



Microchip based Real-time PCR analyzer AriaDNA

Polymerase chain reaction (PCR) is now often indispensable technique used in medical and biological research labs for a variety of applications including qualitative and quantitative nucleic acid analysis; DNA cloning for sequencing, DNA-based phylogeny, or functional analysis of genes; the diagnosis of hereditary diseases; the identification of genetic fingerprints (used in forensic sciences and paternity testing); and the detection and diagnosis of infectious diseases.

FEATURES

PCR analysis time (45 cycles) – 20 minutes
due to high thermocycling rate (10–12 °C/s);

Low sample and reagent consumption
only 0.5–1.8 µl of 2x PCR master mix for 0.5–1.8 µl sample;

Low detection limits
1–5 DNA/RNA copies per microreactor;

Microchips with ready-to-use immobilized PCR reagents;
reduce user's labor content;

Qualitative and quantitative DNA/RNA analysis
simultaneously in 20–48 microreactors via 2 detector channels (FAM, SYBR Green / ROX, Cy5);

Minimizing contamination
PCR is performed in a microchip isolated from environment;

Real-time data monitoring
current process settings (temperature, PCR cycle); analysis time; expected time to complete analysis; PCR curves parameters; plus/minus DNA analysis results;

User friendly graphical interface;

Automatic report generation;

CFR 21 Part 11 compliant;

Export results in industry standard data formats.



[More about Real-time PCR analyzer](#)

APPLICATION AREAS

Clinical and laboratory services for medical, veterinary and phytopathogen diagnostics;

Quality control services for food

manufacturing, customs control and

biological safety;

Virus and bacteria diagnostic centers;

STD diagnostics.

Microchip-based real-time PCR analyzer
for rapid qualitative and quantitative analysis of nucleic acids in various samples.

Microchips for user-designed PCR reagents
can be used with various reagents according to the user tasks. PCR mixtures of reagents and samples can be added into microreactors in the same way as in a test tube.

Microchips with lyophilized reagents for the detection and diagnosis of infectious diseases; functional analysis of genes; the diagnosis of hereditary diseases. Microchips with lyophilized PCR reagents can be transported and stored at ambient temperature up to 6 months.

APPLICATION of microchips with lyophilized reagents designed by Lumex Instruments:

Diagnostics of sexually transmitted infections in biological samples (RUO): *Trichomonas vaginalis* (TV), *Candida albicans* (Ca), *Mycoplasma genitalium* (MG), *Mycoplasma hominis* (MH), *Chlamydia trachomatis* (CT), *Ureaplasma* spp (Ur.spp), *Neisseria gonorrhoeae* (NG) and *Herpes simplex virus I/II* (HSV);

Determination of SNP mutations in human genome (RUO) (polymorphisms in genes F2 [20210G/A], F5 [1691G/A], MTHFR [677C/T], [1298A/C], CYP2C9 (*2 and *3), VKORC1 [-1639G/A]);

Determination of infectious diseases of cows caused by microorganisms (RUO): *Chlamydophila pecorum*, *Chlamydophila abortus*, *Brucella* spp., *Ureaplasma diversum*, *Trichomonas foetus*, *Campylobacter fetus*, *Campylobacter jejuni*, *Listeria monocytogenes*, *Leptospira interrogans*, *Mycoplasma bovis*, *Mycoplasma mycoides*;

Determination of infectious diseases of chicken caused by viruses (RUO): *Avian paramyxovirus* (NDV), *Coronavirus avia* (IBV), *Birna viridae* (IBDV), *Reoviridae* (AORV);

Determination of pathogens in raw and processed food (RUO): *Salmonella* spp. and *Listeria monocytogenes*.

TECHNICAL SPECIFICATIONS

Rate of sample thermal cycling	<i>heating: 12 °C/s cooling: 10 °C/s</i>
Minimum DNA content in microreactor	<i>1–5 DNA copies</i>
Sample volume for a single analysis	<i>0.5–1.8 µl</i>
Total PCR analysis time (45 cycles)	<i>20 minutes</i>
Number of microreactors on a chip	<i>20, 24, 30, 48</i>
Reagents required per analysis (2-x PCR mixture)	<i>0.5–1.8 µl</i>
Microchips with immobilized reagents	<i>on request</i>
Detection channel 1, dye	<i>FAM, SYBR-Green I</i>
Detection channel 2, dye	<i>ROX, Cy5</i>
External PC control	<i>USB 2.0</i>
Software designed for PCR analysis, instrument setup and database maintenance	<i>Included</i>
Power requirements	<i>90–240 VAC, 50/60 Hz</i>
Power consumption	<i>100 W</i>
Size	<i>250x300x190 mm</i>
Weight	<i>5 kg</i>

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