spex®
sampleprep

Spex NanoSNAP™

- Nano Spectrophotometer for Nucleic Acids and Proteins measurement
- Performance and ease of use with hydrophobic-coated sample window and cushioned sample arm
- Touch-screen interface features preprogrammed DNA, RNA and proteins measurements protocols, with customized methods available
- Fast measurement and high throughput with the Auto Run mode

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Spex NanoSNAP

High performance measurements of Nucleic Acids and Proteins in a SNAP

Spex NanoSNAP is a high-speed microvolume spectrophotometer dedicated to Life Science applications. It quantifies DNA, RNA and proteins and assesses their purity within seconds using as little as 1 µL of sample with no dilution required.

Spex NanoSNAP is versatile, with full wavelength coverage from 190 to 1000 nm. It combines high performance along with ease of use thanks to its nano hydrophobic coated sample window, LED viewing light and the cushioning design of the detection arm. Reports are saved on the internal memory and can be easily transferred to USB.

As well as the dedicated Life Science modes, the Spex NanoSNAP provides additional methods for self-defined protocols such as spectrum scanning, multiwavelength, quantitation and concentration.

Dedicated Life Science User Interface

The integrated 7-inch, color touch screen displays an intuitive graphic interface that makes navigation between the different measurement modes easy to learn and quick to use. Multiple measurement modes are available:

- Nucleic acids concentration and purity: dsDNA, RNA, ssDNA
- Protein A280: BSA, IGG, lysosome and custom proteins
- Protein assays: BCA, Bradford, Modified Lowry for protein standard curve protocols
- OD 600: Optical density at 600 nm and cells/mL calculation for cell cultures
- More assays: Customized protocols using factor, standard curve and UV-Vis method

Only a drop of sample needed

DNA, RNA, proteins quantification and purity ratios (260/280, 260/230)

Fast measurement in 3 seconds

Intuitive touch screen interface

Performance

Accuracy

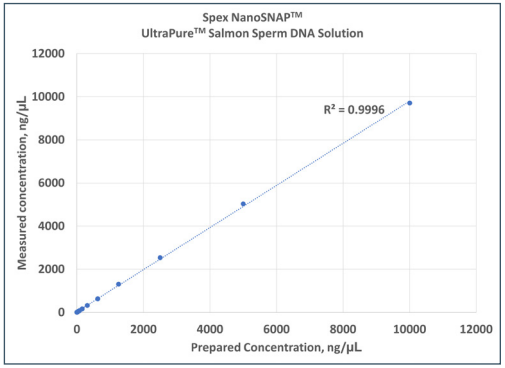
Spex NanoSNAP provides accurate results across the whole concentration range. Whether you are working with low or high DNA, RNA or proteins concentration, you can be confident with your measurement. Evaluation of accuracy using a sample of UltraPure™ Salmon Sperm DNA Solution, 10 mg/mL, shows perfect linearity and identical results compared to other commercially available instruments.

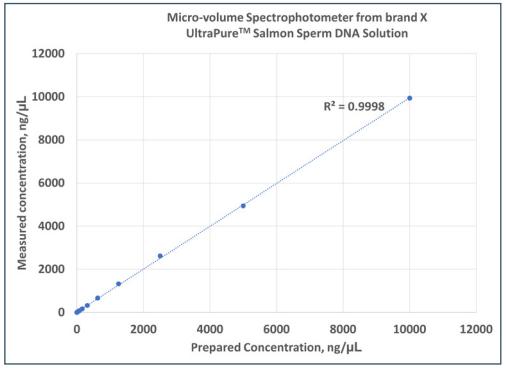
For this evaluation, the sample is two-fold serial-diluted from 10,0000 ng/µL down to 2.4 ng/µL and measurements are performed for each dilution.

The graphs shown below, plotting the measured concentrations as a function of prepared concentrations for Spex NanoSNAP and a microvolume spectrophotometer from brand X, along with the correlation coefficient obtained above 0.999, confirm the perfect agreement between the prepared and measured concentration.

Spex NanoSNAP provides high accuracy across the whole concentration range and can easily be included in a laboratory already using other instruments or looking for new equipment.

Measured concentration of two-fold serial-diluted UltraPure™ Salmon Sperm DNA Solution using Spex NanoSNAP.





Measured concentration of two-fold serial-diluted UltraPure™ Salmon Sperm DNA Solution using microvolume spectrophotometer from brand X.

Performance (continued)

Precision

Scientists should be able to rely on instruments that will provide consistent results on all their sample. Spex NanoSNAP provides results you can trust by achieving a high level of precision.

The precision of Spex NanoSNAP is evaluated using solutions made from two-fold serial dilution of UltraPure™ Salmon Sperm DNA Solution, 10 mg/mL. Final concentrations of the solutions are 2,500 ng/µL and 312 ng/µL. Three independent measurements are performed using Spex NanoSNAP and a microvolume spectrophotometer from brand Y to evaluate the precision.

From the results shown in the tables below, Spex NanoSNAP provides a high level of precision, bringing confidence to scientists in the results they obtain.

	2,500 ng/µL Sample			
	Measurements	**Average**	**Standard Deviation**	**Relative Standard Deviation**
Spex NanoSNAP™	2,522	2,523	8	0.3%
	2,531			
	2,515			
Microvolume spectrophotometer from brand Y	2,465	2,460	15	0.6%
	2,443			
	2,471			

Concentrations, standard deviation and relative standard deviation obtained on 3 independent measurements of a 2,500 ng/µL solution of UltraPure™ Salmon Sperm DNA Solution using Spex NanoSNAP and brand Y.

	312 ng/µL Sample			
	Measurements	**Average**	**Standard Deviation**	**Relative Standard Deviation**
Spex NanoSNAP™	335	337	1.1	0.3%
	337			
	337			
Microvolume spectrophotometer from brand Y	327	326	0.8	0.2%
	325			
	326			

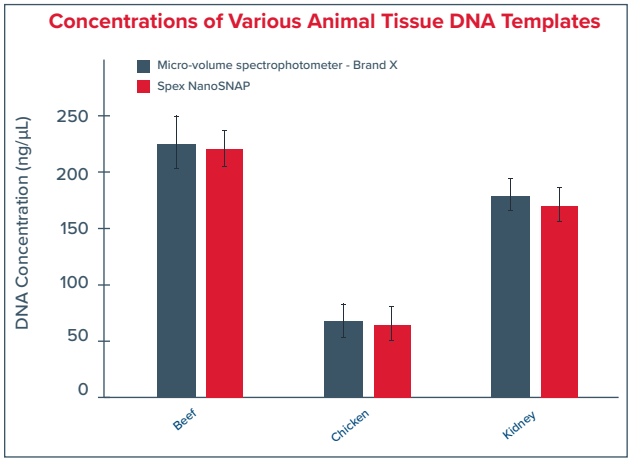
Concentrations, standard deviation and relative standard deviation obtained on 3 independent measurements of a 312 ng/µL solution of UltraPure™ Salmon Sperm DNA Solution using Spex NanoSNAP and brand Y.

Performance (continued)

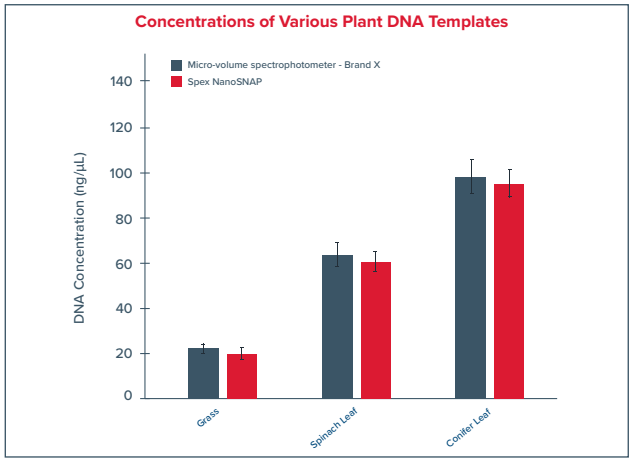
Animal Tissue, Plants and Plasmids

Various animal tissue, plant and plasmid DNA templates are measured using Spex NanoSNAP and are compared to those obtained using a microvolume spectrophotometer from brand X.

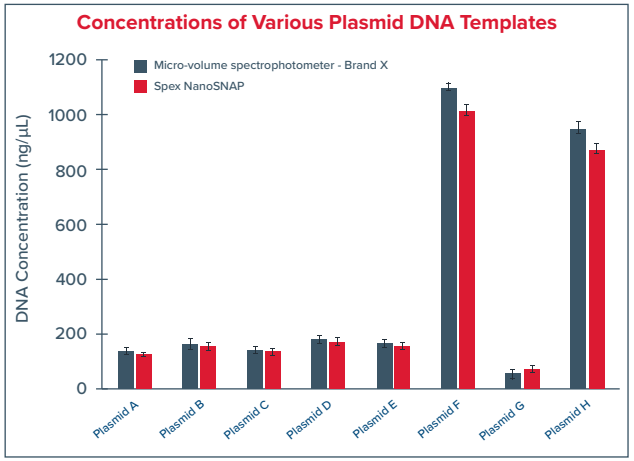
The figures below show the results obtained for both instruments and we can see that both units generate consistent data of DNA concentration across all the samples analyzed. Spex NanoSNAP can easily be introduced into a laboratory setting without loss of conformity or functionality when analyzing DNA concentrations of animal tissue, plants and plasmids.



Animal tissue DNA templates measured using Spex NanoSNAP and microvolume spectrophotometer from brand X.



Plant tissue DNA templates measured using Spex NanoSNAP and microvolume spectrophotometer from brand X.

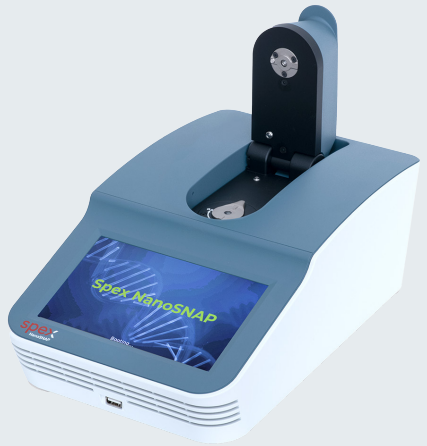


Plasmid DNA templates measured using Spex NanoSNAP and microvolume spectrophotometer from brand X.

Specifications

Spex NanoSNAP

Sample Volume	1 µL minimum volume
Pathlength	0.5 mm or 0.05 mm, selectable
Light Source	Pulsed Xenon flash lamp
Detector Type	2048 element CMOS
Wavelength Range	190 to 1000 nm
Spectral Resolution	1.5 nm (FWHM at Hg 253.7 nm)
Absorbance Range (1 cm equivalent)	0 (0.04) to 400 A
Detection Range	dsDNA: 2 to 20,000 ng/µL, BSA: 0.06 to 600 mg/mL
Data Port	1 USB Type-A front port for USB flash drive
Footprint Dimensions (W x D x H)	8.1 in x 13.1 in x 6.5 in (206 mm x 333 mm x 166 mm)
Weight	7.8 lb (3.5 kg)
Power Adapter	Input: AC 100-230 V, 50/60 Hz; Output: DC 24 V, 2.08 A
CE Approved	Yes



Spex NanoSNAP
UV-Vis spectrophotometer

Ordering Information

EQUIPMENT	
Product Name	**Part Number**
Spex NanoSNAP UV-Visible Spectrophotometer	83057-02
Maintenance kit (hydrophobic reagent and swabs)	83057-03
DNACON solution 260/280 reference	99959-77

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Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct.
If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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Please contact us if this literature doesn't answer all your questions.