

Colorwatcher, colorimetric microarray imager



For research use only. Not for use in diagnostic procedures.

Colorwatcher takes colorimetric images of microarrays and measures the spot intensities with the QuantoPic software. The user interprets the results.

It has two illumination modes: brightfield (bottom illumination) and darkfield (top illumination). It reads 96-well plates, 12×8 well strips and microscope slides (with an adapter).

A high-sensitivity CMOS camera gives fast, high-contrast images at 6 µm per pixel. An automated mechanism ejects the plate.

Colorwatcher is compact and fits into an airline carry-on bag.

QuantoPic software features:

- QuantoPic is included. It controls the instrument and analyses the images.
- AI Array Finder: automatic microarray grid detection and alignment
- Grid layout and region mapping
- Automated image acquisition and positioning
- Spot intensity (total, mean, median) with background correction
- Qualitative and quantitative assays, including 4PL and 5PL calibration curves
- Point-and-shoot imaging at specified locations
- Export of results to PDF, CSV and Excel

Key features:

- Brightfield and darkfield illumination
- LED light source, lifetime over 10 000 hours
- 3 MP CMOS camera, 6 µm per pixel, field of view 7.7 × 7.7 mm
- Diffuse reflectance 2 to 99 %DR, calibrated at production with Spectralon standards
- 96-well plates, 12×8 well strips, up to 4 microscope slides
- Automated plate ejection
- Manual or automatic focus (software-controlled); programmable exposure up to about 30 s
- End-user mode: choose an assay, load the samples, get the results
- Password-protected Assay Developer mode with access to all parameters

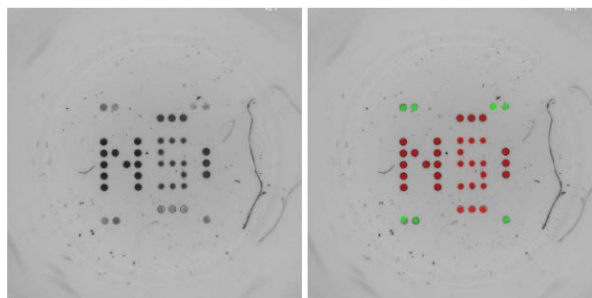
Analysis Report

Experiment information:

Sample: A2
Well name: A02 D
Assay:
Template: CVD 1.2

Original

Processed



Test name	Result1	Result2
1SpikeRBD	Positive	47.4
2Spike2	Positive	77.3
3SpikeNTD	Positive	74.3
4Spike1	Positive	70.4
5Nucleocapside	Positive	83.8

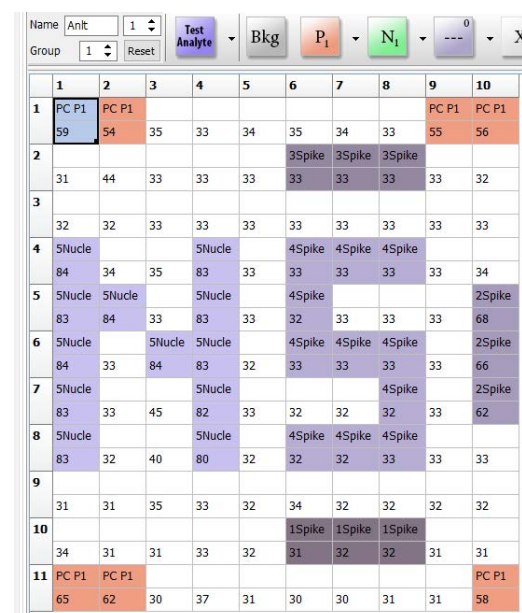
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Specifications	
Imaging mode	Colorimetric: brightfield (bottom illumination) and darkfield (top illumination)
Light source	LED
Light source lifetime	Over 10 000 hours
Measurement range	0 to 65 535 (arbitrary units)
Optical density (brightfield)	Indicative values, up to 2.0 OD. Calibration with certified OD standards on request.
Diffuse reflectance (darkfield)	2 to 99 %DR. Calibrated at production with Spectralon diffuse reflectance standards.
Vessels	96-well plate, 12×8 well strip, 4 microscope slides (with an adapter)
Camera	3 MP, CMOS
Standard image size	1280 × 1280 pixels
Resolution	6 µm per pixel
Field of view (standard image)	7.7 × 7.7 mm
Focus	Manual or automatic (software-controlled)
Exposure	Up to about 30 s (programmable)
Image formats	PNG or TIFF, 16-bit
Data interfaces	USB 2.0 (instrument control), USB 3.0 (camera)
Software	QuantoPic, included
Size (W × D × H)	330 × 345 × 150 mm
Weight (without power supply)	Up to 6 kg
External power supply	Input 100-240 V AC, 50/60 Hz; output 24 V DC, 3.75 A, 90 W, Instrument input: 20-24 V DC.

PC requirements

CPU	Intel Core i7 with AVX2 support
RAM	8 GB
Graphics card	Nvidia GeForce GTX 1050 Ti 4 GB or better (Nvidia GeForce 10, 16, 20 or 30 series only)
Storage	SSD, 256 GB
Operating system	Windows 11, 64-bit

Software developers interface, Ana-lytes template in well



Name	Anlt	1	2	3	4	5	6	7	8	9	10
1	PC P1	PC P1								PC P1	PC P1
2	59	54	35	33	34	35	34	33	55	56	
3	31	44	33	33	33	33	33	33	33	32	
4	5Nucle			5Nucle		4Spoke	4Spoke	4Spoke			
5	84	34	35	83	33	33	33	33	33	34	
6	5Nucle	5Nucle		5Nucle		4Spoke				2Spoke	
7	83	84	33	83	33	32	33	33	33	68	
8	5Nucle		5Nucle	5Nucle		4Spoke	4Spoke	4Spoke		2Spoke	
9	84	33	84	83	32	33	33	33	33	66	
10	5Nucle			5Nucle				4Spoke		2Spoke	
11	83	33	45	82	33	32	32	32	33	62	
12	5Nucle	32	40	80	32	32	32	33	33		
13	31	31	35	33	32	34	32	32	32	32	
14	34	31	31	33	32	31	32	32	31	31	
15	PC P1	PC P1								PC P1	
16	65	62	30	37	31	30	30	31	31	58	