-defined).
Mobile/Office	• Mobile—The instrument is not in a fixed location. For example, the instrument is installed in a moving van so that it can be taken to crime scenes. • Office—The instrument is in a fixed location. For example, the instrument is installed in a laboratory.
Address, City, State (province), and Zip (postal code)	Optional address information. Any of these columns may display — if the information was not included when the location was configured.
Country	The country that the instrument is located in.

Add an instrument location

1. Open the **Locations** screen. See “View instrument locations” on page 82.
2. Click **Add location**.
3. Complete the **Add location** dialog box.

Item	Action
Is current address at office (fixed) or mobile?	Select Mobile or Office . • Mobile—The instrument is not in a fixed location. For example, the instrument is installed in a moving van so that it can be taken to crime scenes. • Office—The instrument is in a fixed location. For example, the instrument is installed in a laboratory.
Location	Enter a name for the instrument location (user-defined).
Country	Select a country.
<i>(Optional)</i> Address information	Enter or edit the street address, city, state/province, and zip/postal code for the location.

4. Click **Add**.
The new location is added to the locations table.

Edit an instrument location

1. Open the **Locations** screen. See “View instrument locations” on page 82.
2. Select the checkbox for the location to edit, then click **Edit**.
3. Complete the **Edit location** dialog box.

Item	Action
Is current address at office (fixed) or mobile?	Select Mobile or Office . • Mobile—The instrument is not in a fixed location. For example, the instrument is installed in a moving van so that it can be taken to crime scenes. • Office—The instrument is in a fixed location. For example, the instrument is installed in a laboratory.
Location	NA You cannot edit the name of an instrument location.
Country	Select a country.
(Optional) Address information	Enter or edit the street address, city, state/province, and zip/postal code for the location.

4. Click **Update** to save your changes.

Delete an instrument location

If any instruments are currently linked to a location, you will not be allowed to delete the location.

1. Open the **Locations** screen. See “View instrument locations” on page 82.
2. Select the checkbox for the instrument location to delete. You can select only one location at a time.
3. Click **Delete**, then click **Delete** again in the information message to confirm.

Note: If any instruments are currently linked to the location, an error message is displayed and you will not be able to delete the location. Click **Cancel** to close the error message.

The instrument location is deleted from the software. However, the location information is saved for auditing purposes.

Manage instruments

View instruments (System settings dashboard)

1. At the top-right of any screen, click ▼ next to your user name, then select **System settings** to display the **System settings** dashboard.
2. In the navigation pane, select **Instrument ► Instruments**.
By default, all instruments added to the RapidLINK™ Software are listed in the instruments table.
3. Depending on your user role permissions, you can use the screen tools to perform the functions shown in Figure 18.

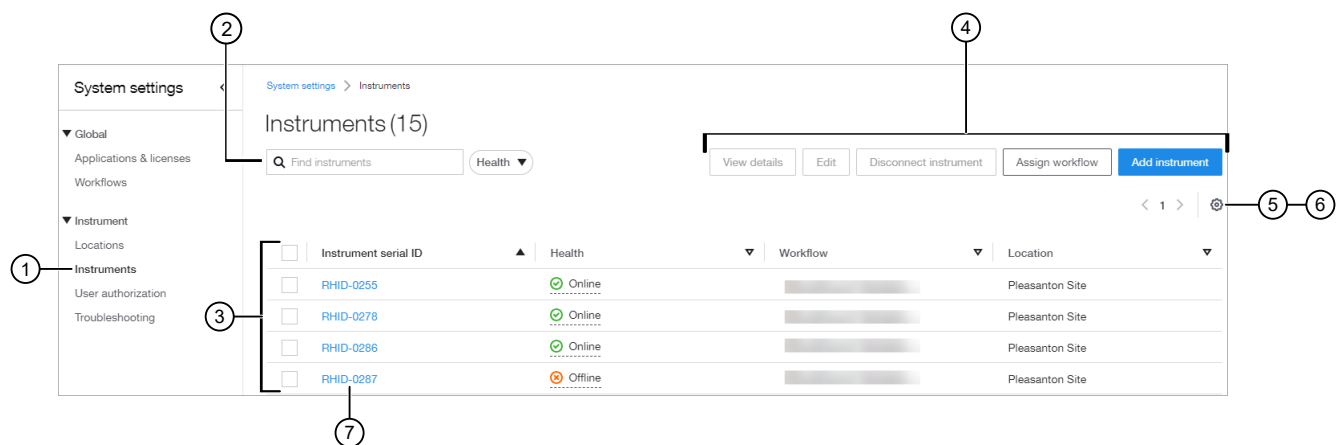


Figure 18 Instruments screen

- ① Opens the **Instruments** screen for managing RapidHIT™ ID instruments
- ② Search and filter tools (see “Filter tables (includes search)” on page 12)
- ③ Instruments table (see “Instruments table” on page 52)
- ④ Manage instruments:
 - “View instrument details (System settings dashboard)” on page 86
 - “Edit an instrument (System settings dashboard)” on page 87
 - “Disconnect an instrument (System settings dashboard)” on page 88
 - “Assign instruments to a workflow” on page 87
 - “Add an instrument (System settings dashboard)” on page 86
- ⑤ Scrolls through the instruments table, if the table spans multiple pages
- ⑥ Display preferences (see “Set display preferences for tables” on page 15)
- ⑦ Blue instrument serial ID—Active link that opens the **Instrument details** dialog box for viewing or editing the instrument information (see “View instrument details (System settings dashboard)” on page 86 or “Edit an instrument (System settings dashboard)” on page 87)

View instrument details (System settings dashboard)

1. Open the **Instruments** screen. See “View instruments (System settings dashboard)” on page 85.
2. Open the **Instrument details** dialog box.
In the instruments table, do one of the following to open the dialog box:
 - Select the checkbox for the instrument to view, then click **View details**.
 - Click the blue instrument serial ID (active link).

The **Instrument details** dialog box is displayed.

The dialog box provides the same information that is in the **<ID> instrument details** pane. See “<ID> instrument details pane” on page 58.

Add an instrument (System settings dashboard)

Before adding an instrument, ensure that the instrument location and the appropriate workflow are available in the RapidLINK™ Software. For more information, see “Add an instrument location” on page 83 and “Manage workflows” on page 68.

1. Open the **Instruments** screen. See “View instruments (System settings dashboard)” on page 85.
2. Click **Add instrument**.
3. Complete the **Add instrument** dialog box.

Item	Action
Instrument serial ID	Enter the RapidHIT™ ID instrument serial number (located on the back plate of the instrument). Note: After the instrument settings are saved, the serial ID cannot be changed.
Location	Select a location for the instrument. Note: If the location does not appear in the dropdown menu, the location has not been added yet. See “Add an instrument location” on page 83.
Workflow	Select a workflow for the instrument. Note: If needed, you can edit, duplicate, or import workflows. See “Manage workflows” on page 68.

4. Click **Add**.

The new instrument is added to the table, with a health status of **Never connected**. You must wait for a RapidHIT™ ID instrument user at the instrument location to initiate the connection.

After the RapidHIT™ ID instrument is connected, you will be able to see current information for the instrument in the RapidLINK™ Software, such as the instrument health, the instrument users, and the runs from the instrument.

Alternatively, you can add an instrument from the **Instruments** dashboard. See “Add an instrument (Instruments dashboard)” on page 52.

Edit an instrument (System settings dashboard)

1. Open the **Instruments** screen. See “View instruments (System settings dashboard)” on page 85.
2. Open the **Edit instrument** dialog box.
In the instruments table, do one of the following to open the dialog box:
 - Select the checkbox for the instrument to edit, then click **Edit**.
 - Click the blue instrument serial ID (active link). In the **Instrument details** dialog box, click **Edit**.
3. Complete the **Edit instrument** dialog box.

Item	Action
Instrument serial ID	NA You cannot edit the instrument serial ID.
Location	Select a location for the instrument. Note: If the location does not appear in the dropdown menu, the location has not been added yet. See “Add an instrument location” on page 83.
Workflow	Select a workflow for the instrument. Note: If needed, you can edit, duplicate, or import workflows. See “Manage workflows” on page 68.

4. Click **Update** to save your changes.

Alternatively, you can edit an instrument from the **<ID> instrument details** pane. See “Edit an instrument (<ID> instrument details pane)” on page 62.

Assign instruments to a workflow

Note: An instrument can be assigned to only one workflow at a time. Different instruments connected to the same RapidLINK™ Software instance can be assigned to different workflows. For example, Instrument 1 can be assigned to Workflow A, but Instrument 2 can be assigned to Workflow B.

1. Open the **Instruments** screen. See “View instruments (System settings dashboard)” on page 85.
2. Click **Assign workflow** to open the **Assign instruments to workflow** dialog box.
3. Select a workflow from the dropdown list. The workflow status must be **Active**.
4. Select the checkbox for each instrument to add to the selected workflow.
You can assign multiple instruments to an active workflow.
5. To remove instruments from a workflow, click **X** for each instrument to remove.
6. Click **Assign**.

If you want to change the workflow that is assigned to an instrument: Select a new workflow from the dropdown list, then select the instrument to assign.

Disconnect an instrument (System settings dashboard)

This procedure disconnects a RapidHIT™ ID instrument from the RapidLINK™ Software.

Note: You cannot use the RapidLINK™ Software to connect an instrument. Connection between a RapidHIT™ ID instrument and the RapidLINK™ Software must be initiated from the instrument.

1. Open the **Instruments** screen. See “View instruments (System settings dashboard)” on page 85.
2. Select the checkbox for the instrument to disconnect. You can select only one instrument at a time.
3. Click **Disconnect Instrument**.
4. In the **Disconnect instrument** dialog box, select () **Disconnect**, then click **Disconnect**.
5. Close the confirmation message.
The health state of the instrument changes to **Disconnected**.

Alternatively, you can disconnect an instrument in the following ways:

- Disconnect from the **Instruments** dashboard. See “Disconnect an instrument (Instruments dashboard)” on page 53.
- Disconnect from the **<ID> instrument details** pane. See “Disconnect an instrument (<ID> instrument details pane)” on page 61.

RapidHIT™ ID instrument user accounts: Manage users

The RapidLINK™ Software administrator has only limited management privileges for RapidHIT™ ID instrument users:

- Set the user status to **Active** or **Inactive**
- Configure user authorization for an instrument

Note: The RapidHIT™ ID instrument administrator has all management privileges for instrument users. For more information, see the *RapidHIT™ ID System v2.0 User Guide* (Pub. No. MAN0026593).

Note: For information on managing RapidLINK™ Software users, open the online help system from within the SAE Administrator Console software. See “Manage security and audit settings” on page 92.

RapidHIT™ ID instrument user accounts: View users

1. At the top-right of any screen, click ▼ next to your user name, then select **System settings** to display the **System settings** dashboard.
2. In the navigation pane, select **Instrument ▶ User authorization**.
By default, all instrument users for all RapidHIT™ ID instruments added to the RapidLINK™ Software are displayed in the user authorization table.
3. Depending on your user role permissions, you can use the screen tools to perform the functions shown in Figure 19.

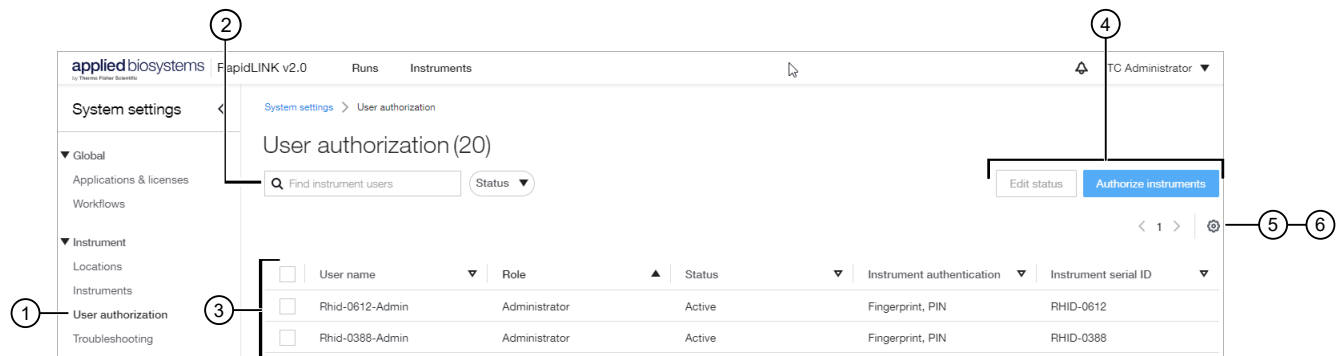


Figure 19 User authorization screen

- ① Opens the **User authorization** screen for managing RapidHIT™ ID instrument users
- ② Search and filter tools (see “Filter tables (includes search)” on page 12)
- ③ User authorization table (see “RapidHIT™ ID instrument user accounts: User authorization table” on page 89)
- ④ Manage user authorization:
 - Edit the status of a RapidHIT™ ID instrument user account (see “RapidHIT™ ID instrument user accounts: Activate or inactivate an account” on page 90)
 - Add or remove authorization for a RapidHIT™ ID instrument user (see “RapidHIT™ ID instrument user accounts: Authorize or deauthorize instruments” on page 91)
- ⑤ Scrolls through the user authorization table, if the table spans multiple pages
- ⑥ Display preferences (see “Set display preferences for tables” on page 15)

RapidHIT™ ID instrument user accounts: User authorization table

The information that is displayed varies, depending on your display preferences. See “Set display preferences for tables” on page 15.

Column	Description
User name	The name assigned to the RapidHIT™ ID instrument user and displayed in the software.
Role	The role assigned to the RapidHIT™ ID instrument user. User roles determine the functions that a user can perform on the instrument.

(continued)

Column	Description
Status	The status of the user account: • Active • Inactive Only users with active accounts can be authorized to use an instrument.
Instrument authentication	The method used to authenticate the user on the RapidHIT™ ID instrument: • Face ID (face scan) • Fingerprint • PIN
Instrument serial ID	The serial number of the RapidHIT™ ID instrument (located on the back plate of the instrument).

RapidHIT™ ID instrument user accounts: Activate or inactivate an account

1. Open the **User authorization** screen. See “RapidHIT™ ID instrument user accounts: View users” on page 89.

2. Select the checkbox for the user account to activate or inactivate. You can select only one account.

To activate or inactivate a user account, the user name must be unique. A triangle icon (⚠) next to a user name indicates that there is at least one other user with the same user name. You cannot change the user account until the duplication is resolved. Duplicate user names must be resolved from the RapidHIT™ ID instrument.

3. Click **Edit status** to open the **Edit status** dialog box.

Note: If a user already has an active account and is already authorized on some instruments, the instrument serial IDs are listed in the dialog box.

4. Activate or inactivate the user account.
 - Select  **Yes** to activate the user account. When a user account is active, the user can be authorized to use instruments. See “RapidHIT™ ID instrument user accounts: Authorize users for a single instrument” on page 63 or “RapidHIT™ ID instrument user accounts: Authorize or deauthorize instruments” on page 91.
 - Select  **No** to inactivate the user account. When a user account is inactive, the user is automatically deauthorized from all of their authorized instruments and cannot be authorized to use any other instruments.

5. Click **Save**.
The **Status** column updates according to your selection.

RapidHIT™ ID instrument user accounts: Authorize or deauthorize instruments

Authorizing a RapidHIT™ ID instrument for a user account allows the user to sign in to and use the instrument. Deauthorizing an instrument from a user account prevents the user from signing in to the instrument.

1. Open the **User authorization** screen. See “RapidHIT™ ID instrument user accounts: View users” on page 89.
2. Select the checkbox for the user account to change. You can select only one account.
To authorize or deauthorize instruments, the user account must meet the following criteria:
 - The user account status must be **Active**. See “RapidHIT™ ID instrument user accounts: Activate or inactivate an account” on page 90.
 - The user name must be unique. A triangle icon (⚠) next to a user name indicates that there is at least one other user with the same user name. You cannot change the user account until the duplication is resolved. Duplicate user names must be resolved from the RapidHIT™ ID instrument.
3. Click **Authorize instruments** to open the **Add user authorization** dialog box.
4. To authorize instruments, select the checkbox for each instrument to add. The user will be able to sign in to and use the added instruments.
5. To deauthorize instruments, click **X** for each instrument to remove. The user will not be able sign in to the removed instruments.
6. Click **Save**.

The **User authorization** table updates according to your selections:

- **Authorized users**—The serial ID and authentication methods are listed for the user's authorized instruments.
- **Deauthorized users**—No instrument serial IDs or authentication methods are listed for the user.

Note: The user status remains **Active**. To inactivate a deauthorized user, see “RapidHIT™ ID instrument user accounts: Activate or inactivate an account” on page 90.

Manage security and audit settings

The RapidLINK™ Software administrator for your laboratory uses the SAE Administrator Console to configure security and auditing for the RapidLINK™ Software and manage RapidLINK™ Software users.

Note: For information on using the SAE Administrator Console, see the online help system in the SAE Administrator Console software.

Access the SAE Administrator Console

1. At the top-right of any screen, click ▼ next to your user name, then select **System settings** to display the **System settings** dashboard.
2. In the navigation pane, click **Security and audit**.
The **SAE Administrator Console** sign-in screen is displayed.
3. Sign in with your RapidLINK™ Software administrator user name and password.

Note: For more information, see “RapidLINK™ Software administrator” on page 9.

Default user roles and permissions

Your user role determines the permissions that you have in the RapidLINK™ Software.

The default user roles and permissions for the RapidLINK™ Software are listed in Table 8 to Table 10.

IMPORTANT! The RapidLINK™ Software user accounts are independent of the RapidHIT™ ID instrument user accounts.

Table 8 RapidLINK™ Software default permissions

Permission	User role			
	Administrator	Supervisor	Analyst	Operator
Instruments dashboard				
Add instrument	Yes	Yes	No	No
Authorize users	Yes	Yes	No	No
Deauthorize users	Yes	Yes	No	No
Disconnect instrument	Yes	Yes	No	No
Download primary cartridge logs	Yes	Yes	Yes	No
Edit instrument	Yes	Yes	No	No
Export instruments grid	Yes	Yes	No	No
Export instruments runs grid	Yes	Yes	No	No

Table 8 RapidLINK Software default permissions (continued)

Permission	User role			
	Administrator	Supervisor	Analyst	Operator
Export instruments users grid	Yes	Yes	No	No
Remote access	Yes	Yes	No	No
View instrument details	Yes	Yes	Yes	Yes
Instruments				
Assign workflow	Yes	Yes	No	No
View details	Yes	Yes	Yes	Yes
Results Viewer				
Export all peaks table	Yes	Yes	Yes	No
Export quality table	Yes	Yes	Yes	No
Export user audit table	Yes	No	No	No
Runs dashboard				
Add or edit comments	Yes	Yes	Yes	No
Delete run	Yes	Yes	No	No
Export allele table	Yes	Yes	Yes	No
Export CMF	Yes	Yes	Yes	No
Export peak table	Yes	Yes	Yes	No
Export run	Yes	Yes	Yes	No
Export run logs	Yes	Yes	Yes	No
Export run grid	Yes	Yes	Yes	No
Export sample results report	Yes	Yes	Yes	No
Import sample	Yes	Yes	Yes	No
Move to review	Yes	Yes	Yes	No
Re-upload	Yes	Yes	Yes	No
Review sample in Results Viewer	Yes	Yes	Yes	No
View sample in Results Viewer	Yes	Yes	Yes	No
Troubleshooting				
Import error codes	Yes	Yes	No	No

Table 8 RapidLINK Software default permissions (continued)

Permission	User role			
	Administrator	Supervisor	Analyst	Operator
User authorization				
Authorize instruments	Yes	Yes	No	No
Edit instrument user status	Yes	Yes	No	No
Workflow				
Activate workflow	Yes	Yes	No	No
Deactivate workflow	Yes	Yes	No	No
Duplicate workflow	Yes	Yes	No	No
Edit workflow	Yes	Yes	No	No
Export workflow	Yes	Yes	No	No
Import workflow	Yes	Yes	No	No
View workflow	Yes	Yes	Yes	Yes

Table 9 SAE Administrator Console default permissions

Permission	User role			
	Administrator	Supervisor	Analyst	Operator
Security configuration				
Configure security and auditing	Yes	Yes	No	No
Audit history				
View action records	Yes	Yes	No	No
View system configuration records	Yes	Yes	No	No
View application object records	Yes	Yes	No	No
View instrument run records	Yes	Yes	No	No

Table 10 HID platform default permissions

Permission	User role			
	Administrator	Supervisor	Analyst	Operator
Applications				
Install application	Yes	No	No	No

Table 10 HID platform default permissions (continued)

Permission	User role			
	Administrator	Supervisor	Analyst	Operator
License				
Generate request file	Yes	No	No	No
Install license	Yes	No	No	No
Locations				
Add location	Yes	Yes	No	No
Delete location	Yes	Yes	No	No
Edit location	Yes	Yes	No	No

Audited actions

Users can view and download audit history reports, but cannot specify which actions are audited.

Category	Audited actions
Workflows	Export workflow
	Activate workflow
	Deactivate workflow
	Duplicate workflow
	Import workflow
	Edit workflow
Runs	Edit comment
	Import run
	Delete run
	Export CMF file
	Export peak table
	Export run
	Export run logs
	Export allele table
	Complete review
	Generate Sample results report

(continued)

Category	Audited actions
Runs	Move to review
	Re-upload
	Instrument run upload
Instruments	Add instrument
	Edit instrument
	Disconnect instrument
	Assign workflow
	Remote access
Locations	Add location
	Edit location
	Delete location
Instrument user authorization	Authorize instruments
	Edit instrument user status
	Authorize users
	Deauthorize users
RapidLINK™ Software users	Sign in success
	Sign out
	Sign in failure
	Change password
	EULA acceptance
	Install application
	Download primary cartridge logs
	Export allele table from the Results Viewer
	Export all peaks table from the Results Viewer
	Export quality table from the Results Viewer



Troubleshooting

■ Observation table	97
■ DX codes	100

Observation table

Note: For a complete list of known issues and limitations, see the RapidLINK™ Software v2.0 Release Notes.

Observation	Possible cause	Recommended action
The RapidLINK™ Software fails to open (before or after sign in)	There are issues with the browser or network.	1. Clear the browser cache, then close the browser. 2. Open the RapidLINK™ Software, then sign in.

Observation	Possible cause	Recommended action
When you initially open the RapidLINK™ Software page in your browser, then click the Security and audit link, the SAE page is blank	When the RapidLINK™ Software is initially set up, the Apache Tomcat service does not deploy the SAE service correctly.	In the Windows™ desktop, perform the following steps: 1. In the Windows™ search field, enter Services to locate and open the Services app. 2. Right-click the Apache Tomcat service, then select Stop. The Status column for the service should display Stopped. 3. Right-click the Apache Tomcat service again, then select Refresh. The Status column for the service should be empty. 4. Open the drive where the RapidLINK™ Software is installed, then navigate to the webapps folder. <pre><install drive> :\Thermo Fisher Scientific\HID-One\apache- tomcat-9.0.46\webapps</pre> 5. In the webapps folder, delete the admin-console folder. 6. Return to the Windows™ Services app. 7. Right-click the Apache Tomcat service, then select Start. The Status column for the service should display Running. 8. Wait for 10 minutes. 9. In your browser, open the RapidLINK™ Software in a new window, then try clicking the Security and audit link again.
(Rare occurrence) The RapidLINK™ Software displays only the menu bar	There are issues with the browser or network.	Sign out of the RapidLINK™ Software, then sign back in.
(Rare occurrence) A You have been signed out of the software banner message is displayed, but you can still use the software	You left your current software session inactive for a period of time, then began using the software again just before your session was about to terminate.	Manually close the banner message. You can continue using the software.

Observation	Possible cause	Recommended action
You are actively using the software, but are signed out without warning	The RapidLINK™ server time is out of sync with your laptop, causing a valid user session to expire prematurely.	Sync the clocks on the RapidLINK™ server and your laptop. In the Windows™ desktop, perform the following steps: 1. In the Windows™ search field, enter Settings to locate and open the Settings app. 2. Click Time & Language. 3. In the navigation pane, click Date & time. The Date & time screen shows when the time was last synced, and the address of the current time server. 4. Under Synchronize your clock, click Sync now.
Low Disk Space messages are displayed	If you are running low on disk space (≤20 GB of space left), the RapidLINK™ Software displays warning messages on screen and in the Notifications pane. For more information, see “View notifications (low disk space)” on page 16.	Clear unwanted files and data from the disk where the RapidLINK™ Software is hosted.
Expected items are not listed in a table Details: For example, a run is not listed in the runs table in the Runs dashboard.	A filter is applied to the table.	Remove the filter. See “Filter tables (includes search)” on page 12.
A run fails to export	There are issues with the server connection or network.	Try exporting the run again. See “Export run files” on page 43.
A run exports but files are missing (such as peak table and allele table files)	The run does not contain data (that is, the run failed to generate a DNA profile).	No action available.
During the manual import process, a run fails to import into the RapidLINK™ Software	The run folder may be corrupt (checksum validation fails).	Contact Technical Support.
	The run folder does not contain the required files.	Contact Technical Support.
	A workflow does not exist for the run.	Contact Technical Support.

Observation	Possible cause	Recommended action
A run fails to upload to the specified external location	The external location was not accessible. Various causes. For example: The external location no longer exists; write permissions were removed; credentials were changed; network connection issues to the external location; external location is running out of disk space.	Try each of the following actions, in the order given: • Check your network connections. • Ensure that the file location is accessible. • Upload the run again. See “Re-upload a run” on page 49. If the above steps fail, contact Technical Support.
A run has been started on the instrument, but there are no entries in the Incoming tab	There may be issues with the network.	Check the network connection between the RapidHIT™ ID instrument and the RapidLINK™ Software. If there are no network issues, the run will be uploaded to the RapidLINK™ Software as soon as the run completes and will be displayed in the appropriate tab.
The health status of a disconnected instrument displays Offline in the RapidLINK™ Software instead of Disconnected	A RapidHIT™ ID instrument user used the instrument software to disconnect the instrument when the network connection between the instrument and the RapidLINK™ Software was down.	To display the correct health status (Disconnected), an authorized user must use the RapidLINK™ Software to disconnect the instrument. See “Disconnect an instrument (<ID> instrument details pane)” on page 61 or “Disconnect an instrument (System settings dashboard)” on page 88.
Profile not generated error message is displayed when you click a sample ID in the Results Viewer	No profile was generated because the sizing quality is in the low quality range (the SQ flag = Low Quality  .	Contact Technical Support.
The Results Viewer freezes and you cannot perform operations on the trace	There are issues with the server connection or network.	In the browser toolbar, click  Reload this page .
DX code displayed in the Results Viewer Details: In the Results Viewer, RHID ERR : <DX code> is displayed above the trace, where <DX code> is a 2- to 4-digit code for the error.	An error occurred on the instrument during the run, and the instrument generated a DX code.	See “Troubleshoot DX codes” on page 101.

DX codes

DX codes are diagnosis codes for issues that may occur on a RapidHIT™ ID instrument.

The RapidLINK™ Software includes troubleshooting information for common DX codes.

Troubleshoot DX codes

A RapidHIT™ ID instrument may generate a DX code if an error occurs on the instrument during a run. In the RapidLINK™ Software Results Viewer, **RHID ERR : <DX code>** is displayed above the trace for critical DX codes.

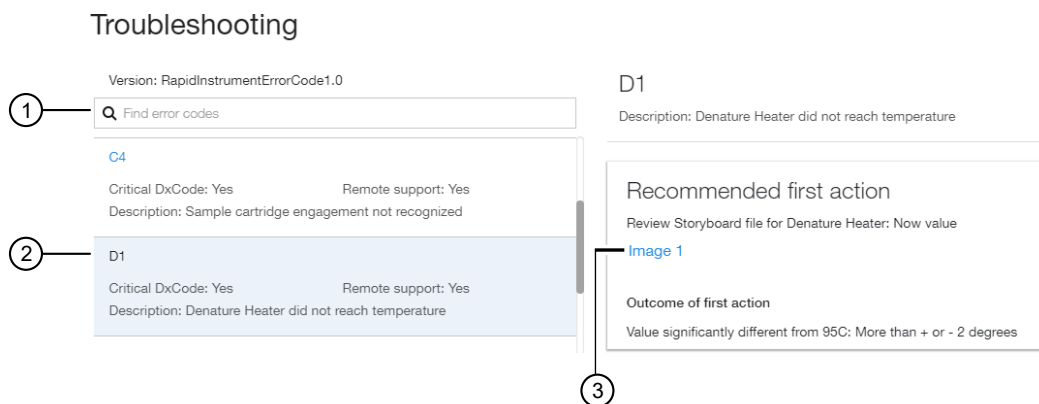
Note: <DX code> is a 2- to 4-digit code for the error.

Note: Critical DX codes cause a run to fail; non-critical DX codes indicate an error, but do not cause a run to fail. Only critical DX codes are displayed above the trace. Non-critical DX codes can be viewed in the run folder.

1. In the Results Viewer, take note of the DX code.
2. At the top-right of any screen, click ▼ next to your user name, then select **System settings** to display the **System settings** dashboard.
3. In the navigation pane, select **Instrument ▶ Troubleshooting**.
All default and imported DX codes are displayed in the **Troubleshooting** screen.
4. Search or scroll to locate and select the DX code.
A description of the DX code and recommended actions are displayed.

Note: Some DX codes include images in the recommended actions. Click the blue image number (active link) to open the image.

5. Perform the recommended actions in the order given.



- ① Search field
- ② DX code—Select to see the recommended actions at right
- ③ Blue image number—Active link that opens an image

IMPORTANT! Do not run additional samples until the issue that triggered the DX code has been resolved. For additional help, contact Technical Support (see page 126).

Import DX codes (ZIP file)

If Thermo Fisher Scientific updates the DX codes for the RapidHIT™ ID instrument, Technical Support will provide a ZIP file that contains all of the current DX codes. Follow this procedure to import the ZIP file.

1. At the top-right of any screen, click ▼ next to your user name, then select **System settings** to display the **System settings** dashboard.
2. In the navigation pane, select **Instrument ▶ Troubleshooting**.
3. In the **Troubleshooting** screen, click **Import error codes**.
4. In the **Import error codes** dialog box, click **Choose file**, then navigate to the appropriate location.
5. Select the ZIP file to import, then click **Open**.
The selected ZIP file is displayed in the dialog box.
6. Click **Import**.

If the import is successful, all current DX codes for the instrument are listed in the **Troubleshooting** screen.



Process Quality Value (PQV) flags

■ Sample-level PQV flags	103
■ Marker-level PQV flags	110

Process Quality Value (PQV) flags indicate the quality of data at the sample and marker levels. You can use PQV flags to quickly identify data-quality issues and help interpret samples that do not meet peak quality thresholds or samples that do not meet expected conditions (for example, a positive control does not contain the expected profile).

For a description of each flag, see “Sample-level PQV flags” on page 103 and “Marker-level PQV flags” on page 110.

Sample-level PQV flags

Sample-level flags appear above the trace in the Results Viewer.

Note: If **RHID ERR: <DX code>** is displayed above the trace, an error occurred on the RapidHIT™ ID instrument during the run, and the instrument generated a DX code. See “Troubleshoot DX codes” on page 101.

PQV flag		Cartridge type		See
		RapidHIT™ ID ACE GlobalFiler™ Express	RapidINTEL™ Plus	
CGQ	Composite genotype quality	Yes	Yes	“CGQ (Composite Genotype Quality) PQV flag (sample-level)” on page 105
DEG	Degraded	No	Yes	“DEG (Degraded) PQV flag (sample-level)” on page 106
INH	Inhibition	No	Yes	“INH (Inhibition) PQV flag (sample-level)” on page 106
MIX	Mixture	Yes	Yes	“MIX (Mixture) PQV flag (sample-level)” on page 106
QTL	Quantity—Large	No	Yes	“QTL (Quantity—Large) PQV flag (sample-level)” on page 108
QTS	Quantity—Small	No	Yes	“QTS (Quantity—Small) PQV flag (sample-level)” on page 108
SQ	Sizing quality	Yes	Yes	“SQ (Sizing Quality) PQV flag (sample-level)” on page 109
STO	Stochastic	No	Yes	“STO (Stochastic) PQV flag (sample-level)” on page 109

CGQ (Composite Genotype Quality) PQV flag (sample-level)

Indicates the overall genotype quality of the sample, positive control, negative control, or allelic ladder. The CGQ is determined differently for allelic ladders than for samples, positive controls, and negative controls.

Unless SQ fails, the CGQ flag is always displayed in the Results Viewer, regardless of the pass or fail status of the flag.

Note: Overriding the CGQ in the RapidLINK™ Software does not affect the RapidHIT™ ID instrument results or the instrument run logs.

Samples, positive controls, and negative controls

Considers the individual marker GQ (genotype quality) values.

Flag indicator	Description
Pass 	The GQ results for all markers pass the quality thresholds, or the CGQ results have been overridden (see “Sample: Override CGQ” on page 39).
Check 	The GQ results for at least one marker fall between fail and pass quality thresholds, and no marker GQ values are  . The DNA profile requires user review.
Low Quality 	The GQ results for at least one marker fail the quality thresholds (affected by marker-level PQV flags).
 ,  , or 	A user changed the GQ results for at least one marker, affecting the CGQ. See “Marker: Override GQ” on page 38.

Allelic ladders

Considers the allelic ladder quality, but does not consider individual marker GQ (genotype quality) values.

Flag indicator	Description
Pass 	The GQ results meet the allelic ladder quality requirements, or the original CGQ results have been overridden (see “Sample: Override CGQ” on page 39). Used for bin offsetting.
Low Quality 	One or more of the allelic ladder quality rules do not pass, which causes a  GQ and triggers the  CGQ. Not used for bin offsetting.
 ,  , or 	A user changed the GQ results for at least one marker, affecting the CGQ. See “Check for flags and changes made by other users” on page 33.

DEG (Degraded) PQV flag (sample-level)

Identifies samples that may contain degraded DNA.

DEG flag indicator	Description
	The ratio of the QQS-1 peak height (small quant marker) to the QQL-1 peak height (large quant marker) is >5: QQS-1:QQL-1 is >5  SQ: 1  CGQ  STO  INH  DEG  MIX QTS: 536 pg QTL: 53 pg
N/A (no flag is shown)	The ratio of the QQS-1 peak height (small quant marker) to the QQL-1 peak height (large quant marker) is ≤ 5: QQS-1:QQL-1 is ≤ 5

INH (Inhibition) PQV flag (sample-level)

Indicates samples that may contain a PCR inhibitor.

INH flag indicator	Description
	The ratio of the QQS-2 peak height (small IQC marker) to the QQL-2 peak height (large IQC marker) is >5: QQS-2:QQL-2 is >5  SQ: 1  CGQ  STO  INH  DEG  MIX QTS: 536 pg QTL: 53 pg
N/A (no flag is shown)	The ratio of the QQS-2 peak height (small IQC marker) to the QQL-2 peak height (large IQC marker) is ≤ 5: QQS-2:QQL-2 is ≤ 5

MIX (Mixture) PQV flag (sample-level)

Indicates a potential mixed-source sample. A sample is considered a potential mixture if it meets either of the following conditions:

- **Condition 1** — Two or more markers contain three or more called alleles
or
- **Condition 2:**
 - One or more markers contain three or more called alleles
and
 - Another two or more markers have  PHR

Flag indicator	Description
Pass 	Neither condition above is met.
Check 	Either or both conditions above are met, indicating a potential mixture.
 ,  , or 	A user changed at least one marker. See “Check for flags and changes made by other users” on page 33.
N/A	One of the following: - Sample type = Allelic ladder - A sample contains no labeled peaks

OMR (Outside Marker Range) PQV flag (sample-level)

Indicates if labeled peaks are detected between two marker size ranges defined in the panel. Does not indicate if labeled peaks are detected before the first marker or after the last marker.

Note: The default marker size ranges for neighboring markers do not overlap, but micro variants can occur between two markers.

Flag indicator	Description
Pass 	No labeled peaks that exceed the cut-off value are detected between marker size ranges.
Check 	One or more labeled peaks that exceed the cut-off value are detected between marker size ranges.
 or 	A user changed at least one marker. See “Check for flags and changes made by other users” on page 33.
N/A	Sample Type = Allelic Ladder

If an OMR peak is determined to be a true DNA peak, you can edit the label and assign the allele to a marker. See “Alleles and artifacts: Edit, add, or delete” on page 37.

QTL (Quantity—Large) PQV flag (sample-level)

Indicates the amount of DNA that is present in a sample. The quantity is calculated based on the large and small targets (see also “QTS (Quantity—Small) PQV flag (sample-level)” on page 108).

The quantity based on the large quantity target (QQL 1) is derived using a formula that converts the QQL 1 peak height to a quantity in picograms (pg). The specific formula was developed using internal validation data and cannot be modified by the user.

QTL value	Description
<n> Note: <n> is a numerical value in picograms (pg).	The QQL 1 peak is detected. The peak height in RFU is converted to a DNA quantity in picograms. The maximum value that can be observed for QTL is 1,600 pg. Values above this level are displayed as >1,600 pg.
ND (not determined)	The QQL 1 peak is not detected.

QTS (Quantity—Small) PQV flag (sample-level)

Indicates the amount of DNA that is present in a sample. The quantity is calculated based on the large and small targets (see also “QTL (Quantity—Large) PQV flag (sample-level)” on page 108).

The quantity based on the small quantity target (QQS 1) is derived using a formula that converts the QQS 1 peak height to a quantity in picograms (pg). The specific formula was developed using internal validation data and cannot be modified by the user.

QTS value	Description
<n> Note: <n> is a numerical value in picograms (pg).	The QQS 1 peak is detected. The peak height in RFU is converted to a DNA quantity in picograms.
ND (not determined)	The QQS 1 peak is not detected.

SQ (Sizing Quality) PQV flag (sample-level)

Evaluates the similarity between the fragment pattern for the size standard dye specified in the size standard definition and the actual distribution of size standard peaks in the sample, calculates an interim SQ (a value between 0 and 1) , then applies the broad peak weighting specified in the analysis method.

Note: The SQ flag is always displayed in the Results Viewer, regardless of the pass or fail status of the flag.

Flag indicator	Description
Pass 	The SQ is in the Pass range (0.75–1.0).
Check 	The SQ is between the Pass range and the Low Quality range (0.26–0.74).
Low Quality 	The SQ is in the Low Quality range (0.0–0.25). Note: The software does not genotype samples with  SQ.

STO (Stochastic) PQV flag (sample-level)

Assesses the likelihood of a sample having peak height imbalances <40% or allelic dropout. This assessment is based on the combined average peak height of a subset of larger STR loci (CSF1P0, D18S51, FGA, SE33, and D2S1338).

Note: The STO flag is always displayed in the Results Viewer.

STO flag indicator	Average peak height (loci subset)	Description
	>575 RFU	The combined average peak height of these loci is >575 RFU, which indicates that the sample is unlikely to have peak height imbalances or allelic dropout.
	>225 RFU but ≤575 RFU	The combined average peak height of these loci is between 226 and 575 RFU, which indicates that the sample is likely to have peak height imbalances but unlikely to have allelic dropout.
	≤225 RFU	The combined average peak height of these loci is ≤225 RFU, which indicates that the sample is likely to have allelic dropout.

Marker-level PQV flags

Marker-level PQV flags appear in the **Quality** tab of the Results Viewer. To view the flags, click the **Traceviewer info** tab, then click the **Quality** tab.

PQV flag		See
ACC	Amelogenin Cross Check	"ACC (Amelogenin Cross Check) PQV flag (marker-level)" on page 110
AN	Allele Number	"AN (Allele Number) PQV flag (marker-level)" on page 111
BD	Broad Peak	"BD (Broad Peak) PQV flag (marker-level)" on page 111
BIN	Out of Bin Allele	"BIN (Out of Bin Allele) PQV flag (marker-level)" on page 112
CC	Control Concordance	"CC (Control Concordance) PQV flag (marker-level)" on page 112
GQ	Genotype Quality	"GQ (Genotype Quality) PQV flag (marker-level)" on page 113
LPH	Low Peak Height	"GQ (Genotype Quality) PQV flag (marker-level)" on page 113
MPH	Max Peak Height	"MPH (Max Peak Height) PQV flag (marker-level)" on page 114
OS	Off Scale	"OS (Off-scale) PQV flag (marker-level)" on page 114
OVL	Overlap	"OVL (Overlap) PQV flag (marker-level)" on page 114
PHR	Peak Height Ratio	"PHR (Peak Height Ratio) PQV flag (marker-level)" on page 115
SPK	Spike	"SPK (Spike) PQV flag (marker-level)" on page 115

ACC (Amelogenin Cross Check) PQV flag (marker-level)

For analysis of samples that contain both Y and autosomal STRs.

Indicates if Amelogenin and Y marker results are concordant. The same flag is displayed across Amelogenin and all markers with the Y Marker checkbox selected in the Panel Manager.

Flag indicator	Description
Pass 	Sample or positive control contains the Amelogenin marker and one or more Y markers, and Amelogenin and all Y marker results are concordant
Check 	Amelogenin and one or more Y marker results are not concordant: - Amelogenin genotype is not X,Y (for example it is X,OL or OL,OL) - Amelogenin genotype is X or X,X but Y markers contain called or OL alleles - Amelogenin genotype is X,Y and one or more Y markers do not contain called or OL alleles

(continued)

Flag indicator	Description
N/A	- Negative control - Allelic ladder - Sample or positive control that does not contain the Amelogenin marker and at least one Y marker for the kit (for example, samples generated with the AmpFℓSTR™ Yfiler™ PCR Amplification Kit, which does not contain Amelogenin)
 or 	At least one label in the Amelogenin or Y markers was changed or the GQ was overridden. See “Alleles and artifacts: Edit, add, or delete” on page 37 or “Marker: Override GQ” on page 38.

AN (Allele Number) PQV flag (marker-level)

Indicates if the software detects the expected number of alleles within a marker size range.

Flag Indicator	Description
Pass 	One of the following: - At least one allele, but not more than the Max Expected Alleles, are detected for the marker. - The X allele is detected for the Amelogenin marker.
Check 	One of the following: - More than the Max Expected Alleles are detected for Autosomal and/or Amelogenin markers. - More than the Max Expected Alleles are detected for any marker specified as a Y marker. - No alleles are detected for Autosomal or Amelogenin markers. - No X allele is detected in Amelogenin.
 or 	At least one label in the marker was changed or the GQ was overridden. See “Alleles and artifacts: Edit, add, or delete” on page 37 or “Marker: Override GQ” on page 38.

BD (Broad Peak) PQV flag (marker-level)

Indicates if the width of any peak within a marker size range exceeds the maximum peak width (basepairs).

Broad peaks may be a result of dye artifacts or poor resolution. Peaks with poor resolution:

- May be caused by electrophoresis issues
- May not be true DNA peaks

Flag Indicator	Description
Pass 	No peaks exceed the maximum peak width threshold.
Check 	One or more peaks exceed the maximum peak width threshold.
 or 	At least one label in the marker was changed or the GQ was overridden. See “Alleles and artifacts: Edit, add, or delete” on page 37 or “Marker: Override GQ” on page 38.

BIN (Out of Bin Allele) PQV flag (marker-level)

Indicates if labeled peaks do not fall inside bins. These peaks are labeled with OL (off-ladder).

Flag Indicator	Description
Pass 	No labeled peaks are detected outside an offset bin.
Check 	One or more labeled peaks are detected outside an offset bin.
 or 	At least one label in the marker was changed or the GQ was overridden. See “Alleles and artifacts: Edit, add, or delete” on page 37 or “Marker: Override GQ” on page 38.

CC (Control Concordance) PQV flag (marker-level)

Indicates if a negative control or positive control produces the expected profile.

Flag Indicator	Description
Pass 	Negative control—No above threshold peaks detected.
	Positive control—Expected control profile detected.
Check 	Negative control—One or more above threshold peaks detected.
	Positive control—Expected control profile not detected.
 or 	At least one label in the marker was changed or the GQ was overridden. See “Alleles and artifacts: Edit, add, or delete” on page 37 or “Marker: Override GQ” on page 38.
—	The run was for a sample or an allelic ladder.

GQ (Genotype Quality) PQV flag (marker-level)

Indicates the genotype quality of an individual marker. The GQ is determined differently for allelic ladders than for samples, positive controls, and negative controls:

The GQ is used to determine the CGQ.

Samples, positive controls, and negative controls

Considers the individual marker GQ (genotype quality) values.

Flag indicator	Description
Pass 	One of the following: - The GQ is within Pass range (0.75–1.0). - The GQ was overridden (other PQV flags are gray if the GQ was overridden). See “Marker: Override GQ” on page 38.
Check 	The GQ is between Pass range and Low Quality range (0.26–0.74).
Low Quality 	The GQ is within Low Quality range (0.0–0.25). Note: Samples with  SQ are not genotyped and have a  GQ.

Allelic ladders

Considers the allelic ladder quality, but does not consider individual marker GQ (genotype quality) values.

Flag indicator	Description
Pass 	One of the following: - All allelic ladder quality requirements are met. - The GQ was overridden (other PQV flags are gray if the GQ was overridden). See “Marker: Override GQ” on page 38.
Low Quality 	One or more allelic ladder quality requirements are not met or the SQ for the sample is  .

LPH (Low Peak Height) PQV flag (marker-level)

Indicates if any peak heights (RFU) within a marker size range are below the following thresholds:

- Homozygous minimum peak height
- Heterozygous minimum peak height

Flag indicator	Description
Pass 	All detected peak heights are equal to or greater than the defined thresholds.
Check 	One or more peak heights are below the defined thresholds.
 or 	At least one label in the marker was changed or the GQ was overridden. See “Alleles and artifacts: Edit, add, or delete” on page 37 or “Marker: Override GQ” on page 38.

MPH (Max Peak Height) PQV flag (marker-level)

Indicates if any peak heights (RFU) within a marker size range exceed the maximum peak height (RFU).

Flag indicator	Description
Pass 	No peaks exceed the maximum peak height (RFU) value (all peak heights are less than or equal to the threshold).
Check 	One or more peaks exceed the maximum peak height (RFU) value.
 or 	At least one label in the marker was changed or the GQ was overridden. See “Alleles and artifacts: Edit, add, or delete” on page 37 or “Marker: Override GQ” on page 38.
N/A	No peaks are detected.

OS (Off-scale) PQV flag (marker-level)

Indicates if any fluorescence signal within a marker size range exceeds the detection threshold of the instrument.

Flag Indicator	Description
Pass 	No fluorescence signals exceed the detection limit of the instrument.
Check 	One or more fluorescence signals exceed the detection limit of the instrument.
 or 	At least one label in the marker was changed or the GQ was overridden. See “Alleles and artifacts: Edit, add, or delete” on page 37 or “Marker: Override GQ” on page 38.

OVL (Overlap) PQV flag (marker-level)

Indicates if a labeled peak (allele or artifact) is within the size ranges of two neighboring markers.

Flag indicator	Description
Pass 	No labeled peaks are detected within overlapping marker size ranges.
Check 	One or more labeled peaks are detected within overlapping marker size ranges.
 or 	At least one label in the marker was changed or the GQ was overridden. See “Alleles and artifacts: Edit, add, or delete” on page 37 or “Marker: Override GQ” on page 38.

PHR (Peak Height Ratio) PQV flag (marker-level)

Indicates if the peak height ratio between the lowest and highest peaks within a marker size range is less than the minimum peak height ratio.

Flag indicator	Description
Pass 	The peak height ratio calculated between the lowest and highest peaks is equal to or greater than the minimum peak height ratio threshold.
Check 	The peak height ratio calculated between the lowest and highest peaks is less than the minimum peak height ratio threshold.
 or 	At least one label in the marker was changed or the GQ was overridden. See “Alleles and artifacts: Edit, add, or delete” on page 37 or “Marker: Override GQ” on page 38.
N/A	Only one peak is labeled.

SPK (Spike) PQV flag (marker-level)

The software uses a proprietary algorithm that detects spikes based on the peak morphology.

- **Allelic Ladders**—Indicates if spikes are detected within each extended marker range (no gaps are present between markers; the end point of each marker is extended past the marker definition in the panel to the beginning of the next marker).
- **Samples, positive controls, and negative controls**—Indicates if spikes are detected within a marker size range.

Flag indicator	Description
Pass 	One of the following: • No spikes are detected within the range. • One or more spikes, but no alleles, are detected within the range for Sample Type = Sample.
Check 	One or more spikes are detected within the range.
 or 	At least one label in the marker was changed or the GQ was overridden. See “Alleles and artifacts: Edit, add, or delete” on page 37 or “Marker: Override GQ” on page 38.
N/A	One of the following: • PQV does not apply to the marker. • One or more spikes are detected within the range for Sample Type = Negative Control.

Note: If a user changes an allele label to a **Spike** label, the peak is considered an artifact and is not added to the **Quality** tab. See “Alleles and artifacts: Edit, add, or delete” on page 37.



RapidLINK™ Configuration Utility v2.0

■ Before you begin	116
■ Open the utility	117
■ Configure the server settings	117
■ Back up the RapidLINK™ Software v2.0 database	118
■ Enable port access	120
■ Ensure that the ports and certificate have been changed	124

Use RapidLINK™ Configuration Utility v2.0 to back up and restore the RapidLINK™ Software v2.0 database, and to configure the IT server settings.

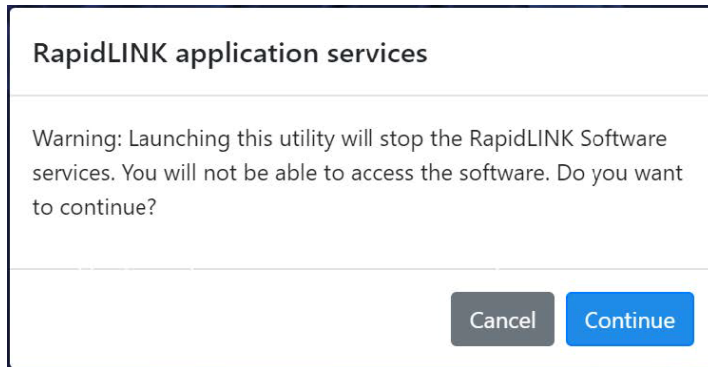
Before you begin

- The procedures in this appendix should be performed by the RapidLINK™ Software administrator or IT administrator for your laboratory.
- To access the RapidLINK™ Configuration Utility, the administrator must physically sign in to the computer that is hosting the RapidLINK™ server.



Open the utility

1. Ensure that all users are signed out of the RapidLINK™ Software.
2. In the desktop of the computer where RapidLINK™ Software v2.0 is installed, double-click  to open RapidLINK™ Configuration Utility v2.0.
3. In the **RapidLINK application services** warning message , click **Continue**.



Configure the server settings

1. In the utility, click the **Server settings** tab (default selection).
2. Enter a valid port number in one or both port fields.
 - **Application port** field—Enter the port number to connect the to the RapidLINK™ server. The default value is **8082**.
 - **SAE administrator console port** field—Enter the port number to connect the SAE Administrator Console to the RapidLINK™ server. The default value is **8443**.

Note: The utility does not accept ports that are currently in use or ports that are reserved by the RapidLINK™ Software. Currently, only the database port **5432** is reserved.

Note: The Windows™ Defender Firewall may block the ports when accessed outside of the server. To enable port access, see [page 120](#).

3. Consult your IT administrator for advice on changing the **Certificate path** and **Password for private key** fields.
4. Click **Save**.



RapidLINK Software V2.0 services

Server settings Data backup

Application port
8082

SAE administrator console port
8443

Certificate path
 Browse

Password for private key - optional

Save

Back up the RapidLINK™ Software v2.0 database

1. In the utility, click the **Data backup** tab.
2. In the **Database**, **Data Manager**, and **SAE Database location** fields, ensure that the correct locations are selected.
3. Click **Browse**, then navigate to a save location for the data backup.
4. Click **Backup now** to start the backup.
A progress bar displays the status. When the backup is complete, a ZIP file that contains the backed up data appears in the selected save location.

Note: The backup may take several minutes to complete, depending on the size of the database.

5. *(If needed)* To restore data from the backup, open the ZIP file, then locate the **readme.txt** file. The file contains instructions to restore the data.



RapidLINK Software V2.0 services

Server settings

Data backup

Source locations

Database location

C:\Thermo Fisher Scientific\HID-One\system\db\PostgreSQL

Data manager location

C:\Thermo Fisher Scientific\HID-One\app\repo

SAE database location

C:\Thermo Fisher Scientific\HID-One\system\db\sae_database

Backup location

C:\backup

Browse

Backup in progress (Please do not close window when backup is in progress)

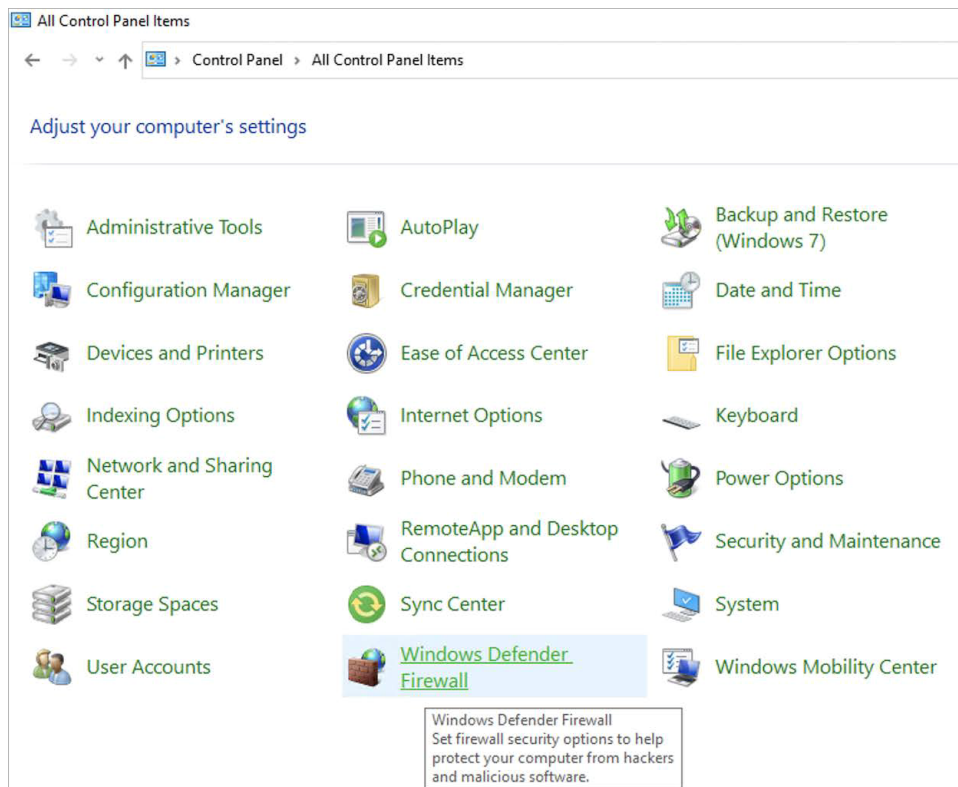
Backup now



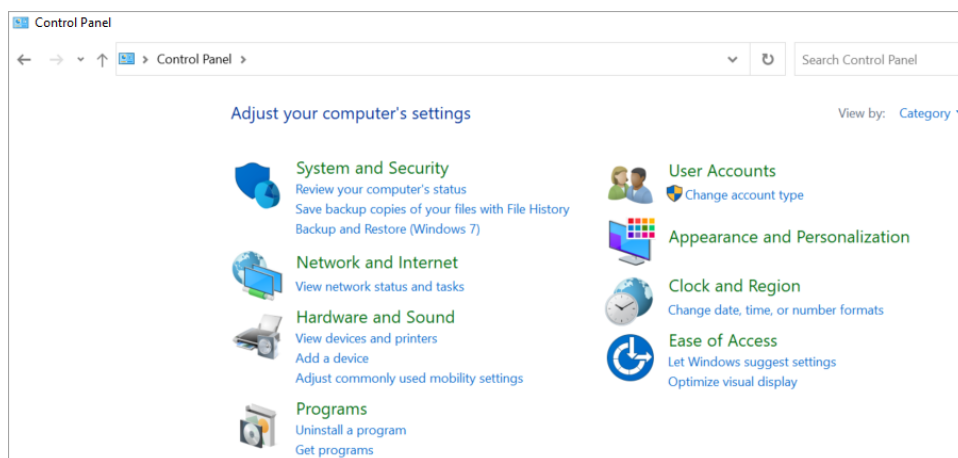
Enable port access

When accessed outside the server, the Windows™ Defender Firewall may block port access. Follow this procedure to enable port access.

1. In the desktop, open the **Control Panel**, then click **Windows Defender Firewall**.



Note: If you see the screen below instead, click **System and Security**, then click **Windows Defender Firewall**.



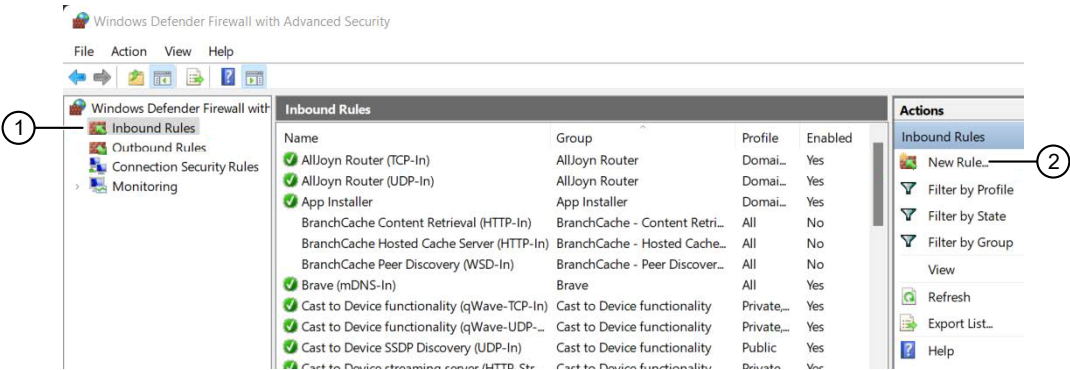


2. Click **Advanced settings**.



① Advanced settings

3. Click the **Inbound Rules**, then click **New Rule**.

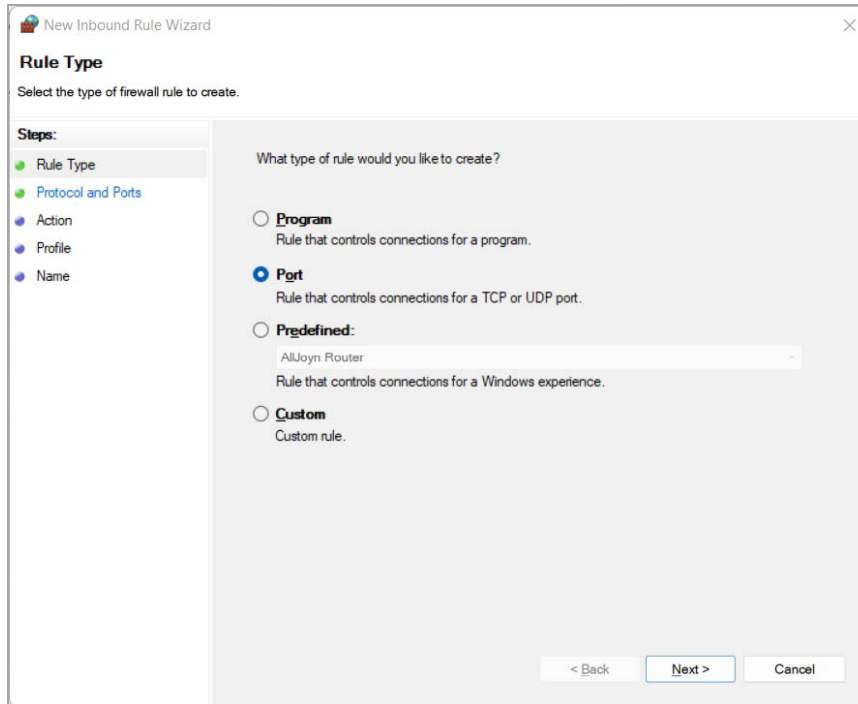


① Inbound Rules

② New Rule



4. In the **Rule Type** dialog box, select **Port**, then click **Next**.



5. Complete the **Protocol and Ports** dialog box.
 - a. Select **TCP**.
 - b. In the **Specific local ports** field, enter the application port and the SAE Administrator Console port, separated by a comma.



c. Click **Next**.

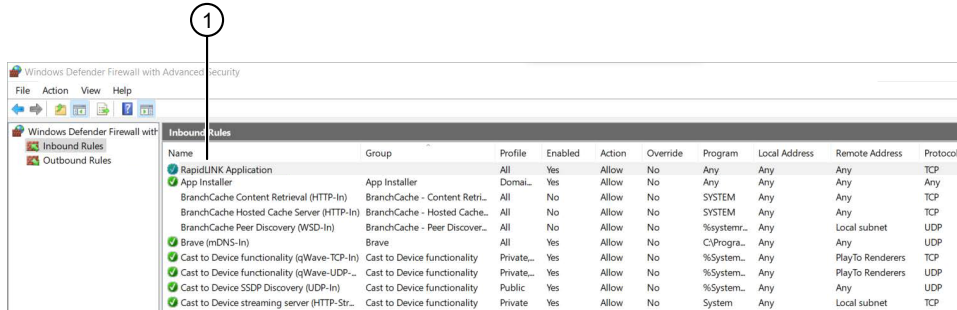
The screenshot shows the 'New Inbound Rule Wizard' window at the 'Protocol and Ports' step. The left sidebar lists the steps: Rule Type, Protocol and Ports (selected), Action, Profile, and Name. The main area contains two questions: 'Does this rule apply to TCP or UDP?' with radio buttons for TCP (selected) and UDP, and 'Does this rule apply to all local ports or specific local ports?' with radio buttons for All local ports and Specific local ports (selected). A text box next to 'Specific local ports' contains '2007, 2008' with an example '80, 443, 5000-5010' below it. At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

6. In the **Profile** dialog box, select the **Domain**, **Private**, and **Public** checkboxes, then click **Next**.

The screenshot shows the 'New Inbound Rule Wizard' window at the 'Profile' step. The left sidebar lists the steps: Rule Type, Protocol and Ports, Action, Profile (selected), and Name. The main area contains the question 'When does this rule apply?' with three checked checkboxes: Domain (Applies when a computer is connected to its corporate domain.), Private (Applies when a computer is connected to a private network location, such as a home or work place.), and Public (Applies when a computer is connected to a public network location.). At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

7. In the **Name** dialog box, enter a name for the new rule and (*optional*) a description, then click **Finish**.

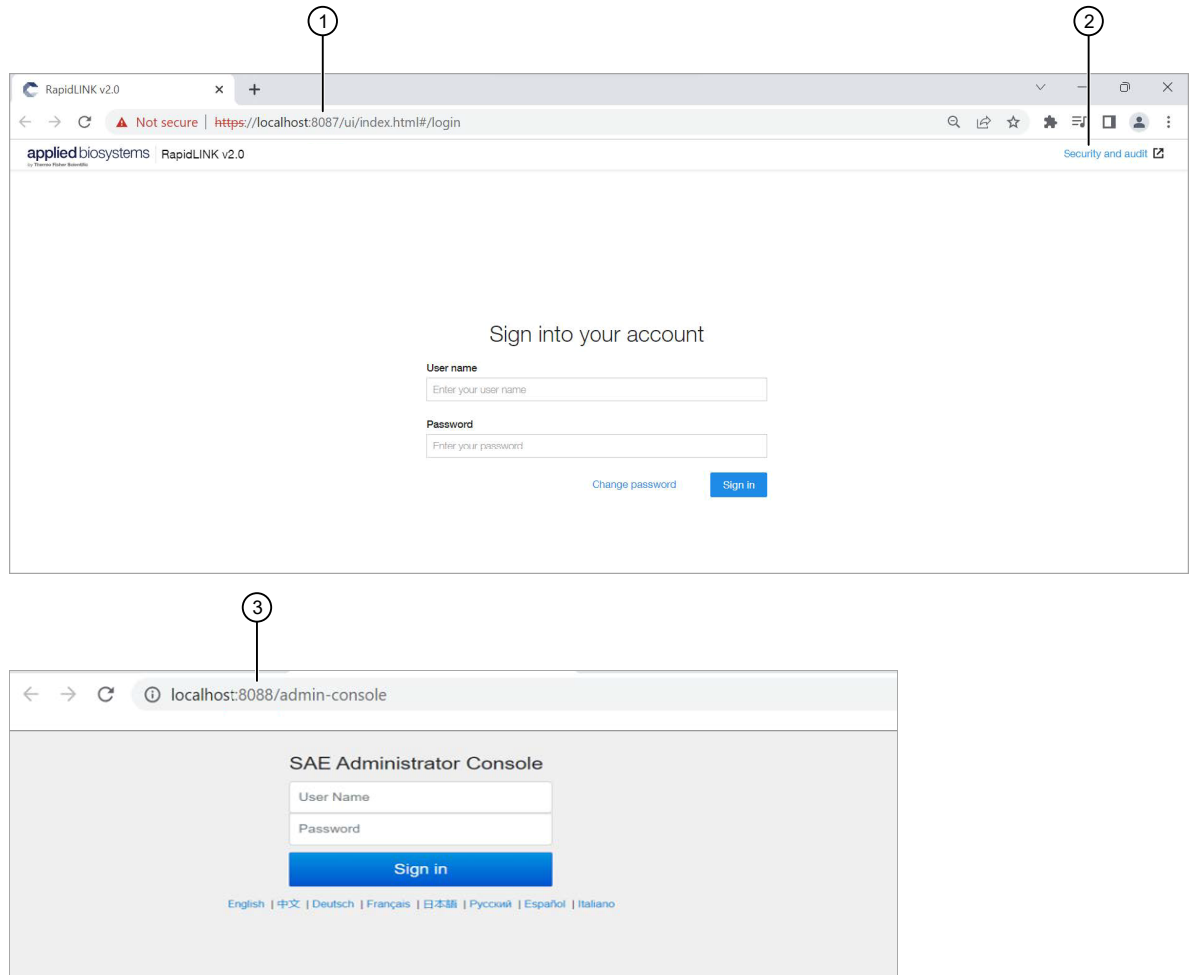
The new rule appears in the **Inbound Rules** list.



① New rule is listed

Ensure that the ports and certificate have been changed

1. If the RapidLINK™ Configuration Utility v2.0 is open, click **X** to close it.
2. Ensure that RapidLINK Services is running.
3. In the desktop, click  to open RapidLINK™ Software v2.0.
The software opens in your default browser.
4. Ensure that the ports have changed.
 - **Application port**—The port number is displayed in the RapidLINK™ Software URL.
 - **SAE administrator console port**—In the top-right of the RapidLINK™ Software sign in page, click **Security and audit**. The port number is displayed in the SAE Administrator Console URL.

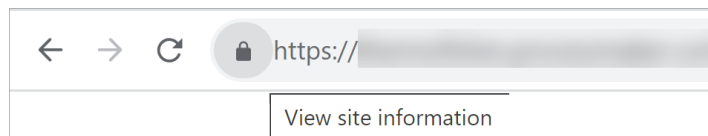


The ports shown are examples only—your port numbers may be different.

- ① New application port (RapidLINK™ Software URL)
- ② Opens the SAE Administrator Console
- ③ New SAE port (SAE Administrator Console URL)

5. Ensure that the certificate has changed.

- a. In the left side of the address (URL) bar, click (View site information).



- b. In the dropdown list, click next to **Certificate is valid** to view information about the certificate.



Documentation and support

■ Related documentation	126
■ Customer and technical support	126
■ Limited product warranty	127

Related documentation

Document	Publication number
<i>RapidHIT™ ID System v2.0 User Guide</i>	MAN0026593
<i>RapidINTEL™ Plus Sample Cartridge User Bulletin</i>	MAN0026595
<i>RapidLINK™ Matching Suite Software v1.0 User Guide</i>	MAN0030052
<i>RapidLINK™ Software v2.0 User Guide</i>	MAN0030010
<i>SmallPond™ DNA Matching System Installation and Setup Guide</i>	MAN0025091
<i>Technical Note: Artifacts Identified Post-Developmental Validation: RapidHIT™ ID ACE GlobalFiler™ Express and RapidINTEL™ Sample Cartridges</i>	Go to thermofisher.com , then search for the technical note by title, or contact your local Human Identification representative.

Customer and technical support

For support:

- **In North America**—Send an email to HIDTechSupport@thermofisher.com, or call **888-821-4443 option 1**.
- **Outside North America**—Contact your local support office.

For the latest services and support information for all locations, go to [thermofisher.com/support](https://www.thermofisher.com/support) to obtain the following information.

- Worldwide contact telephone numbers
- Product support
- Order and web support
- Safety Data Sheets (SDSs; also known as MSDSs)

Additional product documentation, including user guides and Certificates of Analysis, are available by contacting Customer Support.



Limited product warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale at www.thermofisher.com/us/en/home/global/terms-and-conditions.html. If you have any questions, please contact Life Technologies at www.thermofisher.com/support.

