

## User Guide



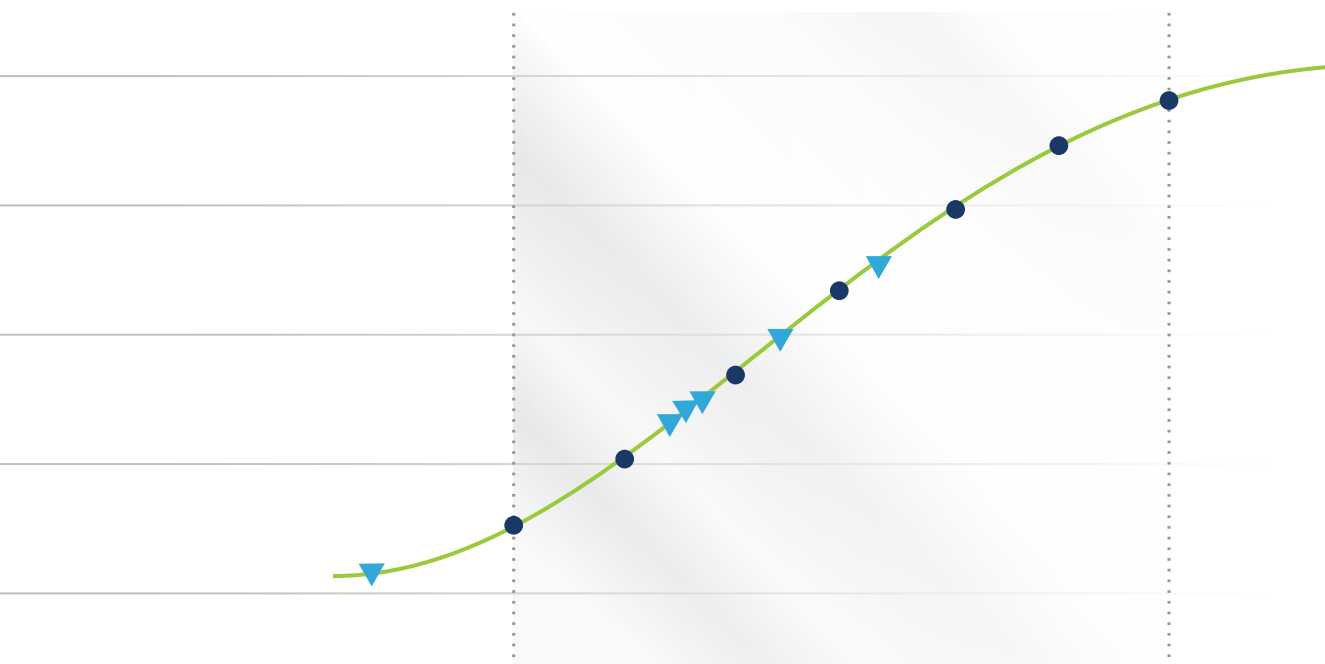
# Quantist

Data Analysis Software

PL2-0016

Rev B | April 2026

**R&D**SYSTEMS<sup>™</sup>  
a biotechnne<sup>®</sup> brand



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# Quantist Data Analysis Software

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PL 2-0016

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### Contents

- 1.0 Install Quantist 2.0 .....4
- 2.0 Data Analysis: Using Quantist Software .....6
  - Import Data Files from xPonent or Other Software .....6
  - Confirm or Make Well Assignments .....8
  - Data Quality Check .....10
  - Multi-Analyte Results .....13
  - Export Options.....15
- 3.0 Undo/Redo.....15
- 4.0 Uninstall Quantist.....15

Minimum Software Requirements	
Processor	3.0 GHz i7 - 6th gen.
RAM	8 GB
Hard Drive	256 GB
Operating System	Windows 11
Screen Resolution	1600x900 24 bit color

## 1.0 Install Quantist 2.0

*Note: Uninstall current version of Quantist from computer before installing new version. Instructions to uninstall software are at the end of this User Guide.*

1. Download Quantist software and install it on your computer. A Quantist licensing window will appear the first time you use the software.
2. Each software license is available for use on one computer only. Multiple users on the same computer will be able to access Quantist.
3. If you do have a license, skip to step 9.

If you do not have a license select License Request. Fill out the form and choose Evaluation License or a Full License.

Complete and save the form on the computer the software will be installed on.

The screenshot shows the 'Request / Install Quantist™ License' window. At the top left is the Quantist logo. To its right, 'License Type:' is set to 'None' and 'License Status:' is 'No License' in red. Below these are two buttons: 'License Request (Full or Evaluation)' and 'Install License File'. Underneath are 'Evaluation Extension Request' buttons and a note: 'Email all license requests to [software.licensing@bio-techne.com](mailto:software.licensing@bio-techne.com)'. At the bottom, it says 'Please allow up to 1 business day for processing of Quantist License Requests' and includes the bio-techne logo and contact information: [bio-techne.com](http://bio-techne.com), [techsupport@bio-techne.com](mailto:techsupport@bio-techne.com), and 1-800-343-7475.

4. Quantist will generate a license request (.req) file.



QuantistLicens  
eRequest\_20  
220323\_0639  
41.req

5. Email the request to:  
[software.licensing@bio-techne.com](mailto:software.licensing@bio-techne.com)
6. You will receive a license within 1 business day.
7. Save the license on the computer used to request it. Choose the file location that works for you. Make sure that you are able to navigate to the license via the Quantist software.

This screenshot shows the same 'Request / Install Quantist™ License' window but with 'License Type:' set to 'Full' and 'License Status:' set to 'Valid License' in green. A blue arrow points to the 'Install License File' button. The rest of the interface, including the bottom contact information, remains the same.

8. After you have received the license, open Quantist software. The licensing window will appear.
9. Select Install License File.
10. Navigate to the license that you saved on the computer and select it. Your copy of Quantist is now licensed. The License Type window will say "Full" or "Evaluation". The license status will say Valid License. You can close this window if it does not automatically.

# Installation Continued

Quantist compatible filetypes:

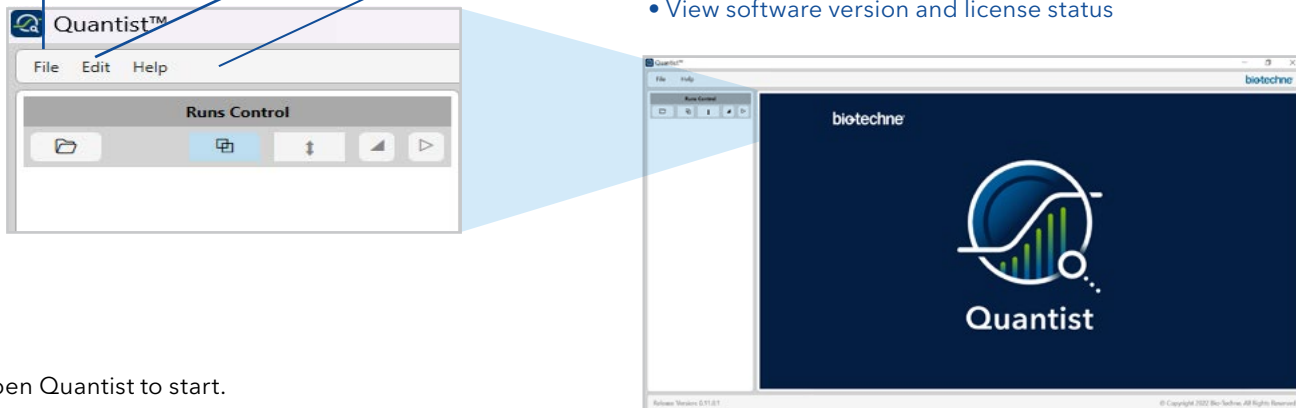
- CSV files
- Quantist files

Select **Edit** to:

- Undo (Ctrl + Z)
- Redo (Ctrl + Y)

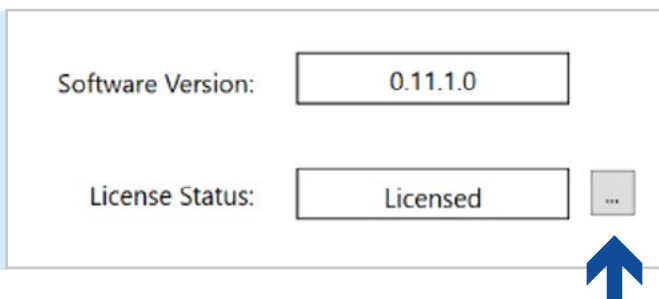
Select **Help** to:

- Download the Quantist User Guide
- Generate a Quantist diagnostic file
- View software version and license status



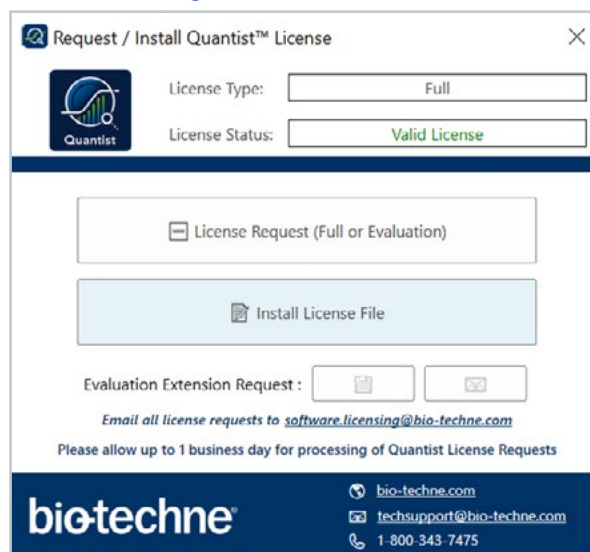
11. Open Quantist to start.
12. Select Help > About to view the software version and license status.
13. Click "..."

## Help > About Software





14. If moving from an Evaluation License to a Full License, repeat Steps 3-10 and reference your Sales Order number when filling out License Request form.

## Software Licensing Window



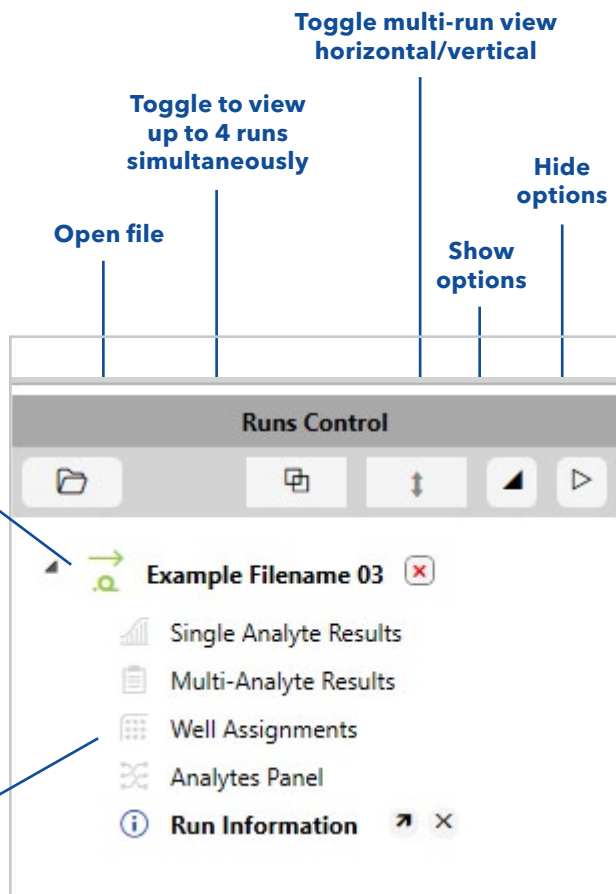
# How to Utilize the Runs Control Window

- Run File Icon**
- Quantist File  
 Green indicate an active file. Displays are showing details related to this file's options.
  - Luminex® xPONENT® files  
 Grey icons are inactive. Click a grey icon to make active.
  - Click X to completely close the .CSV or .Quantist file.



## File Options

- File Inactive (click to activate)  
File Option Inactive
  - File Active  
File Option Inactive (click to activate)
  - File Active  
File Option Active
- An active option has related window pane(s) displaying customizable details.

- Open option's display pane
- Close display pane



## 2.0 Data Analysis Using Quantist Software

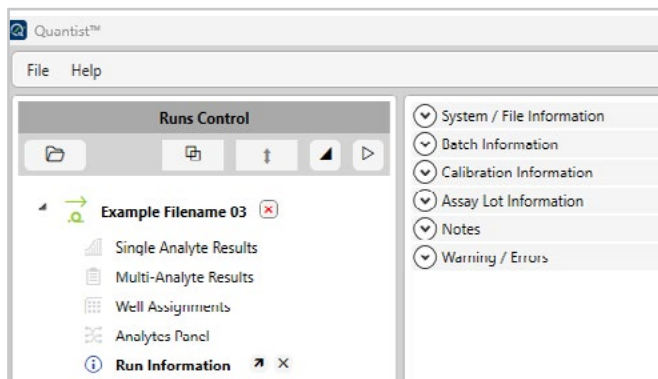
- Launch Quantist software.
  - Import CSV or Quantist files:  
 Drag and drop file into the Runs Control window or  
 File > Open Runs.
  - Green file icons are active.  
 Grey file icons are inactive.
- Quantist file icon:  Luminex® xPONENT® file icon: 
- Shift + click to select multiple files from a folder.
  - Quantist imports up to 50 CSV files.  
 Imported files will appear in the left column/window.

## Run Information

6. Select **Run Information** for an overview of each file.

Click a section header to expand or collapse.

Notes section is an editable field to add any run notes.

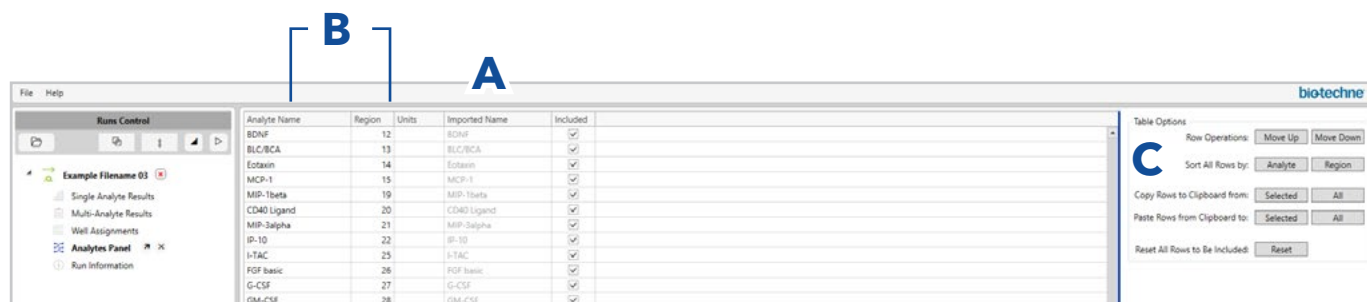


## Analytes Panel

7. To begin, select **Analytes Panel** to confirm or update analyte assignment to bead region.
  - A. The Analyte name and Units columns are editable. Toggle the "included" box to include the target analyte/bead region or not.
  - B. Select the Analyte Name or Bead Region column headers to arrange columns in alphabetical or numerical order, respectively.

C. Use the right panel (Table Options)

- Move target analyte up or down
- Sort rows by analyte or bead region
- Set units for selected rows
- Copy rows to or from clipboard
- Reset all rows to be included



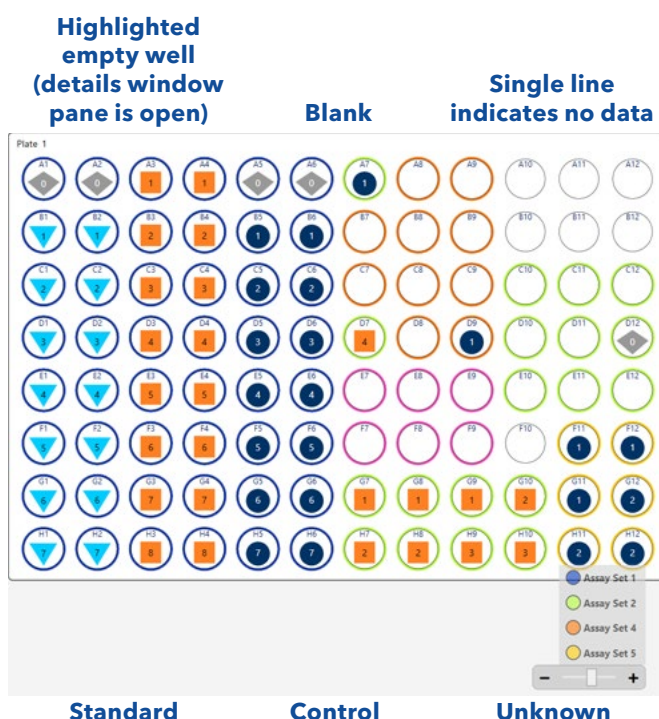
# Modify Well Plate Details

## Assign Wells

1. Highlight desired wells  
contiguous area: shift + click  
discontiguous areas: ctrl + click
2. With well(s) highlighted (light green),  
click the tool bar legend to assign type
3. Active wells are indicated with double line.  
To edit details of a well see windows to right side.

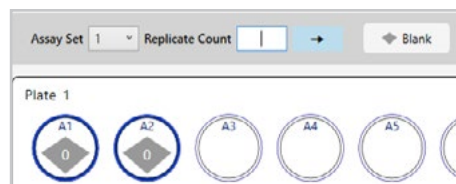
## Clear wells

1. Select the well(s)
2. Click the trash can icon



## Well Assignments

to: 7. **Assign blank wells:**  
Blank wells are indicated with a grey diamond.  
Blanks will be detailed in the rightmost window.



Assay Set	Use	Group	Sample Name	Dilution Factor	BDNF	BLC/BCA	Eotaxin	MCP-1	MIP-1beta	CD40 Ligand	MIP-3alpha	IP
1	Blank	0	Background0									

## 8. Assign Standards:

- A. Set the replicate number in the Replicate Count field of the center window.
- B. Toggle the arrow vertical or horizontal to choose the direction of replicates.
- C. Highlight wells that contain standards.
- D. Click Standard.  
Blue circles will appear in selected wells.  
Numbers in blue circles indicate which standard is in each well.

- E. Use the right window to set the highest standard.  
High To Low (Lowest Number is the High Standard). Low To High (The highest number is the High Standard).

The serial dilution will automatically populate based on the highest standard and the standard divisor. Serial Dilution is recalculated when a standard is deleted. Except for the case of the High Standard being deleted.

Use the Standard Divisor window to set the standard serial dilution. If no divisor is entered, you can manually enter the serial dilution series for each analyte.

- F. Otherwise, the highest standard must be entered for each analyte.



Assay Set 1 Replicate Count 2 → Blank Standard

Plate 1

A1	A2	A3	A4	A5	A6	A7	A8	A9
0	0							
B1	B2	B3	B4	B5	B6	B7	B8	B9
1	1							
C1	C2	C3	C4	C5	C6	C7	C8	C9
2	2							

Assay Set 1 Standard Divisor 3 High To Low

Assay Set	Use	Group	Sample Name	Dilution Factor	BDNF	B
1	Blank	0	Background0			
1	Standard	1	Standard1			
1	Standard	2	Standard2			
1	Standard	3	Standard3			
1	Standard	4	Standard4			
1	Standard	5	Standard5			
1	Standard	6	Standard6			
1	Standard	7	Standard7			



## 9. Assign Controls:

- Set replicate number at the top left of the center window.
- Toggle the direction of replicates using the arrow.
- Highlight the control wells.

- Select control.
- Orange squares will appear in each of the selected wells. The controls will appear in the right window.
- Add the concentration for each set of control replicates for each analyte.

Replicate Count 2 → Blank Standard Control

Plate 1

A1	A2	A3	A4	A5	A6	A7	A8	A9
0	0	1	1					
B1	B2	B3	B4	B5	B6	B7	B8	B9
1	1	2	2					

Use	Group	Sample Name	Dilution Factor	BAFF/BLyS/TNFSF513B	CCL2/IE/MCP-1	CCL3/1
Blank	0	Background0				
Control	1	Control1				
Control	2	Control2				
Standard	1	Standard1				
Standard	2	Standard2				
Standard	3	Standard3				



## 10. Assign Unknowns:

- Set replicate number at the top left of the center window.
  - Assign Unknown wells.
- Blue triangles will appear in each selected well. Details of Unknown wells is open at right.

If the same dilution factor exists for multiple samples, highlight all applicable wells, type in dilution, and press enter.

- Add dilution factor for unknowns in right column.

Assay Set 1 Replicate Count 2 → Blank Standard Control Unknown

Plate 1

A1	A2	A3	A4	A5	A6	A7	A8	A9
0	0	1	1					
B1	B2	B3	B4	B5	B6	B7	B8	B9
1	1	2	2					
C1	C2	C3	C4	C5	C6	C7	C8	C9
2	2	3	3					
D1	D2	D3	D4	D5	D6	D7	D8	D9
3	3	4	4					

Assay Set	1	Standard Divisor	3	High To Low			
Assay Set	Use	Group	Sample Name	Dilution Factor	BDNF	BLC/BCA	Eotaxin
1	Blank	0	Background0				
1	Control	1	Control1				
1	Control	2	Control2				
1	Standard	1	Standard1				
1	Standard	2	Standard2				
1	Standard	3	Standard3				
1	Standard	4	Standard4				
1	Standard	5	Standard5				
1	Standard	6	Standard6				
1	Standard	7	Standard7				
1	Unknown	1	Unknown1				
1	Unknown	2	Unknown2				

## 11. Assign Multiple Assay Sets

- Highlight wells in Assay Set.
- Click Assay Set drop down to add new assay set.
- Assigned wells will highlight blue for Assay Set 1, green for Assay Set 2, pink for Assay Set 3, orange for Assay Set 4, and yellow for Assay Set 5.

# DATA QUALITY CHECK

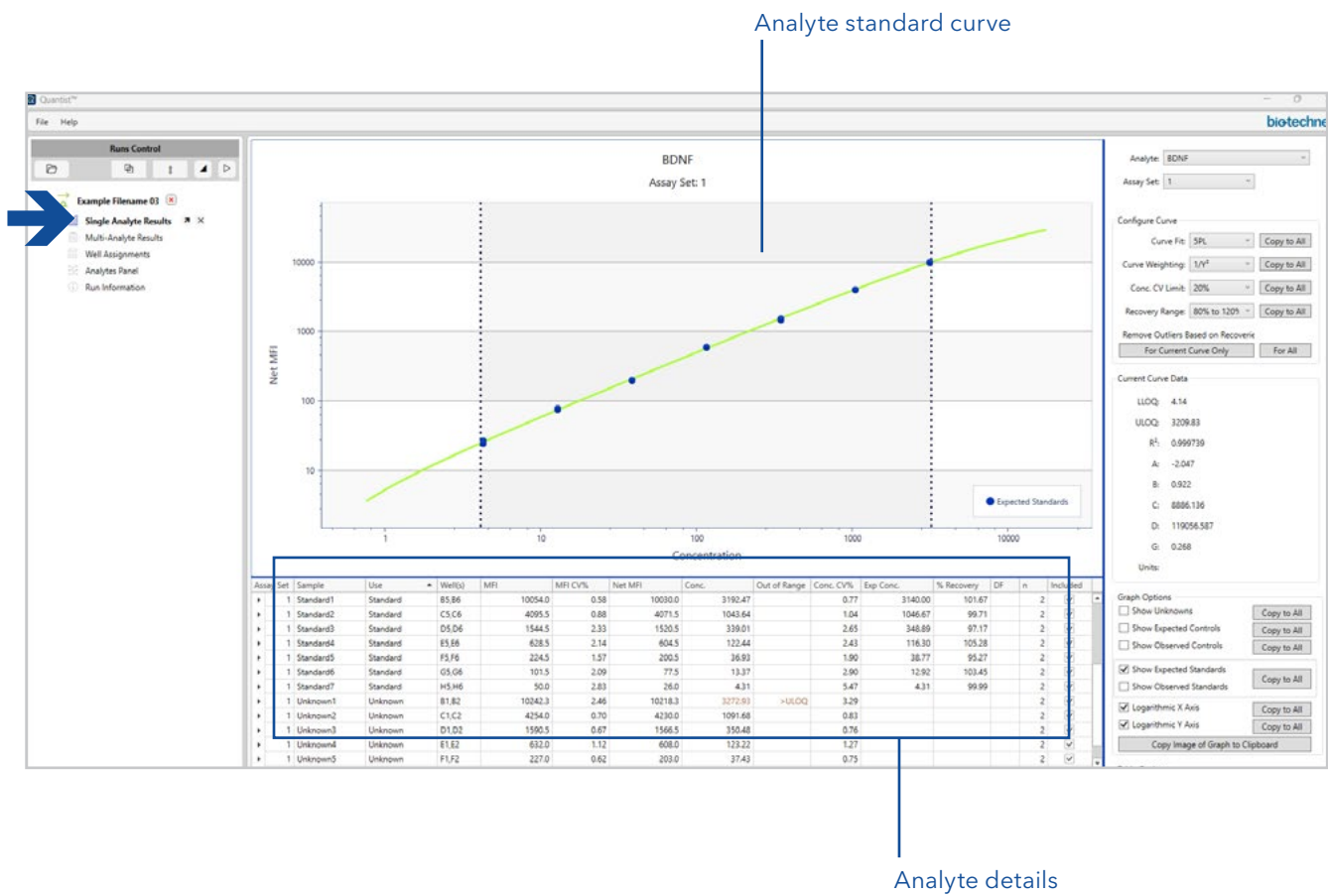
You can evaluate standard curve quality by assessing recovery and Coefficient of Variation (%CV).

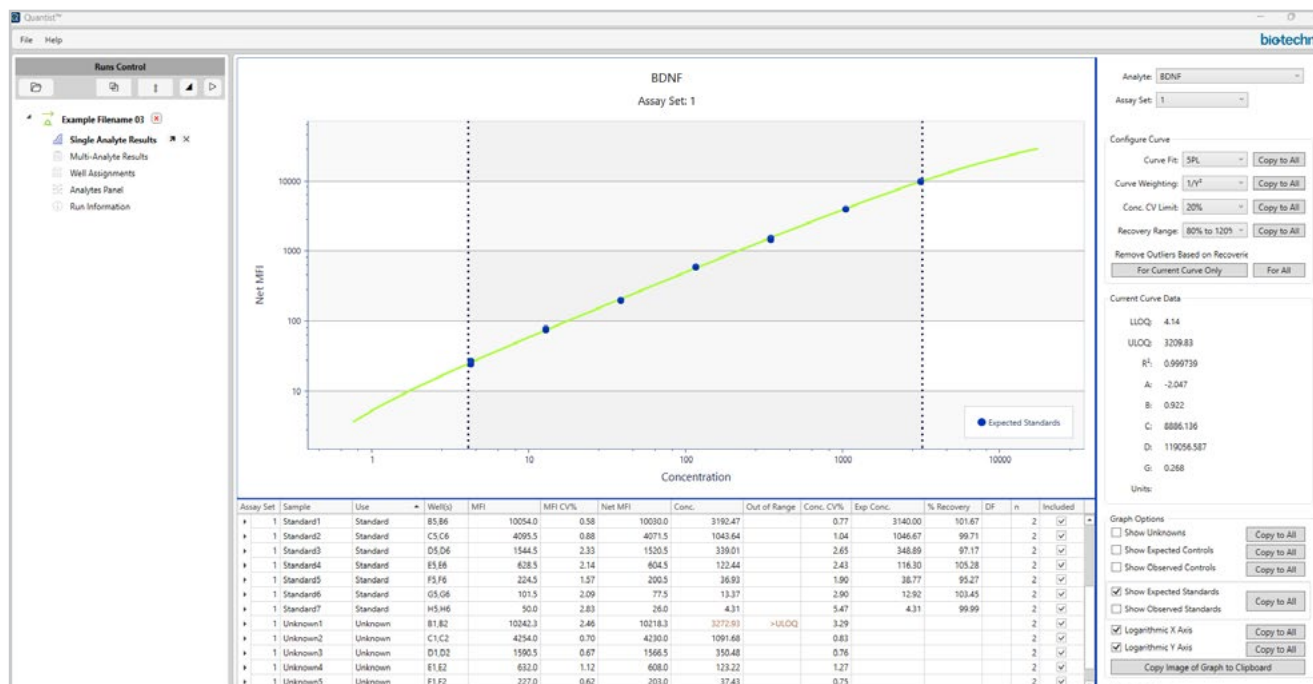
You can also configure standard curve properties such as curve fit, curve weighting, and recovery range.

## Single Analyte Results

12. Within run controls menu click Single Analyte Results.

- Two windows are open at center:
- The standard curve for each analyte (top)
- Data for the analyte (bottom)





A  
B  
D  
C

### 13. Configure the Curve for each standard curve using the right window.

- Toggle between analytes using the **Analyte** drop-down button.
- Toggle between analytes using the Analyte drop-down button. Toggle between Assay Sets using the drop-down button.
- The **Current Curve Data** section of the right window shows all curve data, including Curve fit, weighting, recovery range, LLOQ, ULOQ, A, B, C, D, G, units.

4PL

- a = estimated response at zero concentration
- b = slope factor
- c = mid-range concentration (C50)
- d = estimated response at an infinite concentration

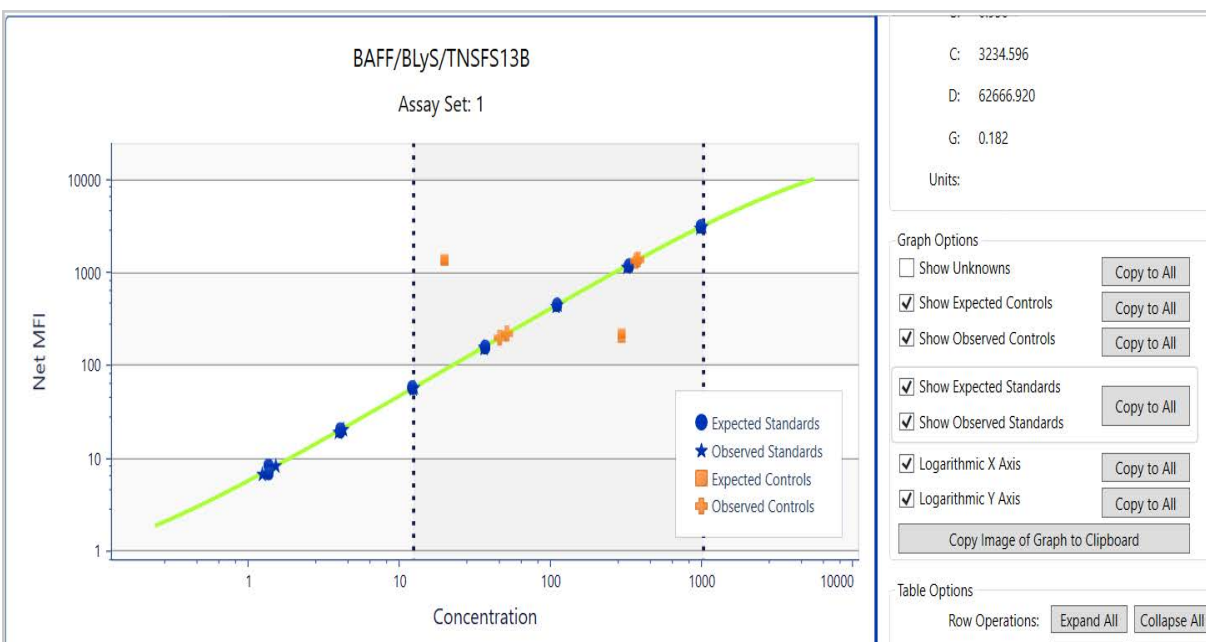
5PL

- a = estimated response at zero concentration
- b = slope factor
- c = mid-range concentration (C50)
- d = estimated response at infinite concentration
- g = asymmetry factor

- Toggle the **Curve Weighting** button to select curve weighting: none, 1/Y, or 1/Y².

Appropriate curve weighting is required to ensure that all data contribute equally to the final regression curve. Choose 1/Y² to compensate for high variability at the low end of the standard curve.

- The **Conc. CV Limit** button allows you to set the percent coefficient of variation limit. Options range from no limit to 5% CV.
- Toggle the **Recovery Range** button to choose the appropriate recovery range.



G

H

#### 14. Configure the Curve (continued)

G. The **Graph Options** section of the right window allows you to:

- Visualize controls and unknowns on the standard curve.
- Expected standards are indicated by dark blue circles. Observed standards are indicated by dark blue stars. Unknowns are indicated by light blue triangles. Expected controls are indicated by orange squares. Observed controls are indicated by orange plus signs.
- Toggle on/off logarithmic scale of X and Y axis.
- Copy the standard curve to a clipboard.

H. The **Table Options** section of the right window has several functions:

- Expand/collapse all rows in the center bottom table. Triangles on the far left of rows in the bottom center. Windows can also be toggled to expand individual replicate rows.
- Copy aggregates or replicates to a clipboard for pasting elsewhere.
- Reset standards, controls, and unknowns.

#### 15. Data Analysis Optimization - Remove Outliers

##### Assess Recovery

Scroll across the table in the bottom center window to view details in: the % Recovery column and the Included column.

For any standard that is outside of the selected % recovery range, confirm that the box is unchecked in the Included column.

The right window (in the Configure Curve section) there is an option to Remove Outliers Based on Recoveries for the current curve or all curves.

##### Assess %CV

Examine the % CV column and exclude samples that are outside of the acceptable %CV range by unchecking the included box.



# Multi-Analyte Results

16. Select Multi-analyte Results to sort and compare sample data across target analytes.

A. The following data can be viewed across all target analytes on an assay by using the Selected Field drop-down button in the right window.

## MFI:

Mean Fluorescent Intensity.  
Excluded data is faint gray.

## MFI % CV:

MFI percent coefficient of variation.  
Excluded data is absent.

## Net MFI:

Sample MFI-background well MFI.  
Excluded data is faint gray.

## Concentration:

Sample concentration relative to the standard curve. Excluded data is faint gray. Data outside of established curve parameter limits is brown.

## Concentration Status:

Is the concentration > or < LLOQ or ULOQ?  
Data outside of these parameters is indicated by <LLOQ, >LLOQ, <ULOQ, >ULOQ.

## Concentration % CV:

Concentration percent coefficient of variation.  
Excluded data is absent.

## Expected concentration:

Standards for each analyte.  
Excluded data is absent.

## % Recovery:

(Observed sample concentration/expected sample concentration) X 100%. Excluded data is faint gray.

## Dilution Factor:

Dilution factor for unknowns.  
Excluded data is faint gray.

## Bead count:

Number of beads counted in specified bead region. Excluded data is faint gray.

Note, these results are the same as those described in the Luminex xPonent software manual.

Double click on each mean to view replicates.  
Double click on the mean again to hide individual replicates. Double click on individual replicates to include them or remove them.

The included column contains a check if data is included. The Included column is empty or contains a black square if data is excluded.

The black caret on the far left side of the Sample column can be toggled to view replicates as well.

The screenshot shows the Luminex xPonent software interface. On the left is a list of wells (A1-A24, B1-B4, C1-C4, D1-D4, E1-E4, F1-F4, G1-G4, H1-H4, I1-I4, J1-J4, K1-K4, L1-L4, M1-M4, N1-N4, O1-O4, P1-P4, Q1-Q4, R1-R4, S1-S4, T1-T4, U1-U4, V1-V4, W1-W4, X1-X4, Y1-Y4, Z1-Z4). The main window is titled 'Selected Field: Concentration'. Below this is the 'Multi-Analyte Results Table Options' section with buttons for 'Expand All', 'Collapse All', 'Copy Rows to Clipboard', 'Aggregates', 'Replicates', 'Reset Included', 'Standards', and 'Unkn/Ctrl'. The 'All Curves Data' section contains a table with columns: Assay Set, Analyte, Fit, Weighting, Conc. CV Limit, and Recovery Range. The table lists data for 11 assays (1-11) and 11 analytes (1-11). The table is labeled with 'A', 'B', and 'C' on the right side.

Assay Set	Analyte	Fit	Weighting	Conc. CV Limit	Recovery Range
1	BDNF	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	BLC/BCA	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	Endoam	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	MCP-1	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	MIP-1beta	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	CD40 Ligand	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	MIP-1alpha	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	IP-10	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	I-TAC	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	RGFP Basic	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	G-CSF	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	GM-CSF	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	IFN-beta	SPL	1/r <sup>2</sup>	20%	80% to 120%
1	Granulysin B	SPL	1/r <sup>2</sup>	20%	80% to 120%

- B. The **Multi Analyte Results Table Options** section in the right window has several operations.

- Expand/collapse row operations of center table
- Copy aggregates or replicates to the clipboard
- Reset standards unknowns or controls

- C. The **All Curves Data** section of the right panel contains standard curve data for each analyte including, Fit, Weighting, Recovery Range, LLOQ, ULOQ, R<sup>2</sup>, A, B, C, D, G, Units.

A = estimated response at zero concentration  
B = slope factor  
C = mid-range concentration (C50)  
D = estimated response at infinite concentration  
G = asymmetry factor



## 17. Inter-assay comparison

Make inter-assay comparisons to ensure that data is consistent across assays over the long term.

- To make inter-assay comparisons, import up to four CSV files. All options in the Runs control window can be simultaneously viewed across four runs. This works best on large monitors.
- Select the button containing 2 overlapping squares in the grey area at the top of the left window. When selected, the button changes color to blue.
- To compare standard curves, select the Single Analyte Results from both assays.
- Toggle the **Analyte** button in the right windows to select the same analyte for comparison. The windows on the right are scrollable.
- Use this option to compare the following data:  
Background signal  
MFI  
Curve Fit
- Inter-assay comparisons can also be made using the Multi-analyte Results.
- Toggle the **Selected Field** button at the top of the right windows to view the same data field across all analytes on both runs.

The center window will simultaneously visualize the standard curve and data for two runs.

- If the analyte/bead region assignments are identical, plate layouts can be copied from one plate to the next plate in the Well Assignments view using the keyboard short cuts "ctrl-c" to copy and "ctrl-v" to paste.



Single Analyte Results

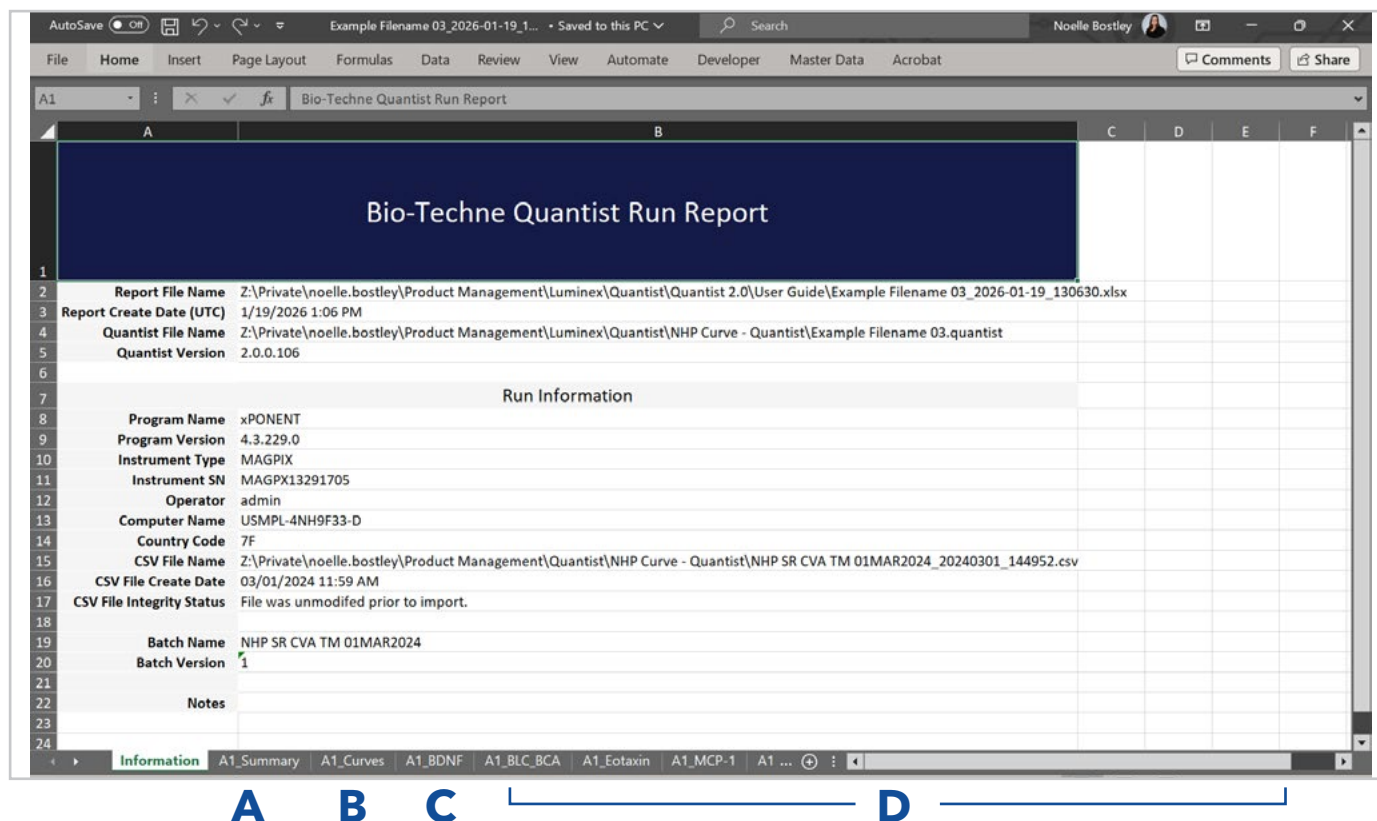


View options (right windows)

Click arrow to expand

Click X to close





19. Export data into a Quantist run report.

To export data into excel, select File/Export "filename". You can also simultaneously export all files to excel. Quantist will export a .xlsx file.

20. The Quantist Run Report contains the following information:

- A. Information Tab  
This tab contains information about the file, software, and hardware.
- B. Summary Tab  
This tab summarizes the analyte concentrations (Conc) for each well. Samples that are outside of the limits of quantitation are in a lighter color font.
- C. Curves Tab  
This tab contains standard curve plots for each analyte as well as curve fit data.
- D. Analyte Tabs  
Each analyte has its own tab that contains the following: curve plot, curve fit data, and plate data.

Plate data include:

**Sample:** Background, Standard, Control, Unknown

**Use:** Blank, Standard, Control, Unknown

**Wells:** Well location

**MFI:** Mean Fluorescent Intensity

**MFI CV%:** MFI coefficient of variation

**Conc:** Concentration

**Status:** Is the sample within the ULOQ and LLOQ?

**Conc CV%:** Concentration coefficient of variation

**% Recovery:** (observed sample concentration/expected sample concentration) X 100%

**DF:** Dilution Factor for unknowns

**N:** Number of replicates

**Included:** Is the sample included in the analysis

**Is Aggregate:** True= mean of replicates, False= individual replicates

**Bead count:** Number of beads counted in specified bead region

### 3.0 UNDO/REDO

Undo actions using Control + Z and redo actions using Control + Y. Undo and redo actions can also be completed using the buttons in the Edit menu in the top left corner.

### 4.0 UNINSTALL QUANTIST

1. Select the windows start icon.
2. Select the settings cog in the menu.
3. Select apps in the windows settings menu.
4. Scroll down to the Quantist software icon and select it.
5. Select uninstall.

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