thermoscientific



Thermo Scientific SkanIt software for microplate readers

Simplified data acquisition and analysis

DOMINIQUE DUTSCHER

ThermoFisher SCIENTIFIC

Thermo Scientific™ SkanIt™ software

A powerful multi-instrument microplate reader software that provides excellent usability and flexibility even for the most challenging assays.

SkanIt software supports optimal use of the instrument features with a visual workflow, effortless data analysis and exporting capabilities. It's available in two editions: A Research Edition for scientists working in life science research, and a Drug Discovery Edition offering features for compliancy with FDA 21 CFR Part 11.

Supporting a family of microplate readers

- Thermo Scientific™ Varioskan™ LUX multimode reader
- Thermo Scientific™ Multiskan™ FC filter-based photometer
- Thermo Scientific™ Multiskan™ GO spectrophotometer
- Thermo Scientific™ Fluoroskan fluorometer
- Thermo Scientific™ Fluoroskan™ FL fluorometer and luminometer
- Thermo Scientific™ Luminoskan™ luminometer
- Thermo Scientific™ Multiskan™ Sky spectrophotometer

The software automatically detects the instrument configuration and adapts the user-interface to display features specific to the instrument.

Quick and easy for anyone to learn

SkanIt software is designed to serve multi-user environments. Complexities are not shown on the surface of the software but are easy to access when needed. Operation is straightforward if you're a new user, or if you require more basic reading capabilities.

At the same time, it offers flexible and versatile features for more advanced applications.



Figure 1. Start screen of the multi-instrument SkanIt software.

SkanIt software is an open license platform that authorizes unlimited installation privileges. You can create measurement sessions and analyze results on your computer inside or outside of the lab.

The software is available in nine languages: English, French, German, Spanish, Portuguese, Italian, Russian, Japanese and Chinese.

SkanIt software highlights

- Easy to navigate and setup measurement sessions
- The Thermo Scientific™ Virtual Pipetting Tool™ to assist in defining the plate layout
- Real-time spectra and kinetic curves shown during the measurement
- Data transfer to Excel with a single mouse click
- Manual or automatic data export to *.xlsx, *.pdf, *.xml and *.txt data formats
- Open license software for unlimited installation to many computers
- User-interface in English, French, German, Spanish, Portuguese, Italian, Russian, Japanese and Chinese
- Drug Discovery Edition offering features for FDA 21 CFR Part 11 compliancy
- Separate user accounts for controlling access to software
- Automation interface



Measurement sessions

With SkanIt software, you can build measurement sessions for your own microplate assays or modify ready-made sessions. You can easily transfer measurement sessions between SkanIt software on different PCs.

Intuitive interface

User-friendly session structure simplifies the measurement setup.

- Notes – write notes about the assay
- Plate layout – define the sample content for each well
- Protocol – tell the instrument what actions to perform
- Results – see the measurement results and perform calculations
- Report – create a result report and export data

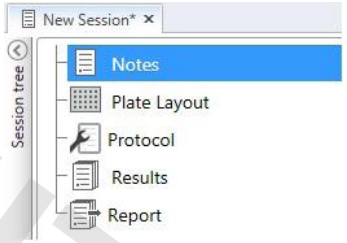


Figure 2. The session tree is the main area for navigating in the software.

Virtual pipetting for defining plate layout

The Virtual Pipetting Tool lets you quickly enter the plate sample information in a manner that resembles reagent pipetting in the laboratory, making it easy to visualize and define the plate layout.

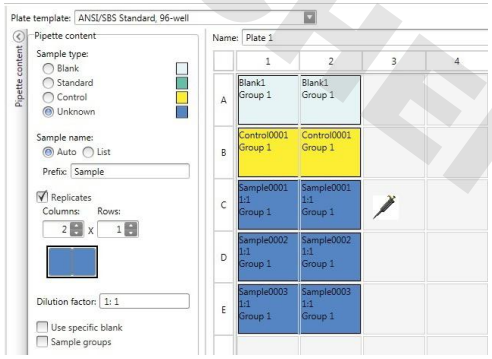


Figure 3. Innovative Virtual Pipetting Tool assists in defining samples to plate layout.

Measurement protocol

The measurement protocol setup is simple. Just add the instrument actions to the session tree in the order you want the instrument to perform them.

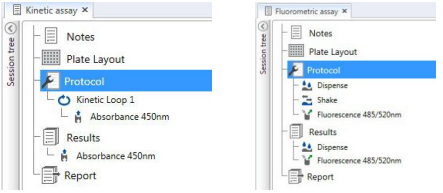


Figure 4. The measurement protocol is defined by a user-friendly steplist.

Visual tools and instructional pictures also assist you through the protocol setup.



Figure 5. Spectral color slider for defining wavelength range of a spectral measurement.

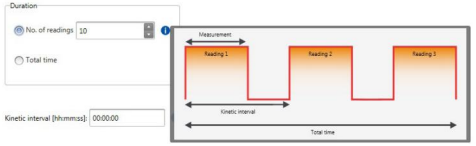


Figure 6. Info balloons reveal instructional pictures that help you understand the parameters.

The software offers flexible features for assays of different complexities. No matter how simple or complicated the assay is, the software has the tools to run it.

- End point, kinetic, spectral, multipoint and kinetic spectral measurements
- Single or multi-wavelength measurements
- Multi-technology measurements, even kinetically
- Pathlength correction for normalizing absorbance data to correspond to a 1 cm cuvette
- Shaking the plate between kinetic readings
- Executing instrument actions separately for different groups of wells
- Specialized microliter-scale measurements with the Thermo Scientific™ µDrop™ Plate

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Result display

Measurement data is continuously saved to the software database during the run, so there's no data lost due to unexpected interruptions such as power outages or accidental aborting.

The software has a clear data display. Data is shown in a convenient format depending on the assay type; pure numbers, kinetic curves, spectral graphs, heatmaps and 3D graphs.

The software automatically generates a result summary, a combination of measurement and calculated data in a clear format.

The software brings additional integrity to your research by saving important information to the run log for traceability: Instrument temperatures, timestamps of protocol actions, errors and warnings that may have occurred during a run are just a few of the prompts you will receive. If the instrument is equipped with an integrated gas module, the log also reports the CO_2 and O_2 concentrations.

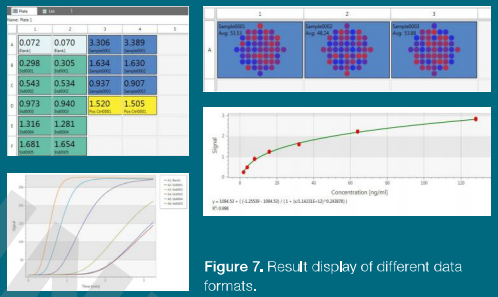


Figure 7. Result display of different data formats.

Plate	Well	Group	Sample	Absorbance 1 405nm	Blank Subtraction 1 405nm	Standard Curve 1 405nm
Plate 1	A01	Group 1	Blank1	0.072	0.0008000	
Plate 1	A02	Group 1	Blank1	0.070	-0.0008000	
Plate 1	D03	Group 1	Pos Ctrl0001	1.520	1.449	23.43
Plate 1	D04	Group 1	Pos Ctrl0001	1.505	1.434	22.90
Plate 1	A03	Group 1	Sample0001	3.306	3.235	> Max
Plate 1	A04	Group 1	Sample0001	3.389	3.318	> Max
Plate 1	B03	Group 1	Sample0002	1.634	1.562	27.74
Plate 1	B04	Group 1	Sample0002	1.630	1.558	27.57
Plate 1	C03	Group 1	Sample0003	0.937	0.8660	8.638
Plate 1	C04	Group 1	Sample0003	0.907	0.8353	8.136

Figure 8. Result summary.

With SkanIt software you have a full control over all of the instrument settings, including: Instrument temperature, CO2 and O2 gas concentrations, priming the onboard reagent dispensers and defining filter information to instrument memory.

Let the software analyze the data

Ease your workload and let SkanIt software process the measurement data for you. You can select from a variety of built-in calculations:

- Blank subtraction for subtracting blank average from all samples
- Average, SD and CV% from sample replicates
- Standard curve for concentration calculation
- Simple ratio, subtraction, division and multiplication calculations
- Quality control for checking the validity of the assay
- Classification for dividing samples into categories based on limit values
- Normalization of data to a B_0 reference sample
- Calculations for reduction of kinetic or spectral data
- Custom formula for creating your own custom calculations

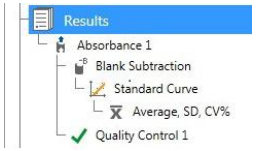


Figure 9. The visual session tree showing added calculations.

SkanIt software uses a simple pathlength correction calculation for photometric DNA/RNA quantification. It normalizes absorbance values measured on a microplate to correspond to absorbance values measured in a standard 1 cm cuvette. Thus it enables DNA/RNA concentration calculation directly from absorbance values.

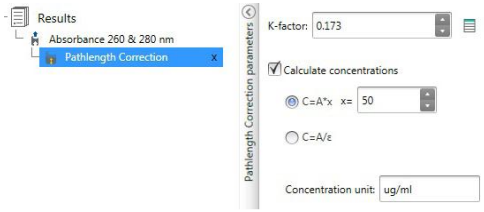


Figure 10. Pathlength correction is a simple yet reliable tool for photometric DNA/RNA analysis.

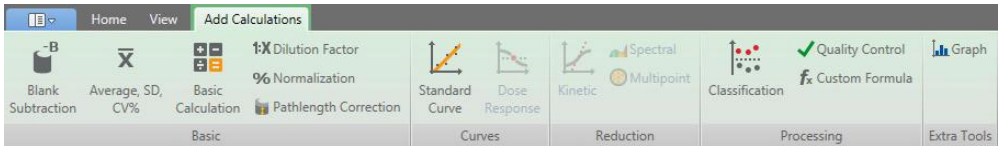


Figure 11. The built-in calculations of SkanIt software help you process the measurement results.

Exporting results

Data exporting from SkanIt software couldn't be easier. With a single mouse click, your data is available in Microsoft™ Excel™ for further analysis.

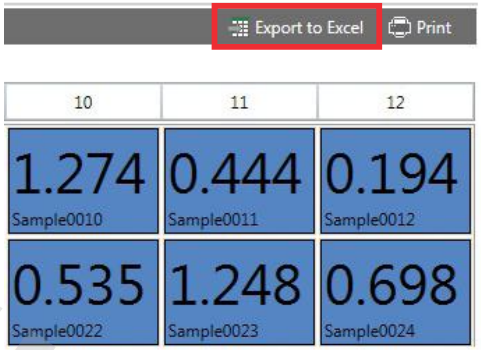


Figure 12. Data export to Microsoft Excel is quick and easy.

You can create a comprehensive report of both measurement and calculated data, and select the way the data is organized and sorted. Export the result report in *.xlsx, *.pdf, *.xml or *.txt file format.

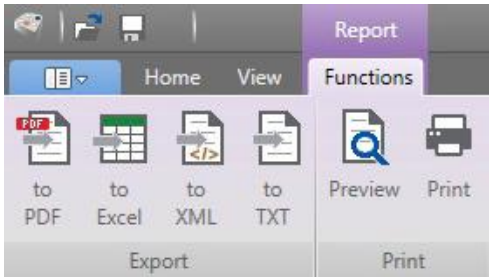


Figure 13. Data export to Microsoft Excel is quick and easy.

You can either export the results manually after the run, or you can export the results automatically to a specific destination. The software can even email you the results automatically after the run is complete.

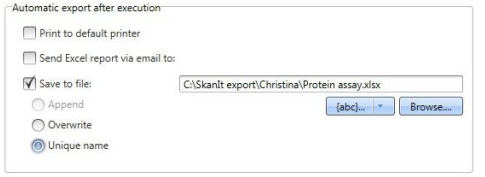


Figure 13. Data export to Microsoft Excel is quick and easy.

SkanIt software helps to simplify data acquisition and analysis, facilitating an effortless workflow so that you can push your research forward with confidence.

We are on the same wavelength.

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Ordering information

Thermo Scientific™ SkanIt™ Software	Cat. No.
SkanIt software for microplate readers, Research Edition	5187139
SkanIt software for microplate readers, Drug Discovery Edition	5187149

Note: Research Edition is included free of charge with every instrument.
The Drug Discovery Edition must be purchased separately.

PC Requirements

System	Recommended requirements
Supported operating systems	64-bit edition of Microsoft™ Windows™ 7 with Service Pack 1, or 64-bit edition of Microsoft™ Windows™ 8.1 , or a 64-bit edition of Microsoft™ Windows™ 10
Disk space	Solid-state drive with 14 GB free disk space
Processor	Quad-core (or dual-core with four logical processors), 2 GHz or faster
Memory	8 GB RAM
USB port available	1 (one)
CD-ROM drive	1 (one)
Graphics Processing Unit	Dedicated
Monitor	SXGA monitor with 1280 x 1024 resolution

Note: We strongly recommend using a computer that fulfills the recommended requirements, especially if you process sessions with more than 150,000 individual measurements or with complex calculations.

Automation interface

Automation interface is available free of charge on request.

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Find out more at **thermofisher.com/skanit**

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