

IDENTIFICATION OF **UROGENITAL DISEASES OF CATTLE** USING MICROCHIP REAL-TIME PCR ANALYZER ARIADNA®

Identification of pathogens that cause infectious diseases of cattle is essential for correct diagnosis and treatment of infections. Currently used methods are laborious, time consuming, low-sensitivity assays that involve manual operations and thus do not achieve accuracy and high throughput requirements of the cattle industry. The LUMEX INSTRUMENTS real-time PCR analyzer AriaDNA® and microchips with lyophilized reagents offer simple, rapid and accurate determination of pathogens, matching cost-effectiveness and throughput requirements of the industry. The microchips with lyophilized PCR reagents just need an addition of the test sample into the individual reactors of the microchip thus significantly minimizing human error.



Microchip-based real-time PCR analyzer AriaDNA



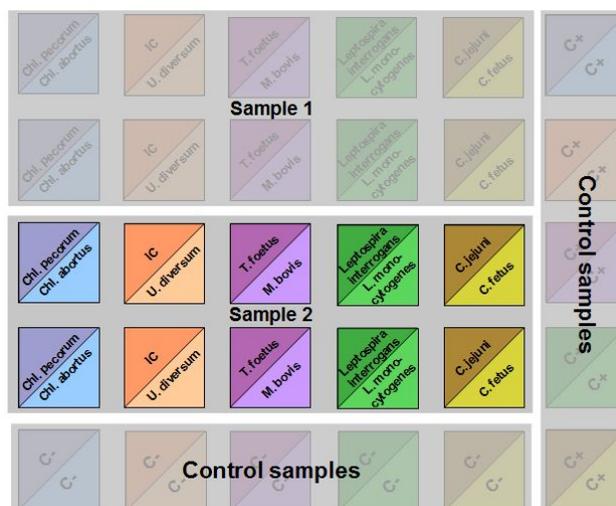
Nucleic acid extraction kit



Microchip kit for identification of cattle diseases

▶ TEST PANEL OF UROGENITAL PATHOGENS IN THE MICROCHIP KITS

- *Chlamydia pecorum*
- *Chlamydia abortus*
- *Ureaplasma diversum*
- *Trichomonas foetus*
- *Campylobacter fetus*
- *Campylobacter jejuni*
- *Listeria monocytogenes*
- *Leptospira interrogans*
- *Mycoplasma bovis*



Layout of microchip for analysis of **2 samples** (in duplicate). Test kits for identification of **9 pathogens** are shown along with Internal control (**IC**) test kit. Positive (**C+**) and negative (**C-**) control samples are included.



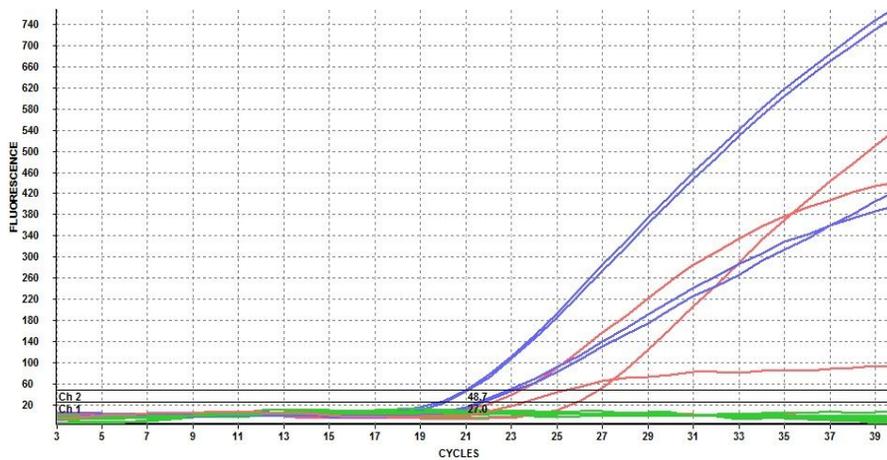
ADVANTAGES OF THE MICROCHIP-BASED REAL-TIME PCR

- Rapid determination within 45 minutes
- Minimized manual operations in preparation of PCR mixes
- Minimize the risk of contamination and human error
- Analysis of **9 urogenital pathogens** in **2** samples
- The microchips can be transported and stored at ambient temperature up to 6 months

ANALYSIS FLOW-CHART

1 Extract DNA from urogenital cattle samples

2 Add extracted DNA samples into the microchip reactors



Results of microchip real-time PCR of cattle urogenital sample (n=2) against the panel of 9 pathogens. Results were positive for the sample infected with *C.jejuni* (**blue curves**). Internal controls (IC) are also positive (**blue curves**), revealing no signs of inhibition. Positive (**red curves**) and negative (**green curves**) control samples demonstrate expected results.

3 Insert the microchip into the AriaDNA[®] analyzer and run the analysis using the software on a PC

4 Obtain real-time PCR results and print report in 45 minutes

The information and specifications in this publication are subject to change without notice.

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