

THE NEXT-GENERATION FLEXIBLE DIGITAL PCR SOLUTION



 Crystal Digital PCR™

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Stilla® Crystal Digital PCR™ technology for absolute quantification of nucleic acids is based on cutting-edge microfluidic technology that integrates the digital PCR process in a single consumable, reducing the hands-on time and interaction, so users can simply insert the sample and walk away.

The sample is partitioned using a network of microchannels into a large array of individual droplets, also called a droplet crystal. Owing to the next-generation Crystal Digital PCR™ technology, the droplets partitioned are identical in size-yielding results you can trust. PCR then amplifies the fluorescent target in the droplets which can be read for absolute quantification the nucleic acids.

With a combination of powerful imaging, the flexibility to use up to 3 detection channels, and a proprietary software for analysis, Crystal Digital PCR™ is designed to offer an unmatched level of confidence in the digital PCR measurement.

WHAT IS THE naica® system ?



> **PREPARE** ● | **AMPLIFY** ● | **READ** ● | **ANALYZE** ●

The naica® system leverages the key assets of digital PCR and is designed to provide a highly sensitive, fast and easy-to-use solution.



Easy-to-use solution
On-chip integrated workflow
Minimal hands-on time



Flexible digital PCR
Up to 3-color target multiplexing
Two chip formats: from 12 to 48 samples/run



Fast time-to-results
Prepare (15 min), Amplify (2 hrs), Read (10-20 min), Analyze (5 min)

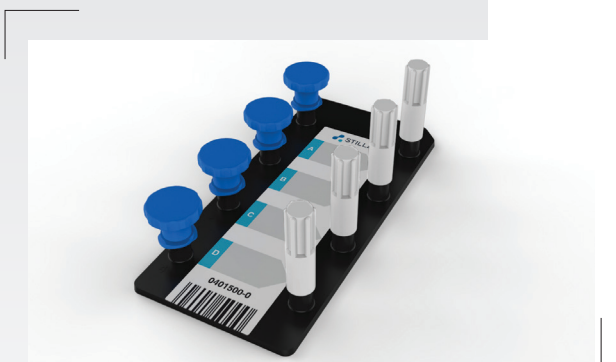


FLEXIBLE THROUGHPUT

> **PREPARE** ●

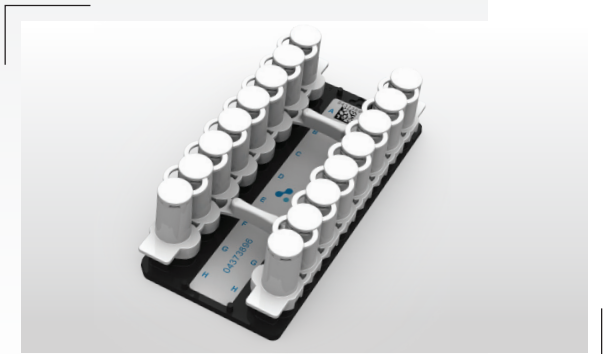
● Sapphire chip

Up to 4 samples/run
Up to 30,000 droplets/sample
For high sensitivity applications



● Opal chip

Up to 16 samples/run
Up to 20,000 droplets/sample
Desired throughput flexibility



OPTIMIZED REAGENTS

> **PREPARE** ●

● naica® PCR MIX reagents

Developed for enhanced performance for Crystal Digital PCR™ on the naica® system



> PREPARE ● 15 mn

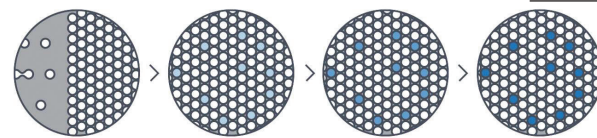
Simply prepare the sample with the respective naica® PCR MIX and load the reaction mix into the selected chip format.



> AMPLIFY ● 2 h

Place up to 3 chips in the Geode. Launch the Crystal Digital PCR™ program.

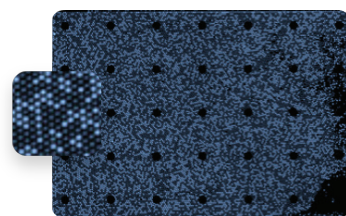
- Crystals from thousands of droplets are created for each sample.
- PCR amplification is performed immediately after droplet crystal generation.



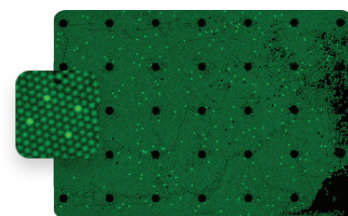
> READ ● 10 mn

Transfer the chips to the Prism3.

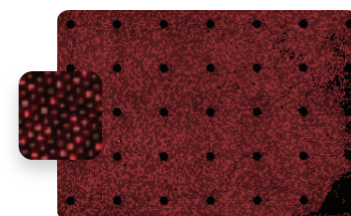
- Experimental set up is supported by the intuitive Crystal Reader software user interface. See examples of compatible fluorophores below.
- Droplet crystals are imaged using up to 3 fluorescent detection channels.



Blue
Ex: 415-480 nm
Em: 495-520 nm
FAM...



Green
Ex: 530-550 nm
Em: 560-610 nm
ROX, HEX, Cy®3...



Red
Ex: 615-645 nm
Em: 655-720 nm
Cy®5, Cy®5.5...

> ANALYZE ● 5 mn

Measure the concentrations of targeted nucleic acids with the Crystal Miner software

- Intuitive tool for visual inspection and analysis of Crystal Digital PCR™ experiments.
- Automatic quality control for experiment performance.
- Automatic identification of positive and negative droplets for all fluorescence channels.

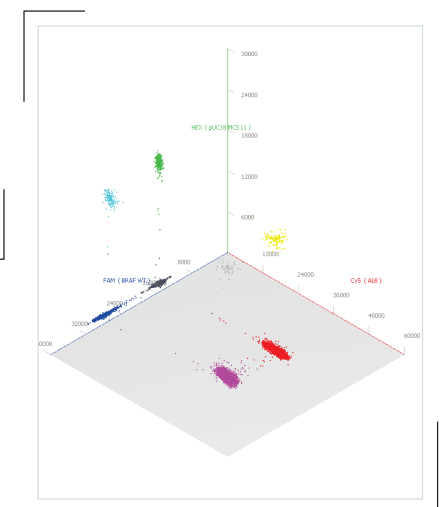
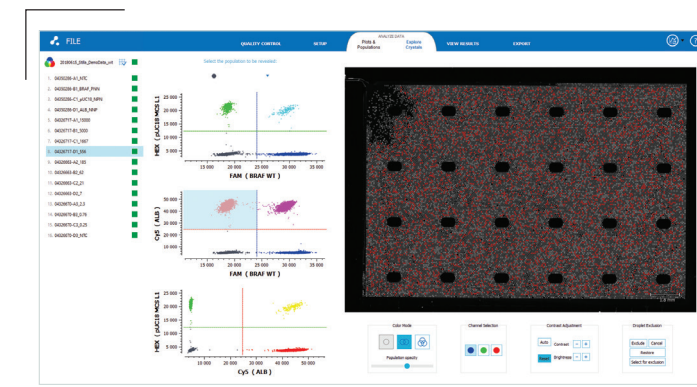
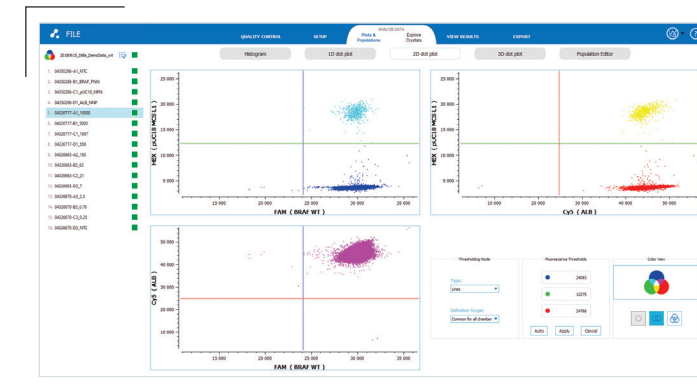


01 EXPLORE
Explore data using 1D, 2D or 3D dot plots

02 INSPECT
Inspect droplet crystals zoom-in for quality control

03 VISUALIZE
Get results target nucleic acid concentrations

04 ACCESS
Access raw data export all experiment details and results.



● naica® PCR MIX reagents



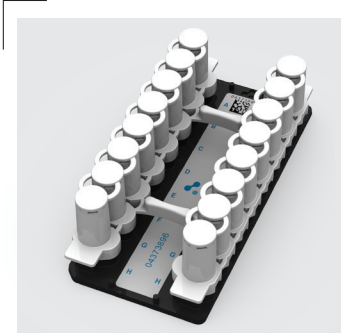
naica® PCR MIX	For EvaGreen®
naica® multiplex PCR MIX	For TaqMan®
Description	Ready-to-use for optimized performance of Crystal Digital PCR™
Concentrations	5X and 10X
Shelf-life	12 months

● Sapphire chip



Capacity	4 samples/chip
Number of chips per box	12
Input volume	25 µL/sample
Number of droplets per sample	Up to 30,000
Dynamic range of detection (95%)	~ 5 logs

● Opal chip



Capacity	16 samples/chip
Number of chips per box	12
Input volume	7 µL/sample
Number of droplets per sample	Up to 20,000
Dynamic range of detection (95%)	~ 5 logs

● Geode



Capacity with Sapphire chip*	<ul style="list-style-type: none"> Up to 12 samples (3 chips)/run Up to 36 samples/8h shift (3 runs)
Capacity with Opal chip*	<ul style="list-style-type: none"> Up to 48 samples (3 chips)/run Up to 144 samples/8h shift (3 runs)
Footprint (WxDxH)	35 x 37 x 29 cm
Power supply	100-240 V~ // 50 Hz // 750W

*Multiple Geode instruments can be used for maximized throughput on the naica® system

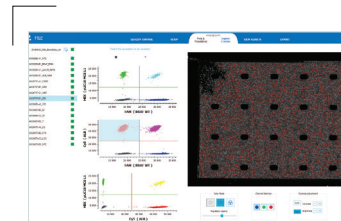
● Prism3



Capacity	Up to 3 chips/run
Total scan time	10min
Compatible fluorophores*	FAM, Cy®3, VIC, HEX, Cy®5...
Footprint (WxDxH)	44 x 34 x 21 cm
Power Supply	100-240 V // 50-60 Hz // 150 W

*Equivalent fluorophores can be used within the same wavelength range

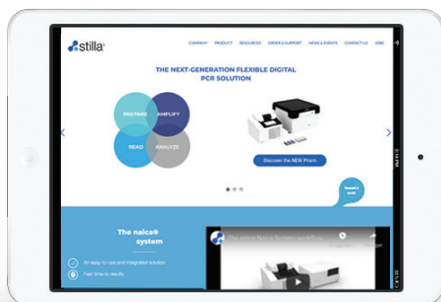
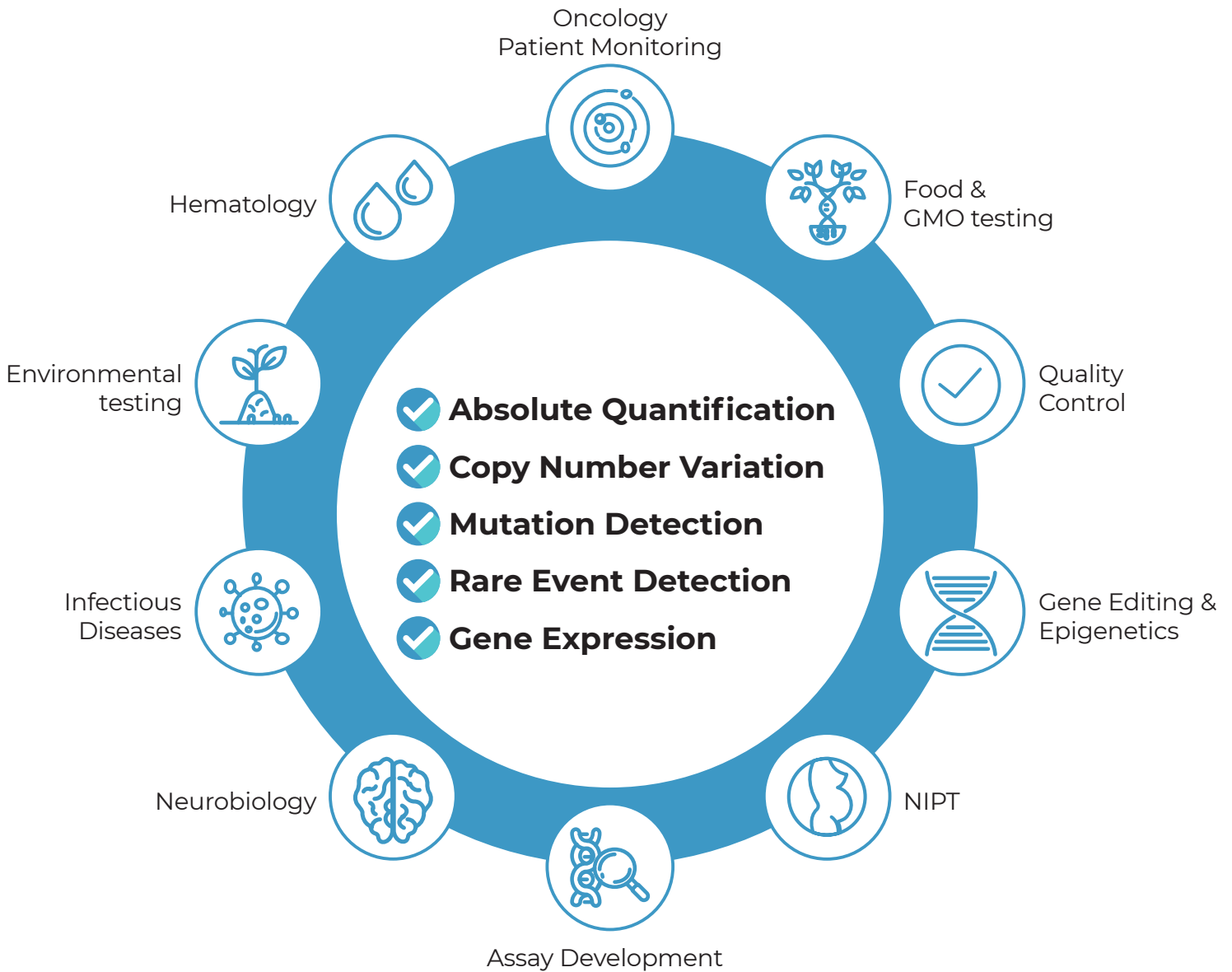
● Crystal Miner software



Data visualization	1D, 2D, 3D
File size	60 MB/well (.ncx) 10 MB/well (.ncr)
Export format	.csv/.xlsx/.png/.yaml

A RANGE OF APPLICATIONS

Experience the flexibility of the naica® system for a wide range of key nucleic acid detection and quantification applications.



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