

# AriaDNA

Microchip-based Real-Time PCR analyzer



The new advanced AriaDNA real-time PCR analyzer provides highly specific and sensitive qualitative and quantitative nucleic acids analysis in various samples. Easy-to-use microchip PCR technique with the extremely fast heating and cooling device performs rapid amplification and analysis in microvolumes (1.2  $\mu$ l), reducing reagents consumption. At the same time analytical sensitivity remains appropriate for medical and other applications. All others real-time PCR test systems can be easily implemented to the AriaDNA using empty microchips.

## FEATURES OF MICROCHIP PCR SYSTEM

### Short PCR-runtime due to high thermocycling rate (10–12 °C/s)

- PCR analysis time (45 cycles) – from 20 minutes

### Small footprint and low energy consumption

- minimized lab space requirements (can be used in mobile laboratories)

### Low running cost

- low reagent consumption
- approximate cost of analysis 1,5-3 \$

### Microchips with ready-to-use lyophilized PCR mixture

- reduced user labor

### Minimizing contamination

- PCR in a microchip isolated from environment
- separated microreactors due to the chemical modification

### Low detection limits

- 1–5 DNA copies per microreactor

### Qualitative and quantitative DNA/RNA analysis

- simultaneously in 30, 48 microreactors
- two detector channels (FAM, SYBR Green / ROX, Cy5)

### Flexibility and customization due to customer request FDA 21 CFR part 11 compliant software



Aluminum microchip  
with 30 microreactors



Stainless steel microchip  
with 48 microreactors.

# APPLICATIONS

## Main ready-to-use RT PCR microchip kits with lyophilized reagents

- Clinical diagnostics, healthcare**  
 Microchip RT-PCR COVID-19 Detection System incl. saliva samples; Influenza (A, B); sexually transmitted infections (STD/STI); SNP mutations in human genome (eg. Thrombophilia, Warfarin)
- Veterinary and aquaculture**  
 cattle pathogens; chicken pathogens; fish pathogens; highly infectious disease pathogens (eg. Bacillus anthracis, Yellow Fever Virus); dog, cat, swine pathogens, etc.
- Agriculture / Plant diagnostics**  
 Potato, grapevine, strawberry, citrus, sugarcane, flowers, trees and other pathogens (Bacterial, Fungal, Viral and Viroid, Cyst nematode one)
- Genetically Modified Organisms (GMO)**  
 Screening of GM-markers in agricultural plants; GM rapeseed, soybean, maize lines; Screening of GM-markers in genetically-modified animals
- Food & Feed Safety**  
 food pathogens (*Salmonella enterica*, *Listeria monocytogenes*, *Escherichia coli* O157:H7 and others)

Test kit for a specific PCR target could be supplied as a single-target microchip template or arranged together with a panel of pathogens on a microchip as a custom order.

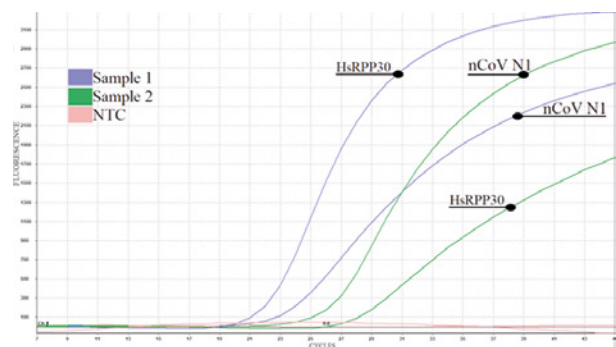
# SPECIFICATIONS

Rate of thermal cycling	heating: 12 °C/s cooling: 10 °C/s
Minimum DNA content in microreactor	1–5 DNA copies
Total PCR analysis time (45 cycles)	from 20 min
Number of PCR reactions on a microchip	30, 48
Reagents required per analysis	0.5–1.8 µl
Detection channel 1, dye	FAM, SYBR Green I
Detection channel 2, dye	ROX, Cy5
Power supply	90–240 VAC, 50/60 Hz, 100 W
Dimensions / weight	250×300×190 mm / 5 kg

## COVID-19 DETERMINATION USING ARIADNA (2 positive real samples)

PCR results of using Microchip RT-PCR COVID-19 detection system for positive samples using a duplex technique in one microreactor.

SARS-CoV-2 N gene and Human RNase P gene are determined simultaneously. Negative template control (NTC, nuclease free water) remains on the background level.



## WARRANTY

AriaDNA real-time PCR analyzer is covered by a full 1-year warranty.

## SERVICE

Installation and commissioning of Lumex Instruments' PCR analyzers can be carried out at a customer site by our service engineers or by certified distributor service engineers.



Find your local Lumex Instruments distributor:  
[www.lumexinstruments.com](http://www.lumexinstruments.com) | [sales@lumexinstruments.com](mailto:sales@lumexinstruments.com)