

# MyAssays Desktop Pro R4.2

## Overview

This document contains the release notes for **MyAssays Desktop Pro**, providing the latest information about the specified version, including:

- Download and Installation Instructions
- Contact Support and Provide Feedback
- System Requirements
- Links to Additional Information
- Summary of Changes
- Known Issues

Product Version Number: **R4.2 – 4.2.15.727 (190131)**

## Download Links

Download the product installation and documentation from here:

### Installation

<https://myassaysfiles.blob.core.windows.net:443/release/mad/r4.2/MyAssays-Desktop-Setup-v4.2.15.727.msi> (92.9 MB)

### User's Guide

<https://myassaysfiles.blob.core.windows.net/release/mad/r4.2/MyAssays-Desktop-Users-Guide-v4.2.15.727.pdf> (11.3 MB)

### Support

For technical support please email [support@myassays.com](mailto:support@myassays.com).

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## **Feedback**

Please provide any feedback, suggestions or feature requests to [support@myassays.com](mailto:support@myassays.com).

# Upgrading from an Earlier Version

If an earlier version of MyAssays Desktop is already installed on your system, you can install the new version without uninstalling the earlier version. It is also not necessary to deactivate and reactivate the software license. The installation process will update the information from the previous version.

## Data Files

When upgrading an existing installation, your original data files (as stored under the **Assay Data Folder Root**, e.g., Documents\MyAssays) are preserved, and any new data files (such as new installed protocols) are automatically added.

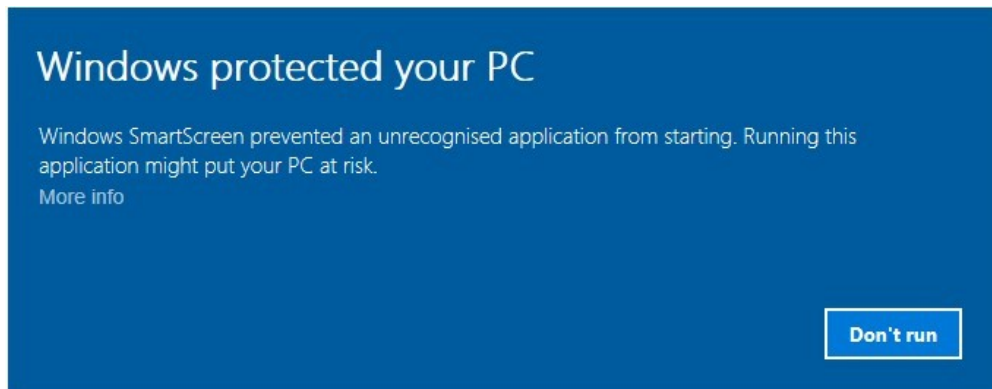
If you wish to reset all data files to a clean install state, then navigate to your **Assay Data Folder Root** and delete (or backup) all files and subfolders. The next time MyAssays Desktop Explorer is launched, the data files are reset to the clean install state.

# Installation



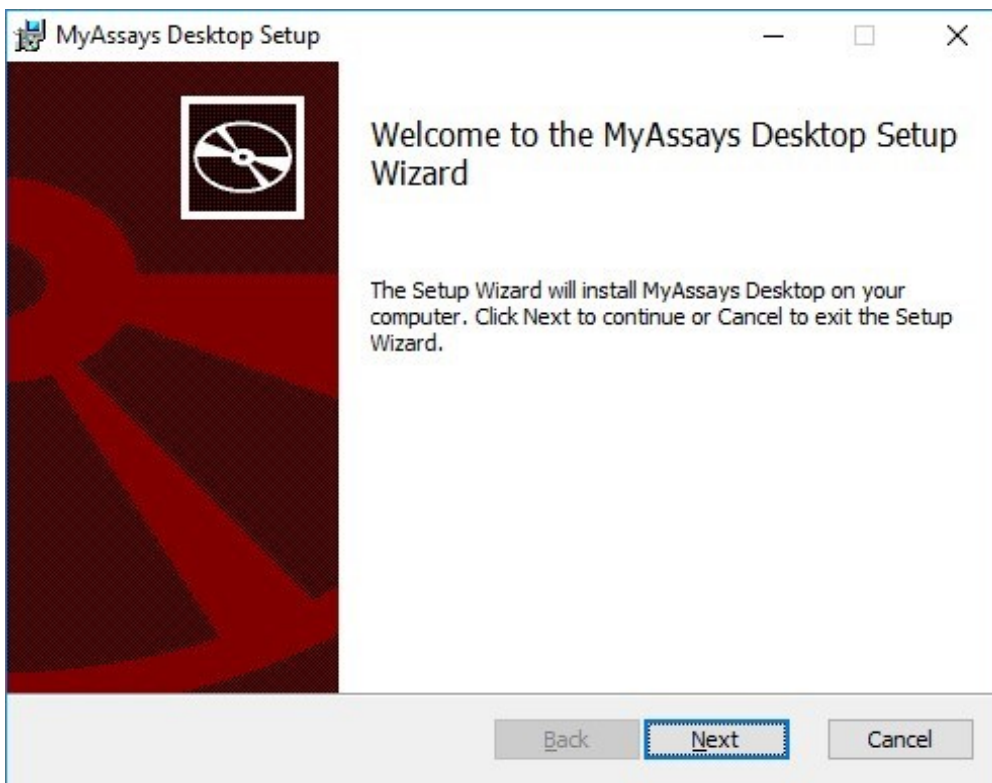
The installation process must be performed using a Windows account with administrator privileges.

1. Download and launch the MSI file. If prompted:



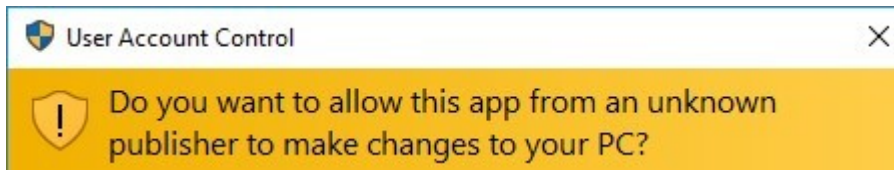
Click **More info** and select **Run anyway**.

2. Follow the steps through the wizard:



Provide the requested information.

3. If you see the User Account Control prompt that says:



Select **Yes**.

4. On completion, optionally select to **Launch MyAssays Desktop Explorer** and then click **Finish**.

## Launch

After installation, the MyAssays Desktop Explorer icon will appear on the desktop:



Use this to start the application. Alternatively, you can choose to open MyAssays Desktop from your **Start** menu.

# System Requirements

MyAssays Desktop runs successfully on the minimum system configuration listed below. If your computer does not meet the technical requirements, you may be not able to use MyAssays Desktop.

<b>CPU:</b>	Intel/AMD 2 GHz or faster processor (32-bit or 64-bit)
<b>Memory:</b>	2GB RAM
<b>Available disk space:</b>	300MB
<b>Operating systems:</b>	Windows 10, Windows 8.x, Windows 7, Windows Vista, Windows XP SP3
<b>Other software:</b>	Microsoft .NET 4.0.3 or later
<b>Display:</b>	1024 x 768 or higher resolution

## Software Requirements

Microsoft .NET 4 (full) or later must be installed (this is pre-installed on Windows 10 systems). For earlier versions of Windows, if it is not already installed on your system or you are not sure, please visit: <http://www.microsoft.com/en-gb/download/details.aspx?id=17851>.

If running Windows 7 or later, it is recommended to install .NET 4.5.2 available from <https://www.microsoft.com/en-us/download/details.aspx?id=42643>.

# Uninstalling MyAssays Desktop

The software installations can be uninstalled using the standard Windows uninstall function (from **Control Panel | Uninstall a program**).

# Further Information

For the latest video content please visit <https://www.myassays.com/myassays-desktop-training-course.html>

Selected video links are provided here:

## Getting Started

- [https://www.myassays.com/video/get-started-with-myassays-desktop-\(concepts-and-processes\)](https://www.myassays.com/video/get-started-with-myassays-desktop-(concepts-and-processes)) (9 min 53 sec)
- [https://www.myassays.com/video/get-started-with-myassays-desktop-\(using-the-software\)](https://www.myassays.com/video/get-started-with-myassays-desktop-(using-the-software)) (5 min 24 sec)

## Basics

- <https://www.myassays.com/video/create-a-protocol-with-myassays-desktop> (11 min 33 sec)
- <https://www.myassays.com/video/import-data-with-myassays-desktop> (9 min 33 sec)
- <https://www.myassays.com/video/myassays-desktop-fit-methods> (9 min 16 sec)
- <https://www.myassays.com/video/myassays-desktop-transforms> (7 min 2 sec)
- <https://www.myassays.com/video/myassays-desktop-standard-curve-fit-transform> (8 min 45 sec)
- <https://www.myassays.com/video/myassays-desktop-expressions> (7 min 29 sec)
- [https://www.myassays.com/video/reporting-with-myassays-desktop-\(an-introduction\)](https://www.myassays.com/video/reporting-with-myassays-desktop-(an-introduction)) (2 min 20 sec)
- <https://www.myassays.com/video/myassays-desktop-sample-labels> (5 min 15 sec)
- <https://www.myassays.com/video/data-export-with-myassays-desktop> (5 min 14 sec)
- <https://www.myassays.com/video/myassays-desktop-with-folder-poll> (4 min 33 sec)

## Working with Microplate Assays



- <https://www.myassays.com/video/myassays-desktop-plate-layout-editor> (4 min 57 sec)
- <https://www.myassays.com/video/elisa-analysis-with-myassays-desktop> (11 min 45 sec)

## Working with Multiplex Assays

- <https://www.myassays.com/video/multiplex-data-analysis-with-myassays-desktop> (9 min 25 sec)

## Working with RIA

- <https://www.myassays.com/video/myassays-desktop-rack-layout-editor> (5 min 46 sec)
- <https://www.myassays.com/video/ria-data-analysis-with-myassays-desktop> (6 min 15 sec)
- <https://www.myassays.com/video/migrating-from-a-legacy-system-to-myassays-desktop> (12 min 25 sec)

## Kinetic/Spectral Analysis

- <https://www.myassays.com/video/kinetic-and-spectral-data-analysis-with-myassays-desktop> (4 min 52 sec)

# What's New?

## Updates in MyAssays Desktop Pro R4.2 (detailing changes since R3.2)



### Online Training Course

Online training course with extensive video resources and assessments available from [here](#).

### Enhanced Security Edition

The Enhanced Security edition is now available for secured and traceable work under regulatory requirements. It provides user-management and security protections that comply with working in GxP and 21 CFR Part 11 environments. This includes:

- Limited access to features, protocols, and data using strong authentication services and login settings
- Secured working environment for local and domain user accounts
- Tracked user sessions including logging in and out, as well as unauthorized attempts
- Different authorization groups that allow or deny users to access features, change (create, modify, or delete) the data and protocols, or a combination thereof
- Time and date stamped audit trail of authorized user activities
- Verified source data quality and integrity with cryptographic validation of electronic signatures
- Secured workflow automation and simplification for different environments and data handling methods
- No complicated management or redundant administrator tasks



The Enhanced Security edition is available for users with Enhanced Security license.

## New Command-Line Parameters

- **/notopmost** – Use this to disable bringing the MAA window to the top.
- **/autologin** – When working with Enhanced Security edition, this command allows you to run routine operations under an Autologin account.

## Field Data

Configure your protocols to include important information such as additional metrics from your instrumentation source or detector parameters for each sample position. With new Field Data feature, you can store all relevant details in field matrices, label them, and report alongside raw measurements and the results of data analysis.

If readings contain more than 5 field matrices, including all matrices will make the report excessively large and hard to manage. That is why no field data matrices are included into the report by default. You can add additional matrices using **Assay Properties | Matrices | Include in Sample Tables** when configuring the data analysis.

## DOC and DOCX Export Types

When you select Custom export format, you can select to export the data analysis results in the .doc and .docx extension types.

## Updates in Expressions Library

### *Row and Column References*

Now you can refer to samples in specific columns or rows in expressions.

### *LayoutType Function*

For writing expression-based conditions for a particular sample type.

## Conditional Function Update

To shorten expressions, now you can use **if** as a contraction of the **ifthenelse** function.

## New Calculation Function

When working with curve fitting, now you can calculate the area under the 4PL or 5PL curve with **auc** function.

*Syntax:* **auc(method,xmin,xmax,number,coefficients...)**

Calculates the area under the plotted 4PL or 5PL curve using the sum of trapezia method. The area under the curve is the area between the curve and the x-axis. Areas below the x-axis are considered negative.

Input parameters:

- **method** – This is either 4PL or 5PL fit method. Specify within single or double quotes: "**4PL**" or '**4PL**'; "**5PL**" or '**5PL**'.
- **xmin** – The minimum numerical value of the area on the x-axis.
- **xmax** – The maximum numerical value of the area on the x-axis.
- **number** – The number of trapezium intervals for computing the area under the curve. Higher number of intervals gives more accurate results. We recommend to use a value of 1000.
- **coefficients** – The coefficients of the selected **method** that must be specified in the following order:  
For 4PL: **a, b, c, d**  
For 5PL: **a, b, c, d, m**

## Changed Version Numbering

Starting from **R4**, MyAssays Desktop is versioned by the release number.

## Constrain Coefficients of the Fit

When working with endpoint curve-fitting transforms (Dose-Response Curves, General Curve Fit, and Standard Curve Fit), you can define constraints to guide the curve fitting process as required. To do this:

1. In the **Assay Properties** panel, select the **XML** tab.  
If the **XML** tab is not immediately visible, click << **Show All Properties** to expand.
2. Depending on the transform you're adding coefficient constraints for, locate the appropriate element:
  - For Standard Curve Fit, the **StandardCurveFit** element.
  - For General Curve Fit, the **GeneralCurveFit** element.
  - For Dose–Response Curves, the **DoseResponseCurves** element.
3. Add a **FitConstraints** child element.
4. Add a child element **Constraint** for each required operation. Set the attributes in accordance with the syntax below.
5. Add a child element **Constraint** for each required operation.

For each constraint, with the **Coeff** attribute, specify the coefficient on which the constraint will be applied.

The values of these constraints can be specified using an expression (that results in a single numerical value) and may refer to a TOV. The interpretation of the constraint depends on the type of restriction setting:

- **Fixed** – Sets a coefficient to a fixed value
- **LowerBound** – Limits the search range for the coefficient to be greater than the specified constraint
- **UpperBound** – Limits the search range for the coefficient to be less than the specified constraint



The **UpperBound** and **LowerBound** attributes can be used separately or in a conjunction. However, **Fixed** type overrides any **UpperBound** or **LowerBound** setting.

## Dose–Response Curves Transform Updates

- **Overlay Multiple Plate Charts** – For multiple plate assays, select this check box to plot the charts from all plates on a single overlaid chart.

- **Label the Results in the Dose–Response Fit Table** – When configuring custom evaluations, you can apply labels to results that satisfy your set conditions (In the **XML** tab.):

```

<FitTable>
  <Evaluation Description="R2" Expression="R2">
    <SampleReportLabel>
      <Rule Condition="x < 0.9" Label="{x}
LOW" Symbol="None" BackColour="#FFFFFF00"
ForeColour="#FFFF0000" />
    </SampleReportLabel>
  </Evaluation>
</FitTable>

```

- **Reference Specific Dose–Response Curves in Expression** – With **groupnum** context variable, you can refer to the group number of the dose–response curve on the current plate.
- **Automatically Determine the Lowest and the Highest Values** – When calculating area under curve with **auc** function (described above), use **dosemin** to automatically determine the minimum *x* value and **dosemax** to automatically determine the maximum *x* value.
- **Constrain Dose–Response Curve Fits** – You can constrain dose–response curves fit coefficients to compare the resulting curves.
- **Select Chart Size for Page-Based Report** – Select the size of chart in the Transform Content report element.
- **Scaling of the Chart** – When selecting to show or hide the sample groups, the chart is adjusted to provide a clear view of both individual and overall curves.

## New Endpoint Transforms

### *Expression by Sample Type*

With this transform, you can evaluate different expressions (in terms of *x*) for each sample type defined on the layout simultaneously.

### *General Curve Fit*

New transform that allows fitting a curve with external standards specified by the user. You can also define what values (the *x*s or *y*s) are computed from the plotted curve.

## XY Reduction Peak from Fit




Using this new reduction transform, you can reduce kinetic or spectral plots to interpolated peak value determined from the fitted curve at a position. The result can be set to the *x* or *y* value at the peak, with the peak being defined as either the minimum or maximum value.

## Reference External Resources in Protocols

Using the Resource Reference Manager, you can include links to external files, folders, and websites in the Overview tab of assay protocols.

## Label Symbols

Clearly indicate if the calculated results satisfy your filters with graphical icons alongside your label text:

- **None** – Display no icon
- **Pass** – Display the  icon
- **Fail** – Display the  icon
- **Question** – Display the  icon

## Improved Evaluation UI

Now evaluation tables and associated evaluations are displayed in a tree view. Select the evaluation or evaluation table to configure its settings. Also, now you can configure results to be reported with label and/or colour in accordance with the specified conditions.

## Named Evaluation Variables

With **Name** setting, you can name your evaluation result and use it in further analysis. This is useful when splitting lengthy evaluation expressions into smaller parts, applying labels, or flagging using the evaluation result.

## Improved Validation UI

Now validation tables and associated validations are displayed in a tree view. Select the validation to configure its settings.

## Include Header in Evaluations and Validations Tables in the Report

Using this new setting, you can choose to report Validations Tables or Evaluations Tables with or without a header.

## New Print Options

Now **File** backstage view in MyAssays Analysis features **Print** tab where you can configure the following printing settings for your assay:

- Select **Print report on first calculation** check box to automatically print the first generated report using the default printer.
- With **Print** option, you can print current version of the results with the default associated printer.
- With **Custom Print**, you can configure the printer and printing settings for your report.
- Click **Print Preview** to review the layout of your report before printing it.

## Updated Transforms Descriptions in MAA

## Support for Kaleido 3.0 XML

Support for Kaleido 3.0 XML format. The updates include support of:



- Import text-based values where type="string" as field data (e.g. "Analysis Quality"). Limited to endpoint only single plate measurement files (field data is not imported for kinetic/multiple plate image analyses)
- Support updated time string format HHH:MM:SS.ms (and HH:MM:SS.ms)
- Remove previous time point workaround (implemented for Kaleido 2.0 bugs)
- Support multiple plate data in single file (plateBC attribute)
- Support new assay type TRF with two time windows, data to be imported as two endpoint matrices (one for each window)
- Support for backwards compatibility for Kaleido 2.0 (as far as possible)
- New Folder Poll release to support new Kaleido 3.0 output folder ("C:\ProgramData\PerkinElmerKaleido\Data Transfer") whilst retaining support for Kaleido 2.0 configuration
- Integrated with changes for Nivo 2.5 to support non-measured wells

For the latest documentation relating to working with MyAssays Desktop Pro and EnSight (via Kaleido software):

- [MyAssays Desktop Pro for Kaleido 3.0 \(Installation Notes\).pdf](#)
- [Using MyAssays Desktop with Kaleido 3.0.pdf](#)

## **WIZARD<sup>2</sup> Import Integration**

Improved import of measurement data from the WIZARD<sup>2</sup> manager software for RIA and rack-based assays. The integration includes automatic import of associated metadata, field data, sample bar code, and spectrum channel counts from the XML files. The import of partial plates (the unmeasured positions are imported as empty) and plates that contain flagged data is also supported.

The files with combination of rack sizes or with multiple repeats (where Repeat≠1) are not supported with this enhancement.

## **Support for Import of Nivo 2.5 XSLX Format**

Extended automatic import of data from the Victor Nivo 2.5 format. The updates include support of:

- The new <INTEGER> <SPACE> OPERATION naming convention
- List and plate formats for kinetic measurements
- Change in Nivo export format:
  - Combination of two technologies, such as Abs kinetics and FI Endpoint, in one protocol exported in a single Excel sheet one below the other.  
The previous version (v2.0.2) exported each of them to a different sheet.
  - Import of empty cells as excluded values (instead of 0)

Backwards compatibility to 2.0.2 is maintained as far as possible.

## Curve Overlay Enhancements

For library curves stored in the default **Curves** folder (under the **MyAssays** root folder), now you can specify only the filename and extension of the file instead of the full path (which is required for the files outside your root folder).

Also, you can specify the precision for both axes on the chart with **XAxisPrecision** and **YAxisPrecision** attributes.

## Installed Protocols Updates

Some installed assays are available in demo mode unless a particular Edition or Add-On is installed.

### *Dual DPM*

New protocol preconfigured for rack-based assays and RIA.

### *Dose–Response Curves for EC50 Updates*

- This protocol is now available for both 96- and 384-well microplate layouts.
- Protocol now produces measurement and calculation details for all calibration doses used in the fit.
- Improved scaling of the chart when viewing it with or without data points.

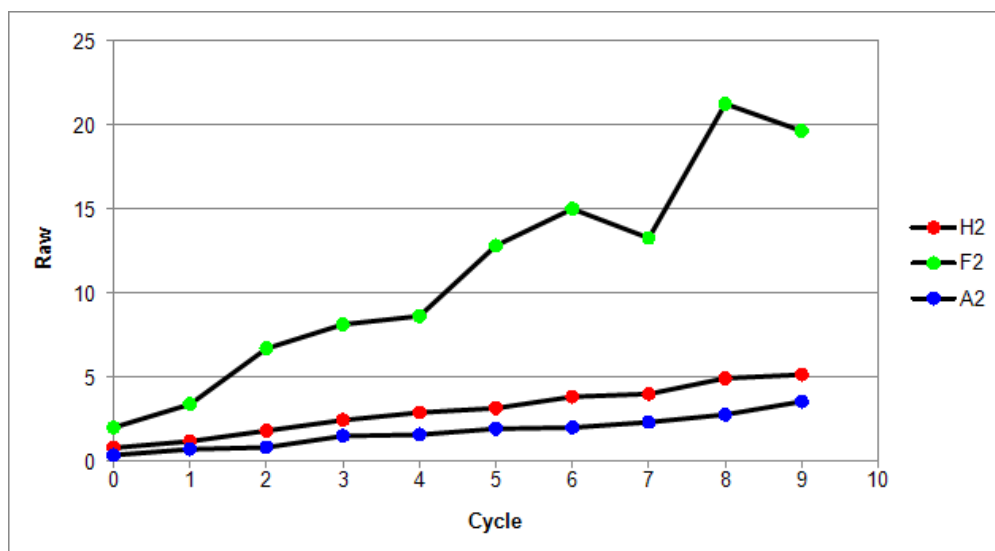
## ELISA (384-well)

Updated example measurements.

### XY Plot Report Element

Using this feature, you can include a chart for one or more XY positions in your report. The y-axis of the chart corresponds to measurement values; the x-axis represents (depending on the assay) cycle, time, or wavelength values. The data points on plots for different positions are denoted with different colours. The flagged positions or data points are not included in the chart.

For example:



This report element is specified in the XML editor, by adding the **XYPlot** child element to the **Report** element and defining it with the following syntax:

```
<XYPlot Id="Id" MatrixId="Id" Container="Number" Positions="List of positions, e.g., A1,A2,A3" Include="Boolean" SheetName="Name" XAxisTitle="Title" YAxisType="Type" YAxisTitle="Title" XAxisType="Type" Title="Title">
```

### Empty Endpoint Data

For endpoint data, the empty values now are denoted with the "-" hyphen symbol. This functionality is applied automatically on import, or you can mark the points as empty in MAA, in the **Pad** view of the **Measurements** tab.

## Flagged Values Representation in Plate View

When viewing measurements in MAA or while running New Protocol or Import wizards, data containing any flagged values (outliers) will be presented with:

- The cross through the XY thumb plots
- The strike for endpoint and field data values

## Reporting Cosmetic Enhancements

- **New Default Font** — The reports are now generated using the Tahoma font of 10 pt size by default.
- **Borders of a Chart** — The outer borders in chart images are no longer displayed by default. To include borders in you report charts, add **ShowBorder** Boolean attribute to the chart configuration in XML.
- **Grid Line Display** — The charts now appear with both vertical and horizontal grid lines.

Learn more about customizing charts appearance at [Change the Units and Number Format of the Charts](#) topic.

## Select Colour Scheme for the Matrix

In the **Matrices** tab, you can now format any matrix with a three-colour scale. Using this formatting, the data in the associated Sample Table column, Matrix Table, or both will be displayed with a gradation of the three selected colours based on the result values.

## Sample Table Enhancements

### *Include or Exclude Icons*

In the Sample Table report settings, you can now select if the coloured circle icons to the left of each sample are included or excluded from the report.

### *Sample Data Processing Settings for Endpoint Matrices*

When working with endpoint assays, you can now alter the way the results are included in the Sample Table using check box options that reveal the applicable data processing settings. Report a meaningful subset of the results at a glance using:

- **Filter** – Include only the results that satisfy the filter condition applied to any sample table column. You may also use Sample Label to filter the rows with.
- **Limit** – Restrict the number of samples (rows) to display in the Sample Table.
- **Order** – Sort the data of a specific column from highest to lowest and vice versa for numerical values, or in alphabetical or reverse alphabetical order for textual content.

## **Include Standard Deviation of Raw Data in Curve Data Tables**

When using the Standard Curve Fit or the Dose–Response Curves transform, you can add **IncludeRawSD** to the Curve Data Table in XML. Using this, the table will include a column that lists standard deviation calculated for raw measurements.

## **New Report Macro**

The **{PlateID}** macro is available for use in the **Title** and **Sheet Name** properties. This macro expands to the plate ID as it appears under the **Measurements | Plate IDs**.

## **Wording Enhancements**

For Best Fit Results table, the title of the **Position** column is changed to **Rank**.

When importing data from a file with built-in Excel selection (in New Protocol or Import wizard), the metadata item **Selection** is renamed to **Measurement Cells Selection**.

Updated LANCE cAMP installed protocol's overview: now it correctly displays 615nm and 665nm channels.

The XY Reduction Peak transform is renamed to the XY Reduction Peak Point.

## Value Bars in Sheet View

Now any configured Value Bars appear in Sheet View.

## Configuration of the Chart Appearance in the Report

### *Axes Crossing Customization for Fit Charts*

When working with endpoint curve-fitting transforms (Standard Curve Fit, General Curve Fit, and Dose–Response Curves) or configuring chart report elements (Curve Overlay, Histogram, and XY Plot), you can set where you want the x-axis to cross y-axis and vice versa with **VerticalAxisCrosses** and **HorizontalAxisCrosses** XML attributes. By default, the axes cross each other at the minimum data point value. Add and define any or both of the crossing positions inside the transform element in the XML editor.

### *Display of Units and Numbers*

For charts generated by endpoint curve-fitting transforms, report element charts, and QC Output Levey-Jennings and CUSUM charts, you can define the major, minor units and specify number format for values of each axis through the XML editor.

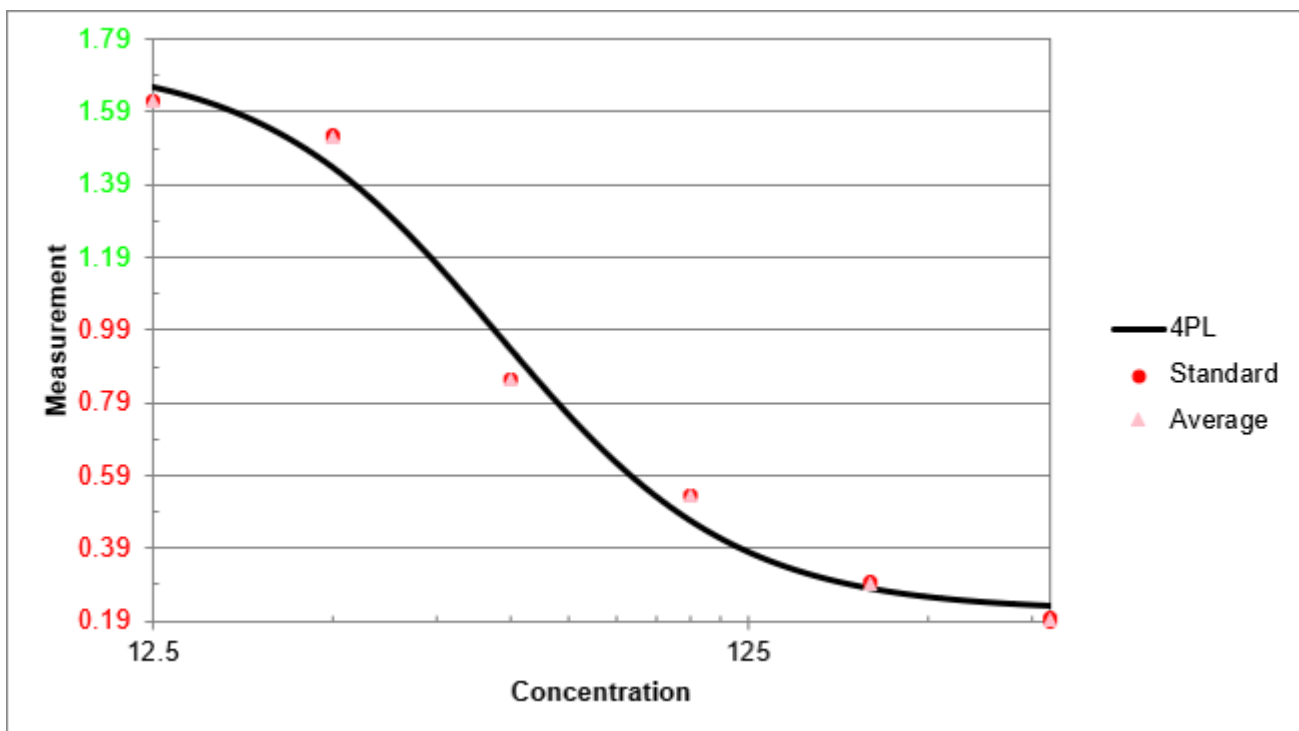
1. Depending on which chart you're customizing, locate:
  - The transform's element (such as **DoseResponseCurves**)
  - Under the **Report** element, the chart child element (such as **Histogram**)
  - When running QC Wizard, select the XML tab, and add **Chart** child element to the **Observation**
2. Add any needed attributes and specify their syntax:

- **XAxisMajorUnits** and **YAxisMajorUnits** – Numeric intervals between numbers on the associated axis.
- **XAxisMinorUnits** and **YAxisMinorUnits** – Numeric interval between supplementary tickmarks on the associated axis. The minor units are not displayed unless this attribute is specified.
- **XAxisNumberFormat** and **YAxisNumberFormat** – The formatting for the major unit values of the associated axis. See Custom Format Codes for Numbers of the Chart for the available options.

For example:

```
<StandardCurveFit XAxisMajorUnits="10"
XAxisMinorUnits="5" YAxisMajorUnits="0.2"
YAxisMinorUnits="0.1" YAxisNumberFormat="[Red][&lt;1]0.00;
[Green][&gt;=1]0.00" StandardType="2" FitMethod="4PL"
Concentrations="400,200,100,50,25,12.5"
XAxisTitle="Concentration" YAxisTitle="Measurement"
FitToStandard="Average" CalculateFrom="Replicates">
```

With this configuration, the fit chart of the Standard Curve Fit transform results will appear as follows:



### *Axes Values for Small Charts*

Improved the display and formatting of axes values for curve charts when selecting small or medium Chart Size report option.

## **Fixes in MyAssays Desktop Pro R4.2 (detailing changes since R3.2)**

### **Standard Curve Fit With XY Data**

With R4 a protocol with Standard Curve Fit transform and only XY measurement Data would not compute results if Calibrators table was included in report. This is now fixed.

### **LDAP Server Unavailable Prevents Saving/Exporting**

If LDAP Server connection is unavailable then MAD could not save or export results. This is now fixed.

### **XY Positions With the Same Y Values Were Not Displayed on a Chart**

Because of chart scaling issue for XY data with the same y values, the chart appeared as empty. This incorrect scaling is now fixed.

### **Unable to Display Page-Based Report for Multiple Plate Assays That Contain QC Elements and Report Template**

For multiple plate assays with QC report elements and page templates, it will be necessary to remove the page template and configure it again. To do this, open the assay, and on the **Report** ribbon tab, select **Page View**, then under **Template** group, click **Delete**. After that, click **New** and configure the template again as required. This is necessary because the naming convention of QC report elements is updated to include plate number.



## Importing Custom Metadata from Excel Files Could Result in an Error

While importing data from some .xlsx files with custom metadata, if the users switched between **Meta** and other tabs several times, the wizard could result in an error. This unstable behavior is now fixed.

## Incorrect Container Title in Flags View for Rack-Based Assays

The container column was titled **Plate** whereas it should be **Batch ID**. This wording issue is now fixed.

## Save As Protocol Failed for Results Files with Uncalculated Changes

When opening a results file with uncalculated changes in MAA, the calculation is performed as expected. If then the results were attempted to be saved as protocol, the error occurred, and the file was not saved. This issue is now fixed and the file is saved as expected.

## Validation Configuration Did Not Take Selected Sample Types into Account

When validation was configured as **Expression with Every Sample Replicate (x)** or **Expression with Every Sample Group (x)**, they were performed on all samples, irrespective of the Sample Types setting. Not this incorrect behavior is fixed.

## Displaying Position Expressions List on Systems with Comma Decimal Separator

On a system with comma as a decimal separator, the list of configured expressions in Position Expressions setting of the Expression by Position transform was displayed in invariant culture. Now it is displayed with local system settings.

## Sample Types Names Were Not Validated Fully

Previously, the sample type names were not validated fully, which could lead to errors in calculating expressions. Now a sample type name can include alphabetical characters (uppercase and lowercase), numbers (0-9, but not as the only symbols), underscore, and space (but not as the only, the first or the last symbol). Also, the sample types cannot be named after any function (for example, **if**, **auc**, **mean**, etc).

## Curve Overlay with Standard Curve Fit (from Library) Transform Reference

Previously, when referencing curve as the number of Standard Curve Fit (from Library) that uses relevant Library Curve File, this could cause error in report generation. Now this issue is fixed.

## Protocol Name Validation in New Protocol Wizard

Extended validation for New Protocol Wizard to improve the overall coverage of new protocol creation. Whereas in previous versions the invalid characters could lead to unexpected results, now the users are either warned against their usage, or the characters are replaced with hyphens.

## Expressions with $\geq$ Operator on Systems with Comma Decimal Separator Were Evaluated Incorrectly

If local settings of a system used comma decimal separator, the expressions with the  $\geq$  operator could be evaluated incorrectly. This issue is now fixed.

## XY Thumb Plots in Matrix Table Did Not Appear Correctly

XY position thumb plots were not displayed correctly in the Matrix Table as against the Sample Table. Now the thumb plots appearance is fixed.

## Matching Element IDs Validation

In previous versions, not all report elements were validated against using the same ID more than once, which could lead to unexpected results. Now the validation is enabled on all report elements with an appropriate message warning against such duplications.

## Chart Computation for Extremely Small Values

If data set contained extremely small numerical values, these values were displayed on the chart with a glitch. Now support for such values is extended, and the chart computes a smooth line.

## Value Cannot Be Null Exception when Opening Results

If opening a corrupted .assay-results file, the file was launched with a Microsoft .NET Framework unhandled exception. Now an appropriate error message appears.

## QC Add-On Fixes

- Improved error handling when filling in the text. This way, if any field is blank or there's any incorrect data entered, the appropriate notifications will appear.
- Previously, the QC results were reported on the first sheet even if the Sheet Name was specified. This incorrect behavior is now fixed.

## No Export Occurred for Results with Custom Export Location Specified

If an assay protocol was saved with custom destination folder for export, and that target path was inaccessible, no export occurred (for example, if launching a file shared by another user). Now the export destination defaults to MyAssays\Reports folder under Assay Data Folder Root.

## Calculation Error If No Sample Types Were Selected for Histogram

If adding a Histogram element to the report with **(None)** sample types setting, the calculation crashed. This issue is fixed, and in such cases the Histogram element is not included in the report.

## Element IDs Expanded Incorrectly in the Report Template

In rare cases, if the element ID contained the ID of another (for example, **{Copy of Raw Data}** and **{Raw Data}**), the former expanded incorrectly in the report template. This behavior is now fixed.

## Chart Displayed Negative Values with Logarithmic Y-Axis Incorrectly

If there were negative values used in the fit on a logarithmic y-axis, the charts could display plotted data incorrectly which also affected Page View of the calculated results. Now when using a logarithmic y-axis, negative (or zero) y values are not included in the plot.

## Unexpected Behavior when Creating New Protocol for File with Custom Data Dimensions

In some cases, when a new protocol was created for data from a file with custom (i.e., not common) matrix dimensions, the process failed. Now, when importing measurements from such file, the wizard directs you to the step for selecting the dimensions of the matrix.

## Not All Sample Types Were Included when Default (All) Option Was Selected

When configuring validation, or adding a sample table or histogram to the report, the default setting is to include all sample types. If the user added new sample types to the

assay after adding one of those options, the new sample types weren't automatically included in the default **(All)** option. This incorrect behavior is now fixed.

## TOVs References Expanded Incorrectly for Large Layouts Dimensions

If the layout featured positions that matched one of the TOVs, the TOVs (R<sup>2</sup> in particular) could be expanded to these layout positions when evaluating expressions. This issue is now fixed, so if you have encountered this on the previous versions, please perform data analysis again to obtain accurate results.

## Incorrect Dynamic Sequence for Rack Assays

If the rack layout featured several dynamic sample groups, they could be expanded incorrectly. For example, if the dynamic sample contained two replicates, they were expanded as 1,2 | 2,3 | 3,4. This incorrect behavior is now fixed, so, in this case, they expand correctly as 1,2 | 3,4 | 5,6.

## Occasionally Unable to Display the Excel Report Preview in MADE

If selecting to preview the XLS or XLSX reports on the Reports pane of MADE, they could not be displayed in some cases. This limitation is now fixed.

## MyAssays Analysis Launcher Error when Clicking Launch

This error occurred when clicking launch with no protocol specified. This is fixed by disabling **Launch** button if no protocol is specified.

## Calculate Message Persisted after Calculations Were Performed

On launching and changing assay protocol or results file, after the user had opened and then closed Layout Editor, and then clicked **Calculate** to calculate new results, the message advising to click **Calculate** was still displayed. Now this is fixed.

## Deleting Layout File Caused Error in Displaying Associated Version

If the layout was changed each time results were calculated and the associated assay-layout file was deleted, the previous version could not be displayed when selected. This incorrect behavior is now fixed.

## Couldn't Produce Report for Standard Curve Fit with Auto Smoothed Spline

Report content for Standard Curve Fit transform was incorrectly generated for this fit method. This issue is now fixed.

## Importing Dilution Factors in ELISA Could Result in an Error

When importing dilution factors from a file, the columns that listed Unknowns expanded incorrectly and caused an error. Now this issue is fixed.

## Custom Export Failed If Export Folder Did Not Exist

When specifying a non-existing folder as an export destination, the export failed. Now the Export wizard creates a folder in a specified destination path.

## Search MyAssays.com Did Not Work If the Assay Data Folder Root Was Changed

If user changed their data root folder, it could lead to errors when searching predefined protocols from MyAssays knowledge base. This issue is now fixed.

## Transforms Content Included Incorrectly

In some cases, transform-specific report content could be included in the report even if the **Include** check box was not selected. This issue is now fixed.

## **The Logo File Does Not Exist at the Pointed Location Exception**

In rare cases, if a protocol should have contained a logo but no logo was found, the file was launched with a Microsoft .NET Framework unhandled exception. Now it launches correctly and, if such case occurs, the error is added to the error log.

## **Victor Nivo Kinetic Data Is Plotted on Chart with X Axis Title Reading "Cycle" It Should Read "Time"**

Now the axis titles are imported and plotted correctly.

# Updates in MyAssays Desktop Pro R3.2 (detailing changes since R3)

## Improved Support for Kaleido 2.0

Various enhancements to improve working with Kaleido 2.0. Please also ensure latest Folder Poll release is used (available from <https://www.myassays.com/folder-poll>)

## Support for Larger Rack Layouts

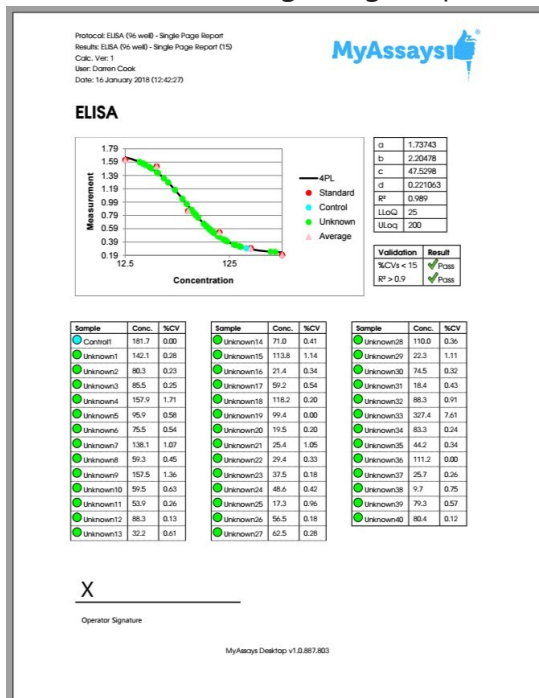
R3 was limited to rack layouts up to 26 racks. This limit has been increased.



# Updates in MyAssays Desktop Pro R3 (detailing changes since R2)

## New Installed Protocols

- 4PL (Constrained by B0 and NSB) Quantification
- 4PL Quantification
- Alpha 384-well Screening
- ATP Lite
- Best-Fit Quantification
- DNA 260nm
- DNA Quantification
- Dose-Response Curves for EC50
- ELISA
- ELISA (96 well) - Single Page Report (Click **Page View**)



- LANCE cAMP

- Linearized (Logit-Log) Quantification
- Z-Factor

## Video Links in Protocols

- Dose-Response Curves for EC50 (96 well)
- Multiplex

## Excel Viewer in MADE

The XLSX viewer works on the **Reports** and **Measurements** folder in MAD Explorer. The Reports folder is the default location of reports exported from MAD, so you can easily view MyAssays Desktop's Excel output there. The Measurements folder is not displayed by default, it can be enabled from **File | View | Show Measurements Folder**.

With this view enabled, you can copy or store XLSX files in here so that you can view them without Excel. Also, you can select cells and right-click to copy and then paste to other applications.

## Rack Layout Editor

For rack-based assays and RIA. See:

- <https://www.myassays.com/myassays-desktop-introducing-the-rack-layout-editor.video>
- <https://www.myassays.com/create-a-quantitative-radioimmunoassay-with-myassays-desktop-pro.video>

## Transform: Standard Curve Fit (from Library)

Walk-through at <https://www.myassays.com/re-use-standards-curve-with-a-library-curve-fit.video>

## Dose-Response Curves

See <https://www.myassays.com/dose-response-curves-for-ec50-with-myassays-desktop.video>

### Series Mode Advice

Calibrator	Conc.	Units:
Standard1	400	ng/mL
Standard2	200	
Standard3	100	Series
Standard4	50	x ÷
Standard5	25	2
Standard6	12.5	Paste

**Series mode is on.** In this mode, the concentration value of the first calibrator can be specified; the remaining values are computed in accordance with the series settings. To freely edit all concentration values exit **Series** mode.

### Standard Curve Fit | Custom Fit

Fit your data to your own custom fit equation. Reference results of previous fits. For example, with parallel line analysis, fit an initial unrestrained fit and then fit other curves where curve coefficients are constrained.

Example custom fit equations:

$$4PL: d + ((a-d)/(1+(x/c)^b))$$

$$4PL \text{ with additional R coefficient: } d + ((a-d)/(1+(r*x/c)^b))$$

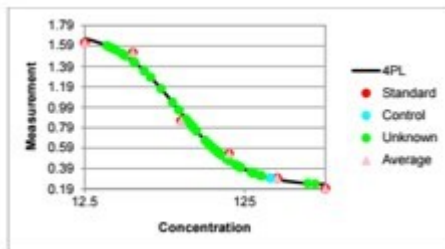
Computes 4PL using coefficients generated from transform 1 and calculates C value:

$$tov1.d + ((tov1.a - tov1.d)/(1+(x/c)^{tov1.b}))$$

Computes 4PL using coefficients generated from transform 1 and calculates C value R:

$$tov1.d + ((tov1.a - tov1.d)/(1+(r*x/tov1.c)^{tov1.b}))$$

## Standard Curve Fit | Show Points on Curve Option



## Additional Goodness Measures

- Degrees of Freedom
- AIC
- AICc
- BIC
- DWS

## New Best Fit Score Methods

- 1/AIC
- 1/AICc
- 1/BIC

## Probability Functions

- f.dist
- f.inv

## Overview Editor

Right-click overview text in protocol to edit the overview text and description.

## Curve Overlay Feature

Displays multiple curves overlaid on a single chart.

## Chart Size Report Option

Now you can select how to report chart from the transforms content: small, medium and large.

## Nivo 2.0.2 Support

## Luminex 2.1 Support

## Text Report Element with Macros

Include custom text elements in your report and reference macros, including metadata, protocol and results information, data and version numbers.

## Validation Report Element Updates

## Sample Table Sort Order

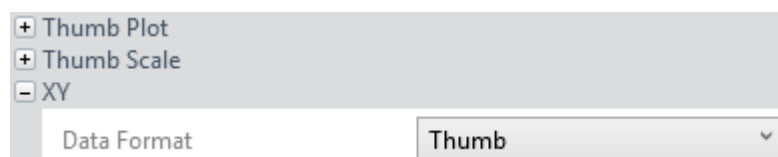
Sort Sample Table via a custom column (e.g., arrange results by concentration from highest to lowest) with **OrderByColumn** and **OrderBySequence** settings.

## Evaluation Variables

Name evaluation variables for referencing them in other settings.

## XY Output options

Configure appearance of XY data in report. This can be used to display kinetic or spectral data as a graphic or table of values in different formats.



The screenshot shows a user interface for selecting a data format. On the left, there is a list of options: '+ Thumb Plot', '+ Thumb Scale', and '- XY'. Below this list is a label 'Data Format'. To the right of the label is a dropdown menu with the text 'Thumb' and a downward-pointing arrow.

## **Multiplex Page Report Template**

Multiplex page report template now defined by single analyte and applied to all analytes (each analyte on a new page).

## **Help Page and User's Guide Updates**

Comprehensive updates to Help Page and User Guide. Including new Curve Fitting section covering tips on fit selection and advanced configuration.

# Updates in MyAssays Desktop Pro R2 (detailing changes since R1)

## Help Pages and Manual Integration

Help Pages and Manual Integration are available in MADE (from **Support** ribbon tab).

Help Page can be launched from help icon in MyAssays Analysis (on the right of the ribbon).

## Video Updates (available from Welcome Screen)

- Quick Start
- Flagging Outliers

## VICTOR Nivo XLSX Import

Automatic importing of VICTOR Nivo XLSX data.

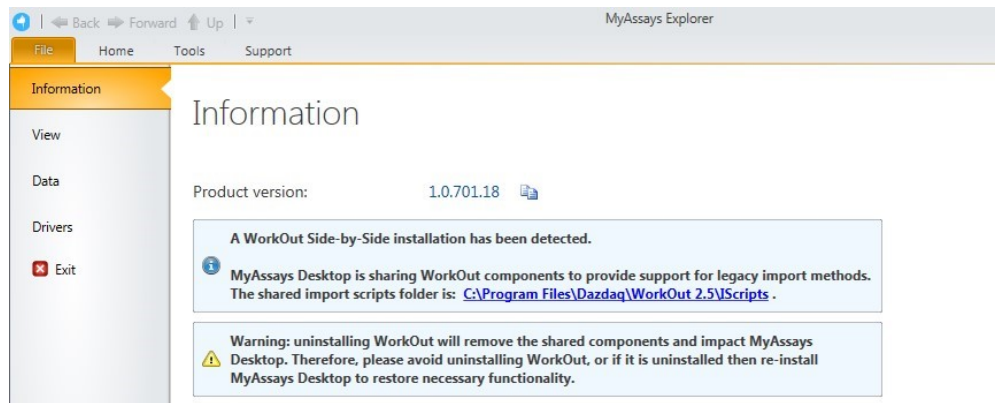
Kinetic Spectral data is imported with each wavelength as a separate matrix.

(Scan mode import is not supported)

## Support for Installing MAD Alongside WorkOut

Improved support for installing MAD on a system with WorkOut installed:

- WorkOut will continue to operate if MyAssays Desktop is installed.
- If WorkOut is using any custom import scripts, then these will be available to MyAssays Desktop.
- After uninstalling MyAssays Desktop, WorkOut will continue to operate.
- The integration works with Kaleido 2.0 update.
- If MyAssays Desktop detects WorkOut, then information about the side-by-side configuration is displayed in MADE **File | Information** area with information and warning notices (to advise against uninstalling WorkOut in this scenario), e.g.:



- If WorkOut is uninstalled after MAD is installed, then user is advised to update/repair MAD installation (when one of the dependent import features is attempted).

## Histogram Report Element

Add histograms to the report. Select any endpoint matrix and which types to include. Optionally include error bars.

## Best Fit UI

Select which fit methods to use within the editor in the transform's settings.

## Updated ELISA Installed Protocols

Example 96 and 384 well example protocols.

## New Transforms

- XY Baseline Correction
- XY Reduction X Between Y

## Multiple Plate Layout Editor Tip

This advises how to number the sample groups when working with multiple plate layouts.



## Chart Plot Area Fill Colour

Now white (was grey).

## Standard Charts Error Bars

Currently only available as XML setting option in **StandardCurveFit** element.

## Update Standard License

For Standard/Basic licenses, upgrade links are provided to online content for upgrades.

## Matrix Position Reference

Use # syntax in expressions to refer to the associated position on a matrix. (See User's Guide for more details.)

## XLS/XLSX Source

When importing XLSX/XLS content, **Source** tab is available to show content.

## Label Enhancements

Highlight whole row. Apply to selected types only.

## Export Wizard

Supports custom export plug-in DLL.

## Enhancements since v1.0.641.3

### *Multiplex Protocol Update*

Terminology change: Plate Dilution Factor and Sample Dilution Factors.

### *Multiplex Concentrations Editor Enhancements*

This includes:

- Specification of different units per analytes
- Matching Units option
- Non-serial or serial concentration values

### *Import Method Additions*

Automatically imports analyte names from supported files.

- Support for Luminex xPonent CSV multiplex
- Support for MSD CSV and TXT multiplex files

### *Sample Labels*

Easy-to-use sample labels editor including colour pickers for text highlight and text colour.

### *Best Fit*

Now defaults to 4PL and 5PL fit methods weighted and unweighted.

### *Best Fit Score Method Options*

Presets available for various common scoring methods.

### *Support for Large Text Sizes*

With support for large text sizes as commonly used with larger screen resolutions (e.g., 3000x2000 displays).

### *SheetName option per TransformContent Element*

This allows transform content elements to appear on different sheets (e.g., Fit Chart and Best Fit table can now appear on separate sheets).

### *Export Plug-In Option*

Export Wizard includes option to select Export Plug-In Option to use for output.

### *Infinite Weight*

When using a zero standard in the fit, e.g., so the calibrator is (0,0), if using a weight method such as  $1/y^2$ , then this will result in an infinite weight that can skew the fit.

When this occurs, a warning message appears.

Also, this can be resolved using advanced XML setting for Standard Curve Fit to replace any infinite weight with the maximum finite weight in the set optionally multiplied by a factor, e.g.:

```
WeightInfinityResolution="MaxFiniteMultipliedByFactor"
```

```
WeightInfinityReplacementFiniteMaxFactor="2"
```

## Enhancements since v1.0.621.602

### *Feature Licensing*

Multiplex feature now requires a specific license type. If you do not have a multiplex license contact support for an updated license.

### *Cached Tab Selection*

Switching between the main tabs in the Analysis window is now even faster.

### *Flags View*

View flagged items from Flags view option (available after any point or position is flagged).

### *Units Specification*

Currently via XML only.

### *Transform Output Variables*

For referring to transform calculations and evaluations in expressions.

## Enhancements since v1.0.593.182

### *Layout Editor Update*

The Layout Editor has been replaced with a faster implementation that no longer requires Silverlight.

### *Best Fit Feature*

The Standard Curve Fit transform now offers the Best Fit fit method. You also can select a Scoring Method to use to sort fit results and pick the best.

### *Support for Comma Decimal Separator Systems*

The application now works with the system's current culture settings. Any numerical values (including data and parameters) should be specified using the system's culture settings. For example, "1,23" on a typical European configuration is equivalent to "1.23" on a US-based system.

### *Faster Tab Selection*

Switching between the main tabs in the Analysis window is now faster.

### *Integrated Transform Help*

In the configured transforms list, a help icon is now available to open the help page associated with the transform.

# Known Issues in R4

## Application Error Occurs when Starting MADE

When launching MyAssays Desktop Explorer, an error might rarely occur with .NET 4.0 WPF core and crash the application. This also includes Windows 7 systems that have .NET v4.0.30319 or earlier installed.

This is a known issue for .NET 4.0 that is fixed in later versions. To resolve this, please install .NET 4.5.2 available from: <https://www.microsoft.com/en-us/download/details.aspx?id=42643>.

## Critical Error in MAA Due to High Memory Consumption

In some cases, when a large number of MAA windows run at the same time, the application could throw Critical Error exception due to high runtime memory consumption. This issue is now partly fixed and in the process of further fixing.

For now, please avoid calculating too many results versions during single MAA run, i.e., restart the application every 10-20 calculations if possible.

## Dose–Response Curves for EC50 Changing Dose Replicates Does Not Update the Doses Setting

When working with Dose–Response Curves for EC50, changing the **Dose Replicates** in the **Doses** tab might not visually update the **Doses** drop-down display of Dose–Response Curves transform and vice versa. This occurs only if new value is a divisor of the previously selected value. This is just a visual desynchronization and does not affect calculations at all.

## Keyboard Occasionally Loses Control Focus When Editing Certain Property Values

To resolve this, press **Esc** key to continue with keyboard entry.

## Best Fit Search Is Not Valid. Fit Method Could Not Be Detected.

This message occurs if a protocol was created with a version before the Best Fit feature was added but is then changed to use the Best Fit method. To resolve this, the easiest solution is to select a different fit method or recreate your protocol with the new installation to use the Best Fit feature.

Alternatively, insert the following XML snippet under the **StandardCurveFit** element in the XML editor.

```
<BestFitSearch xmlns="http://www.myassays.com/bestfitsearch"  
WeightCSV="None,1/y2,1/x2,x2,y2" ScoreMethod="R2">  
  <Method FactoryName="4PL" DisplayName="4PL" />  
  <Method FactoryName="5PL" DisplayName="5PL"/>  
</BestFitSearch>
```