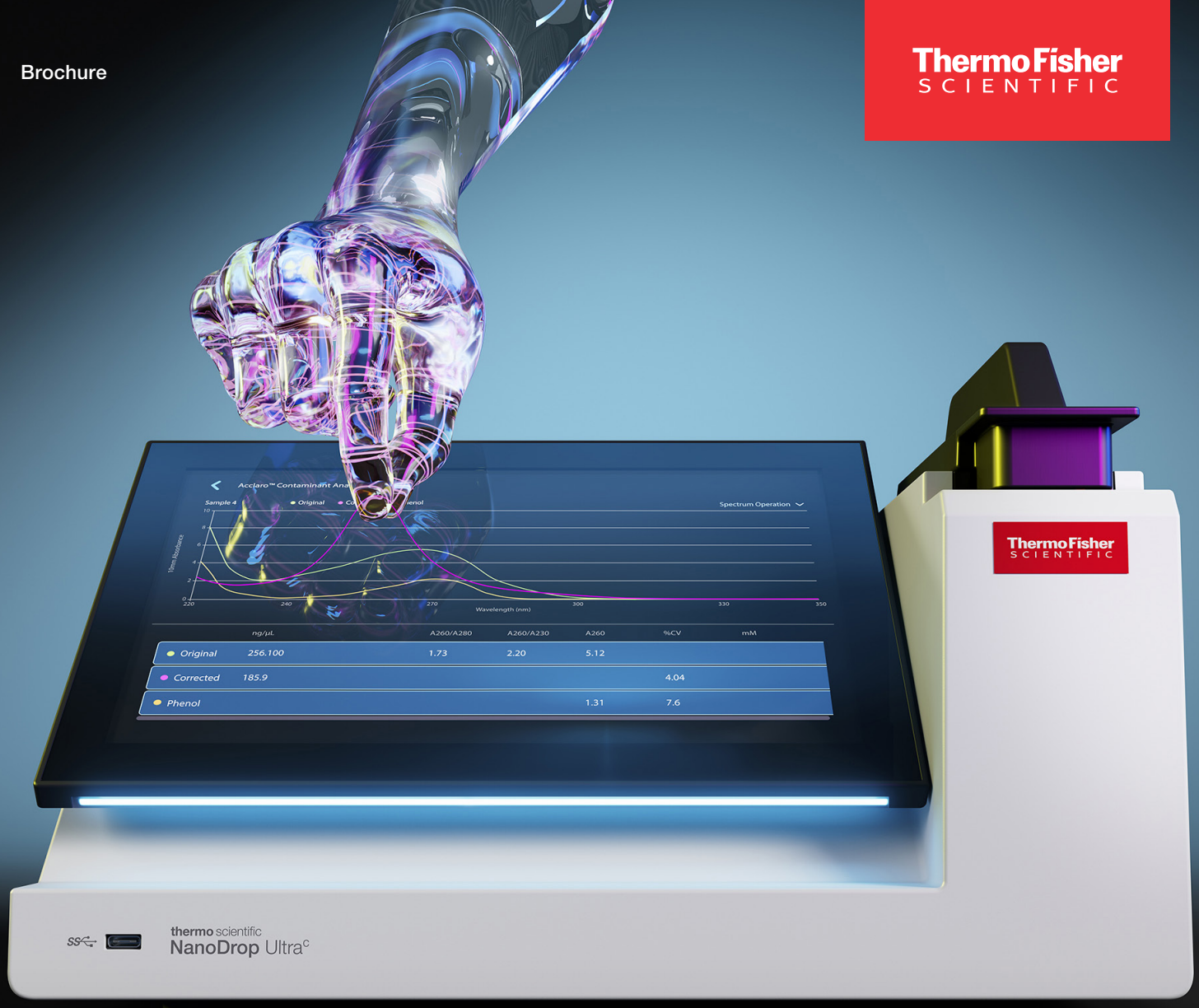
Brochure



Beyond Measure

Only Ultra has the power to adapt

NanoDrop Ultra Microvolume UV-Vis Spectrophotometers

thermo scientific

Analysis adapted to your lab environment

Thermo Scientific™ NanoDrop™ Microvolume UV-Vis Spectrophotometers have been trusted stalwarts in the laboratory for over 20 years. With four models from which to choose, and software add-ons to enhance performance and compliance, the NanoDrop Ultra family of spectrophotometers provides tailored analytical solutions from the research bench to the manufacturing line.

Elevated Sample Insight – Software provides corrected concentration values **AND** identifies common impurities found in nucleic acid and protein samples. Software can even differentiate between DNA and RNA for samples of mammalian, bacterial, and plant origin.

Streamlined Workflow – A fully integrated qPCR recipe calculator saves time, optimizes efficiency, and achieves reliable results with precise reaction setup.

Seamless Compliance, Assured Confidence – Optional, user-friendly 21 CFR Part 11 software allows for secure data handling and meticulous tracking, with subsequent seamless integration into your LIMS environment using RESTful API.

Confidence your sample is clean

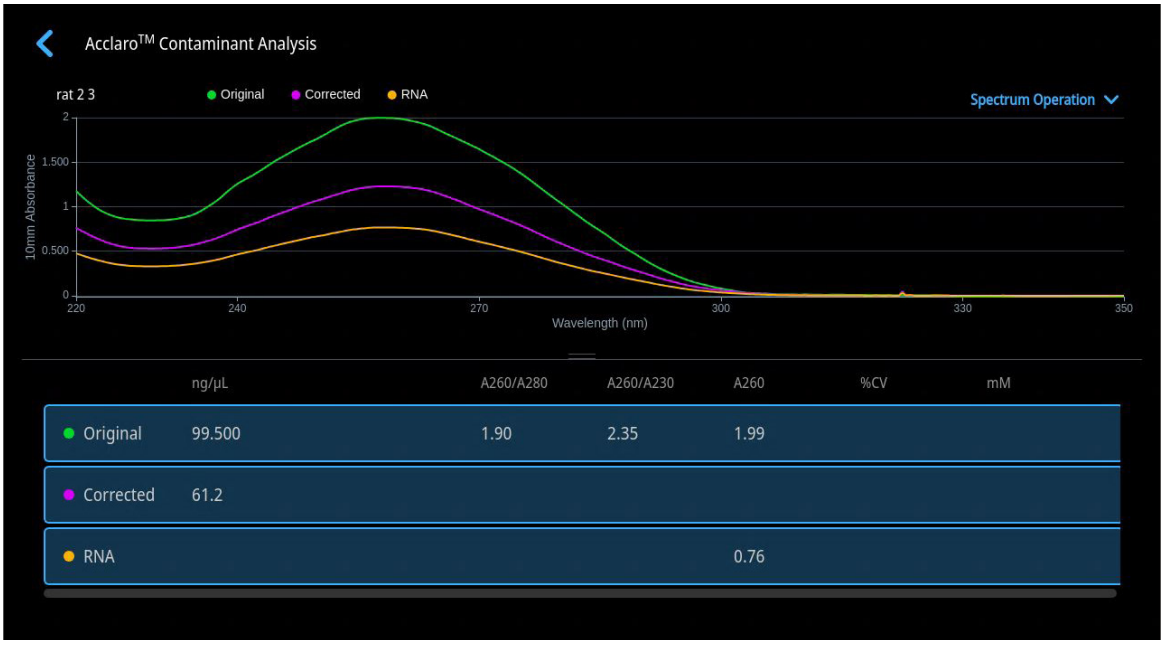
Common sample contaminants such as phenol or guanidine salts can falsely elevate your apparent sample concentration or inhibit downstream reactions. That's why purity ratios alone can't tell the whole story about whether your sample is clean enough for your research. Thermo Scientific™ Acclaro™ Sample Intelligence Technology can recognize multiple undesired substances, and it can even identify when DNA is contaminating an RNA sample.

Contaminant Detection & Analysis – Acclaro offers a comprehensive evaluation of sample purity and it can correct sample absorbance, empowering users to confidently identify, quantify, and mitigate contaminants. Plant and bacteria DNA and RNA differentiations are now available for researchers, scientists, and professionals in fields such as agriculture, plant biology, microbiology, and genetic engineering.

Sample Integrity Insight – The technology provides real-time alerts when bubbles are detected in a sample, which if unnoticed could lead to inaccurate measurements.

Contaminants Identified

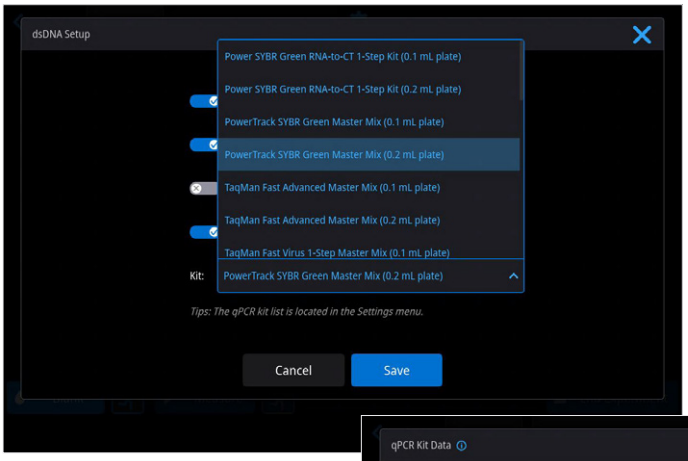
dsDNA	RNA	Protein A280
Protein	Protein	DNA
Phenol	Phenol	
Guanidine HCL	Guanidine Isothiocyanate	
Mammalian RNA	Mammalian DNA	
Plant RNA	Plant DNA	
Bacteria RNA	Bacteria RNA	



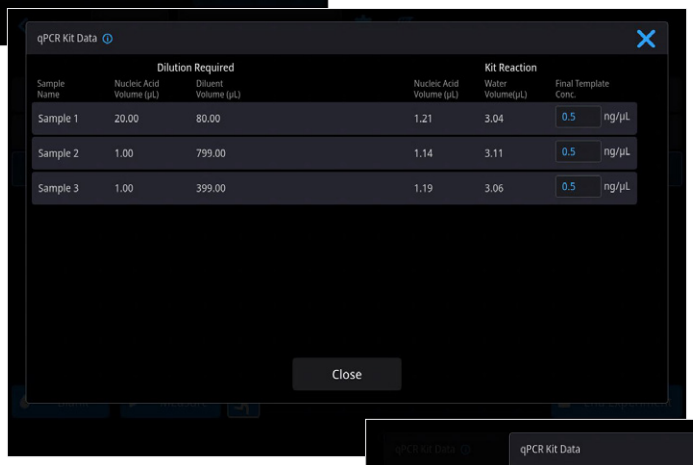
Acclaro Contaminant Software Screen. Software identified RNA contaminating a dsDNA sample and provides a corrected dsDNA concentration.

Automated calculation of reaction volumes

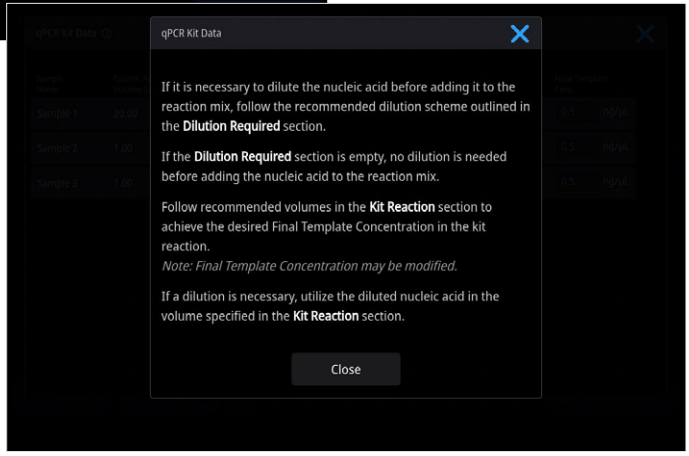
Determining a desired sample concentration is just the beginning, and calculating how much sample goes into your downstream reaction can be tedious. Use the built-in library of kits, or add your favorite, to let the software run the math for you. The qPCR recipe calculator suggests how to prepare the reaction based on your sample's concentration.



Choose your kit from the dsDNA Setup page.



Software guides you to prepare your qPCR reaction.



Tools tip walk you through how to read prior table.

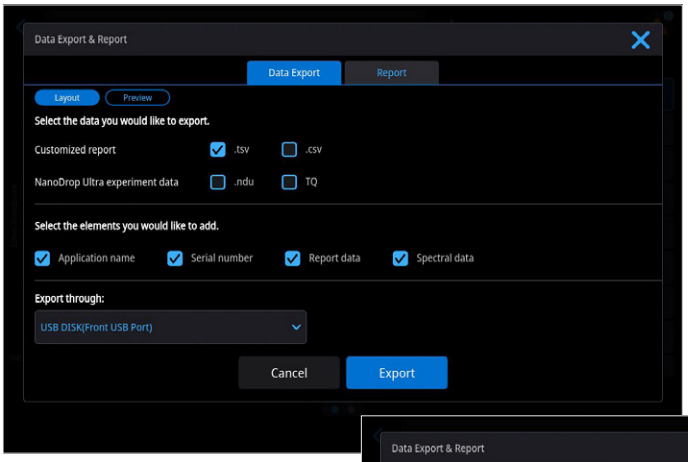
Archive options for all

By connecting your NanoDrop Ultra spectrophotometer to a network, you can easily save data in your preferred location—whether that's the cloud, a network hard drive, or a laboratory information management systems (LIMS).

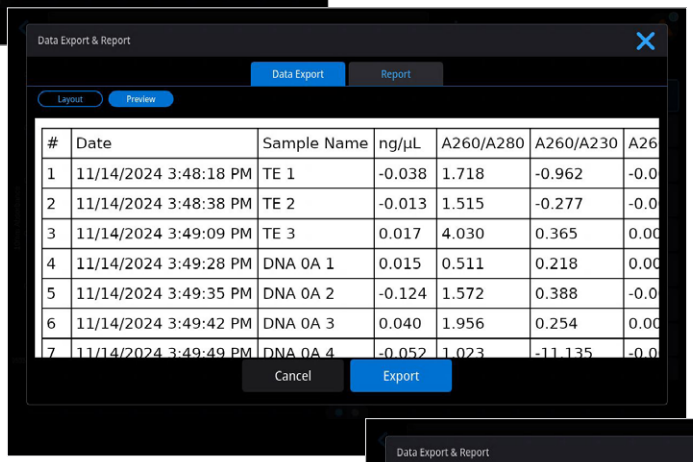
Export to the cloud – Export data directly to popular cloud storage services like Microsoft OneDrive, Google Drive, and Thermo Fisher Connect.

Direct LIMS integration – Send data directly into your LIMS with the assistance of an integrated RESTful API.

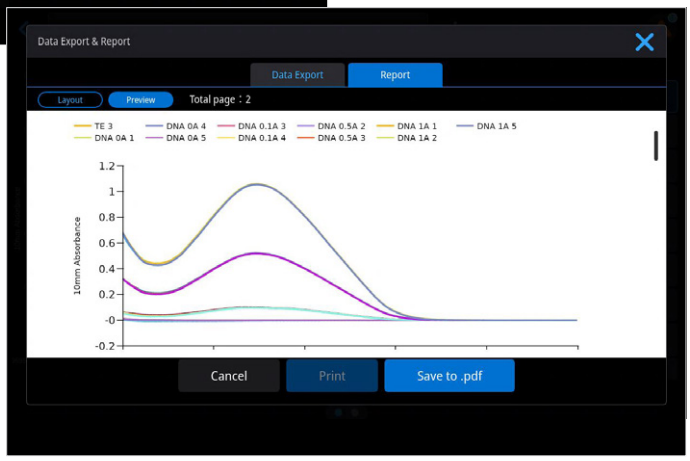
View data your way – Customize and preview the information included in the data file prior to export to ensure it meets any downstream needs.



Export data in multiple file formats and select the type of data exported.



Preview option lets you see what your data file will contain.



View the Report page prior to printing or export directly to .pdf.

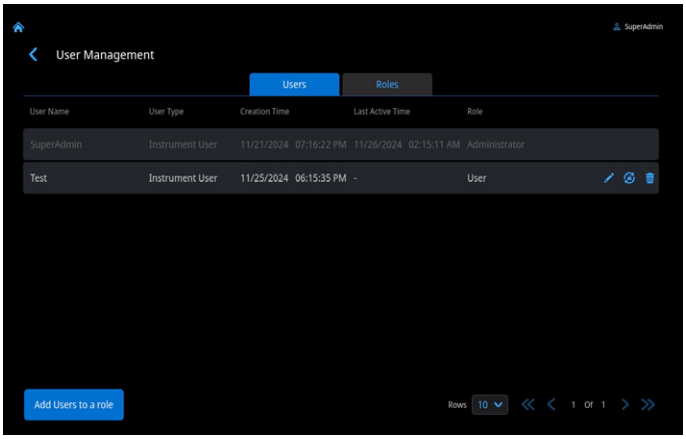
21 CFR Part 11 compliance made easy

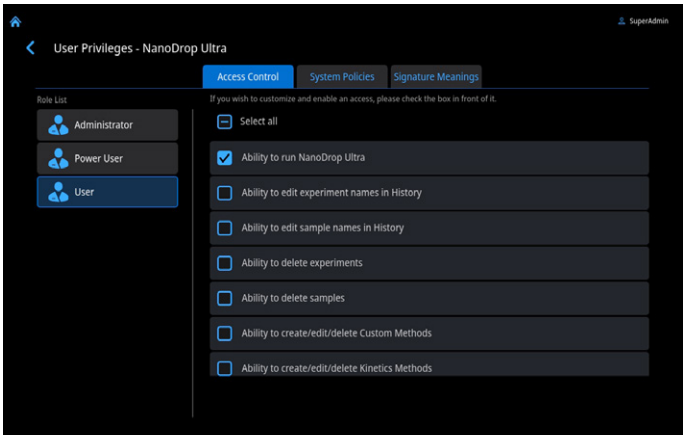
Optional Thermo Scientific™ SciVault™ 2 Software installs on either the instrument or a companion PC and gives labs the tools they need to comply with US FDA 21 CFR Part 11.

Compliance made easy – SciVault 2 software integrates into the NanoDrop Ultra software user interface and controls user account access, digital signatures, and audit logs.

On-board options – The software can be run directly on the local instrument through on-board user account management, or you can connect your instrument to your domain to use your Windows account management.

Centralized solution – Install SciVault 2 software on a central computer to control privileges and view audit logs across multiple NanoDrop Ultra instruments in different labs.





Accuracy beyond expectations

Thermo Scientific™ Acclaro™ Pro Software delivers exceptional spectrophotometric accuracy when you need it. With the bundle purchase, new versions of the most popular measurement applications are unlocked from the factory, providing ± 5% Error throughout the absorbance dynamic range.

Accurate high-concentration measurements – Obtain absorbance measurements within 5% error up to 550 Abs (10 mm equivalent) – up to 400 mg/mL IgG or 18,000 ng/µL ssDNA.

Quick dilution-free process – Take triplicate measurements on the pedestal in under 2.5 minutes.

Enhanced calibration – Bundle purchases receive an additional calibration from the factory, ensuring the instrument provides exceptional accuracy within the Acclaro Pro applications.

Description	Part Number
NanoDrop Ultra Acclaro Pro Bundle	NDULTRAAPGL
NanoDrop Ultra^{C} Acclaro Pro Bundle	NDULTRACAPGL

Technical Specifications

NanoDrop Ultra Microvolume UV-Vis Spectrophotometers

Pedestal Absorbance Specifications		
(NanoDrop Ultra, NanoDrop Ultra[C])		
Minimum sample volume		1 µL
Limit of Detection	dsDNA (RNA)	1 (0.8) ng/µL
	BSA (IgG)	0.03 (0.02) mg/mL
Maximum Concentration	dsDNA (RNA)	27,500 (22,000) ng/µL
	BSA (IgG)	820 (400 mg/ml)
Measurement Repeatability[1]		Typical: 0.002 A (1.0 mm path) or 1%CV, whichever is greater
Photometric	Range	0.02 - 550 Abs (10 mm equivalent)
	Accuracy[2]	3% at 0.97 A, 302 nm
Pathlengths		1.0 mm, 0.2 mm, 0.1 mm, 0.05 mm, 0.03 mm auto-ranging
Measurement & Data Processing Time		≤ 7 sec
Acclaro Pro	Measurement Repeatability	< 3% CV
	Measurement & Data Processing Time	≤ 30 sec

[1] SD of 10 individual samples measured at 0.97 A
[2] Absorbance expressed at Abs/mm at 25°C

Cuvette Absorbance Specifications		
(NanoDrop Ultra[C])		
Limit of Detection	dsDNA (RNA)	0.2 (0.16) ng/µL
	BSA (IgG)	0.006 (0.003) mg/mL
Maximum Concentration	dsDNA (RNA)	27,500 (22,000) ng/µL
	BSA (IgG)	2 (1) mg/mL
Photometric	Range	0.004 - 1.5 Abs (10 mm equivalent)
Pathlengths		10 mm, 5 mm, 2 mm, 1 mm
Beam Height (Z-Height)		8.5 mm
Temperature Control		37.0 °C ± 0.5 °C
Stirring		9 speeds

System Specifications		
(NanoDrop Ultra, NanoDrop Ultra[C])		
Light Source (Absorbance)		Xenon flash lamp
Detector		2048-element CMOS linear image sensor
Wavelength	Range	190 - 850 nm
	Accuracy	± 1 nm
Resolution (Spectral Bandwidth)		≤ 1.8 nm (FWHM at Hg 254 nm)
On-board Control	Operating System	Custom Linux
	CPU	1.6 GHz Quad Core
	Display	10.1" high definition, color display
	Internal Storage	64 GB; approximately 500,000 dsDNA measurements
	Glove Compatibility	Lab gloves
	Audio	Built-in Speaker
	Connectivity	2x USB-A Ports, 1x USB-C Port, Ethernet, Bluetooth[3], Wi-Fi[3]
US FDA 21 CFR Part 11 Compliance		Comply using optional SciVault software installed on instrument or PC
Accessory support		Mouse, keyboard, barcode reader, printer
Dimensions; arm up [W x D x H]		12.6 x 7.1 x 11.0 in (32 x 18 x 28 cm)
Weight		Approximately 9.0 lbs (4.1 kg)
Power consumption		7W at Idle; 11 - 18W at Working Conditions
Battery (not currently available from Thermo Fisher Scientific)		Supports USB-C battery (75Wh yields approximately 8 hrs of runtime)
Warranty		2 years
PC operating system requirements for optional software		Windows® 10 or Windows® 11
Language Support		Chinese, French, Italian, German, Japanese, Korean, Polish, Spanish, English

[3] Requires additional USB dongle, included with instrument

Learn more at **thermofisher.com/nanodropultra**

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