Naica™ System
for Crystal Digital™ PCR

3-color digital PCR
within 2h30
Crystal Digital PCR

Crystal Digital PCR is Stella’s next-generation technology for absolute quantification of nucleic acids. Using cutting-edge microfluidic innovations, this technology integrates the digital PCR process in a single consumable. The sample is first flowed through a network of microchannels and partitioned into a large 2D array of 30,000 individual droplets, also called a droplet crystal. PCR is then performed on-chip and the crystal is imaged to reveal the droplets that contain amplified targets. The last step consists in counting the number of these positive droplets to precisely extract the absolute quantity of nucleic acids.

With Crystal Digital PCR, the combination of powerful image analysis and intuitive visual inspection offers an unmatched level of confidence in the digital PCR measurement, yielding data you can truly trust.

What is the Naica System?

The Naica System leverages the key assets of Crystal Digital PCR in a compact, easy-to-use, fast and reliable digital PCR solution.

- An easy-to-use and integrated solution
  - A single consumable per experiment
  - Two instruments for the entire workflow

- The fastest time-to-result on the market
  - Digital PCR results within 2h30, including thermocycling
  - Less than 5 min hands-on time

- Reliable multiplex digital PCR
  - A unique 3-color detection
  - User-friendly analysis software
1  Generate crystals & Amplify  

- Load the reaction mixes into the wells of the Sapphire chips
- Place the chips into the Naica Geode
- Launch the Crystal Digital PCR program

Crystals of 30,000 droplets are created from each sample. PCR amplification is performed immediately after crystal generation.

2  Read & Analyze  

- Transfer the chips to the Naica Prism3 crystal reader
  
  Crystals are read using 3 fluorescent channels

- Measure the concentrations of targeted nucleic acids with Crystal Miner® software
Sapphire chip

Specifications

Capacity
Input volume
Droplets per sample
Droplet volume
Dynamic range
Precision at 95% CI

Up to 4 samples / chip
25 μL / sample
25 000 - 30 000
0.44 nl
5 logs
10%

Naica Geode

Specifications

Capacity
Thermo block temperature range
Block uniformity (at 72 °C)
Adjustable ramping

Up to 12 samples (3 chips) / run
4 °C to 98 °C
± 0.5 °C
0.1 to 1.0 °C

Technical information

Dimensions (W x D x H)
Weight
Power supply
Pressure input
Pressurizing gas

35 x 37 x 29 cm (14 x 15 x 11 inch)
18 kg
110 - 220 V // 50 - 60 Hz
1.3 bar (19 psi)
Air or N₂

Naica Prism3

Specifications

Capacity
Scan time
Sample illumination
Excitation wavelengths
Detection wavelengths
Compatible fluorophores

Up to 12 samples (3 chips) / run
1 min 15 s / sample
High power LED
415-480 nm (blue) // 530-550 nm (green) // 615-645 nm (red)
495-520 nm // 560-610 nm // 655-720 nm
FAM, ..., // Cy3, VIC, HEX, ..., // Cy5, Quasar® 705, ...

Technical information

Dimensions (W x D x H)
Weight
Power supply

44 x 34 x 21 cm (17 x 13 x 8 inch)
15 kg
100 - 240 V // 50 - 60 Hz

Contact

STILLA Technologies

Villejuif Biopark
1 mail du professeur Georges Mathé
94 800 Villejuif // France

info@stilla.fr
www.stilla.fr

+33 9 82 29 50 50