



Infinite[®] 200 PRO NanoQuant

Highly sensitive absorbance reader for low sample volumes

Infinite 200 PRO NanoQuant – A powerful tool for nucleic acid applications

The Infinite 200 PRO NanoQuant was the first multimode microplate reader to be developed specifically for absorbance applications with low sample volumes. The sensitive instrument is available with Tecan's Quad4 Monochromators™ or with UV-stable filters, and can detect DNA concentrations as low as 1 ng/μl. This affordable instrument represents a simplified version of the standard Infinite 200 PRO and is compatible with Tecan's patent pending NanoQuant Plate™.

The Infinite 200 PRO Nanoquant is the ideal solution for a broad range of applications, such as DNA- or RNA-quantification, quality control and labeling efficiency. It delivers excellent sensitivity, multiplexing capability and high format flexibility, including 6- to 384-well microplates as well as half-well plates and the NanoQuant Plate for low concentration and low sample volumes.

NanoQuant technology

The patent pending NanoQuant Plate is a sensitive, quartz-based tool that can measure up to 16 samples simultaneously from sample volumes as low as 2 μl, using a separate quartz optic for each sample. The NanoQuant Plate is compatible with multichannel pipettes and allows the detection of nucleic acids concentrations of just 1 ng/μl, with excellent reproducibility (CV <5 %).



Key applications

- DNA/RNA quantification during sample preparation for PCR-based assays in research, genetics, forensics and blood banking laboratories.
- Measuring the labeling efficiency of dye-labelled samples, such as for FISH- and microarray-based experiments.

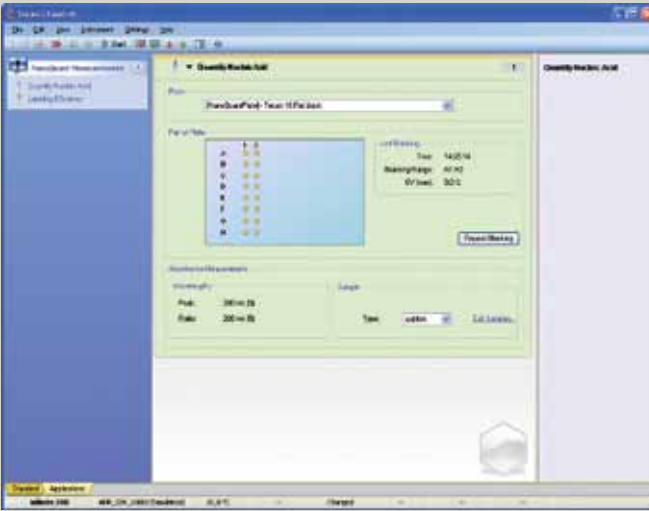
Key features

- **Sensitivity** – detects and quantifies nucleic acid concentrations as low as 1 ng/μl.
- **Flexibility** – performs absorbance measurements with the NanoQuant Plate, standard microplates (6- to 384-wells) and half-well 96-well plates.
- **Simplicity** – includes application-oriented i-control™ software for rapid DNA/RNA quantification, and identifies dye incorporation by measuring nucleic acid labeling efficiency.
- **Speed** – samples can be loaded using multichannel pipettes and measured within seconds.
- **Upgradeable** – additional Infinite 200 PRO detection modes can also be included.

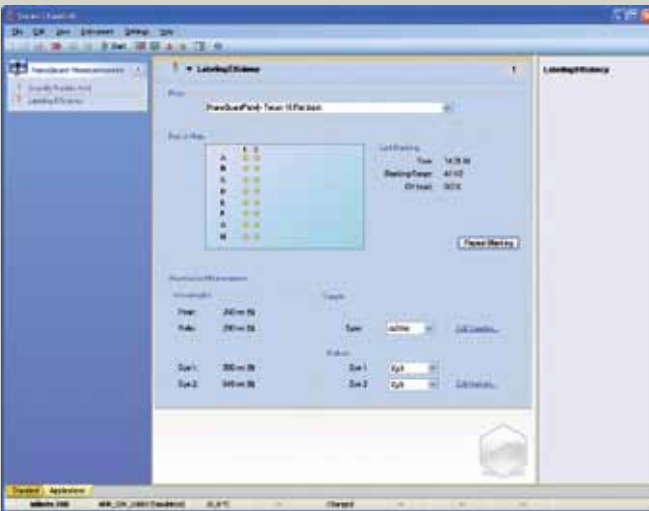
i-control™ software – Easy to use software features for different applications

The i-control software for the Infinite 200 PRO NanoQuant has special features for quick and easy DNA/RNA quantification and for determination of labeling efficiency. Multiple samples in the NanoQuant Plate can be read in just a matter of seconds, and nucleic acid concentrations or other measurements are provided at the touch of a button.

The i-control software is an easy-to-use and flexible tool, which gives the user complete control over Tecan readers. DNA/RNA concentration or labeling efficiency can be automatically calculated and will be displayed in specially designed Excel® worksheets. After a series of measurements a summary of all results will be displayed. Also a quality check of the NanoQuant Plate can be performed if desired.



i-control applications for DNA/RNA quantification.



i-control applications for DNA/RNA quantification and measurement of labeling efficiency.

		1		2	
		Abs	Value	Abs	Value
A	280	0.0434 OD	18.85 ng/µl	0.0442 OD	18.85 ng/µl
	280	0.0533 OD	1.65171 ratio	0.0538 OD	1.72658 ratio
B	280	0.062 OD	17.95 ng/µl	0.0633 OD	18.35 ng/µl
	280	0.0521 OD	1.69285 ratio	0.0531 OD	1.75797 ratio
C	280	0.0629 OD	17.95 ng/µl	0.0638 OD	18.95 ng/µl
	280	0.0535 OD	1.64852 ratio	0.054 OD	1.66455 ratio
D	280	0.0607 OD	17.15 ng/µl	0.0605 OD	18.95 ng/µl
	280	0.0516 OD	1.61127 ratio	0.0514 OD	1.64779 ratio
E	280	0.0668 OD	18.85 ng/µl	0.0661 OD	19.95 ng/µl
	280	0.0564 OD	1.70685 ratio	0.056 OD	1.85524 ratio
F	280	0.0613 OD	17.95 ng/µl	0.0635 OD	17.95 ng/µl
	280	0.0516 OD	1.69372 ratio	0.0543 OD	1.55644 ratio
G	280	0.0725 OD	18.95 ng/µl	0.0691 OD	19.95 ng/µl
	280	0.0625 OD	1.62748 ratio	0.0588 OD	1.67934 ratio
H	280	0.0628 OD	17.65 ng/µl	0.0643 OD	17.95 ng/µl
	280	0.0523 OD	1.64282 ratio	0.0547 OD	1.66449 ratio

Calculated results for nucleic acid concentrations are displayed in a specially designed Excel worksheet.

Übersicht über alle Messresultate mit NQP.xls						
	A	B	C	D	E	F
1	dsDNA_1		280	280	Conc ng/µl	Ratio
2		A1	0.0634	0.0533	18.8499989	1.86170801
3		A2	0.0642	0.0538	18.5499976	1.72658496
4		B1	0.062	0.0521	17.8499959	1.89294927
5		B2	0.0633	0.0531	18.3499979	1.70798952
6		C1	0.0629	0.0535	17.3499996	1.64552447
7		C2	0.0638	0.054	18.0500003	1.66455304
8		D1	0.0607	0.0516	17.1400003	1.81127387
9		D2	0.0605	0.0514	18.550001	1.84779108
10		E1	0.0668	0.0564	18.8499989	1.70684742
11		E2	0.0661	0.056	19.0500023	1.85024348
12		F1	0.0613	0.0516	17.3499996	1.89371515
13		F2	0.0635	0.0542	17.9500023	1.5984425
14		G1	0.0725	0.0628	18.9499969	1.62748221
15		G2	0.0691	0.0588	19.0499986	1.67933883
16		H1	0.0618	0.0523	17.6499973	1.64281587
17		H2	0.0643	0.0547	17.5499993	1.66449361
18	dsDNA_2		280	280	Conc ng/µl	Ratio
19		A1	0.0638	0.0528	19.4499979	1.76117729
20		A2	0.0646	0.0535	18.8499989	1.82235623
21		B1	0.0622	0.0516	17.6499973	1.83020057
22		B2	0.0635	0.0526	18.4500034	1.81885408
23		C1	0.0633	0.0532	17.3499996	1.76253966
24		C2	0.064	0.0538	18.1500002	1.72139902
25		D1	0.0613	0.0512	17.6499973	1.73998783
26		D2	0.0613	0.0513	17.0499983	1.76798422
27		E1	0.0669	0.0562	18.9500006	1.74755018
28		E2	0.0665	0.0557	19.1500003	1.74985726
29		F1	0.0614	0.0513	17.0499983	1.78850958
30		F2	0.0641	0.0535	18.1499983	1.78927872
31		G1	0.0734	0.0624	19.6499976	1.74763774
32		G2	0.0699	0.059	19.6499976	1.73223131
33		H1	0.0624	0.0519	17.749999	1.80317451
34		H2	0.0646	0.0544	17.6499973	1.75731158
35	dsDNA_3		280	280	Conc ng/µl	Ratio
36		A1	0.0639	0.0525	18.9500006	1.88814592
37		A2	0.0643	0.0534	18.3500017	1.82700709
38		B1	0.0622	0.0514	17.5499993	1.87826101
39		B2	0.0637	0.0527	18.4499959	1.83696295
40		C1	0.0636	0.053	17.5500003	1.83890039
41		C2	0.064	0.0535	17.7500027	1.80317489
42		D1	0.0611	0.0509	16.7499969	1.83185217
43		D2	0.0614	0.0515	16.9500003	1.75761502
44		E1	0.067	0.0562	18.4499996	1.80109833
45		E2	0.0664	0.0556	18.5499976	1.79335372
46		F1	0.0614	0.0512	16.7500007	1.83185258
47		F2	0.0642	0.0539	17.5499993	1.78285708
48		G1	0.0732	0.0625	18.5500013	1.77618224
49		G2	0.0696	0.0588	18.9500006	1.76381619
50		H1	0.0622	0.0519	16.8499986	1.84278879
51		H2	0.0644	0.0541	17.1500037	1.81601816
52						
53						

Complete series of measurements are summarized in an additional Excel summary sheet.

Infinite M200 and F200 PRO NanoQuant – Typical performance values

Light source	UV Xenon flashlamp
Wavelength selection	
Infinite M200 PRO NanoQuant	Quad4 Monochromators system (2 excitation monochromators)
Bandwidth	Ex: < 9 nm for $\lambda > 315$ nm; < 5 nm for $\lambda \leq 315$ nm
Wavelength accuracy	< $\pm 0,5$ nm for $\lambda > 315$ nm; < $\pm 0,3$ nm for $\lambda \leq 315$ nm
Wavelength reproducibility	< $\pm 0,5$ nm for $\lambda > 315$ nm; < $\pm 0,3$ nm for $\lambda \leq 315$ nm
Infinite F200 PRO NanoQuant	
Bandwidth	260 nm (5 nm bandwidth) 280 nm (3 nm bandwidth)
Wavelength range	230 – 1000 nm
Absorbance	
Detection limit dsDNA concentration	1 ng/ μ l
Reproducibility of one sample (CV) (50 ng/ μ l)	< 1 %
Uniformity (50 μ g/ml)	< 3 %
Ratio 260/280 nm (50 μ g/ml)	$\pm 0,07$
Precision @ 260 nm	< 0,2 %
Accuracy @ 260 nm	< 0,5 %
Measurement range	0 – 4 OD
Detectors	UV Silicon photodiode
Plate formats	6- to 384-well plates, half-well plates, cuvettes, NanoQuant Plate

Tecan – Who we are

Tecan is a leading global provider of laboratory instruments and solutions in biopharmaceuticals, forensics, clinical diagnostics, academic centers and life science industries, and specializes in the development and production of automation solutions, detection instruments such as microplate readers, microarray-related products and washers.

Founded in Switzerland in 1980, Tecan has manufacturing, research and development sites in both North America and Europe, and maintains a sales and service network in 52 countries. To date, Tecan has distributed approximately 20,000 microplate readers worldwide and is committed to continuous technological improvements and compliance to global quality standards.

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