



QUALITY OF LIFE REAL

AMDS

**Automatic Molecular
Detection System**



AMDS

Automatic Molecular Detection System

AMDS is the fully integrated system for fast molecular diagnostics, which combines the nucleic acids extraction and Real-Time PCR amplification, by using the microfluidic cartridge preassembled kit to realize the fully integrated gene data analysis for the samples without need of preparing the reagents. It can be widely used for many kinds of gene detection, such as the clinical diagnostic, food safety, agriculture and public security.

As the new generation gene detection system, AMDS realizes the fully integrated detection from sampling into the report. It is portable and can run each sample at any time and automatically transfer the data as your wish. It is a close system with no contamination and can be easily operated by the user. No need extra nucleic acid purification machine or PCR laboratory, by using the preassembled kits, AMDS can run as a POCT (Point-Of-Care Testing) system without the complicated operation.



Fully automatic system

- Add sample then report
- No need labor during operation



Safe without contamination

- No need reagent transfer after sampling
- Close system no contamination
- Labor safe



Saving

- Time saving less than 2 hours
- Money saving: no need PCR laboratory & affordable kits
- No need professional operator
- Space saving: compact and small size



Flexible and extendable

- 4 samples, up to 24 samples
- Each unit can be controlled individually
- It can run several targets with different parameters at same time



Easy & Quick

- Intuitive software – Easy operation
- Ready to use kits
- Quick result < 2 hours



Internet+

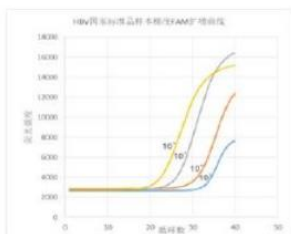
- Mobile networking
- Real-time data transfer to the cloud for analysis
- Compatible to HIS (Hospital Information System) & LIMS

AMDS KITS

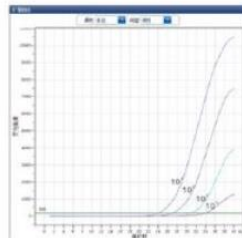
Easy operation, Microfluidic design, Close system, No contamination

Comparison test between AMDS to traditional nucleic acid purification + qPCR detection. (HBV national standards)

Standards gradient test

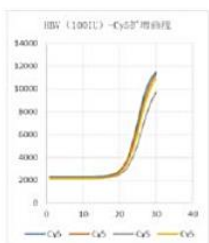


AMDS

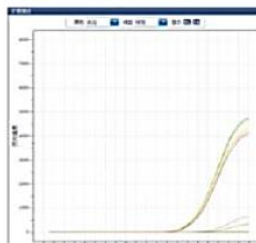


Manual extraction + qPCR detection

Standards 100IU sensitivity test

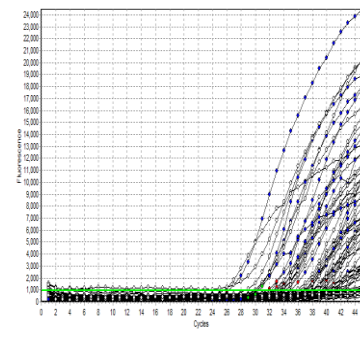


AMDS

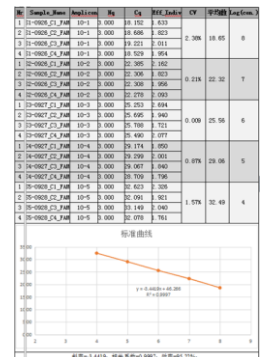


Manual extraction + qPCR detection

GBS Sensitivity test, <100 cfu/ml, by cultivation gold standard bacteria counts (Clinical standard 1000cfu/ml)

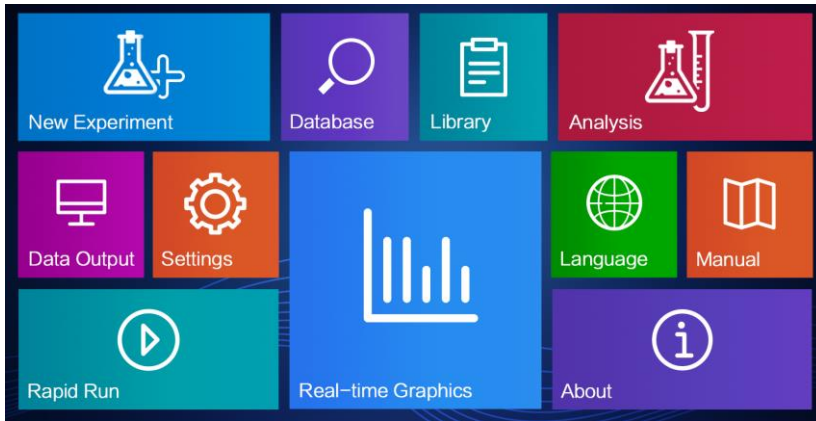


GBS amplification efficiency 95.22%



Fluorescence detection accuracy CV: 2.78% (Industrial standard ≤5%)

Nr	Sample Name	Amplicon	tissue	eline	cons	baseline	slo	Plateau	Nq	Cq	Eff	Indiv	N0 indiv
1	A05	FAM	not_name	undefined	3100.219	1.228	6428.260	2.569	27.749	2.256	0.000		
2	B05	FAM	not_name	undefined	3203.420	0.839	6849.998	2.569	27.662	2.184	0.000		
3	D05	FAM	not_name	undefined	3436.551	3.768	7658.246	2.569	27.179	1.919	0.000		
4	D07	FAM	not_name	undefined	3557.834	2.216	5500.596	2.569	26.393	1.960	0.000		
5	E05	FAM	not_name	undefined	3374.318	1.622	7400.482	2.569	27.286	1.833	0.000		
6	E07	FAM	not_name	undefined	3603.523	5.708	5431.943	2.569	26.687	1.985	0.000		
7	F05	FAM	not_name	undefined	3228.439	4.195	7628.782	2.569	27.911	2.055	0.000		
8	G05	FAM	not_name	undefined	3264.503	3.921	7903.240	2.569	27.784	2.174	0.000		



FEATURES

- Up to 5 multiplex channels
- 9 optional dyes for your choice
- Small size & space saving
- High sensitive Hamamatsu PMT detector
- 7 inches colorful touch screen
- Intuitive interface for easy and fast operation
- The different kits can be distinguished by different colors
- U disk to export data

APPLICATION



Food Safety



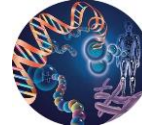
Sexually transmitted diseases



Female Health



Veterinary Diseases



Genetic Diseases



Respiratory Diseases



Digestive Diseases

WORKFLOW

A Fully Automatic System

- Sample extraction
- Nucleic acid purification
- Nucleic acid amplification
- Data analysis
- Report



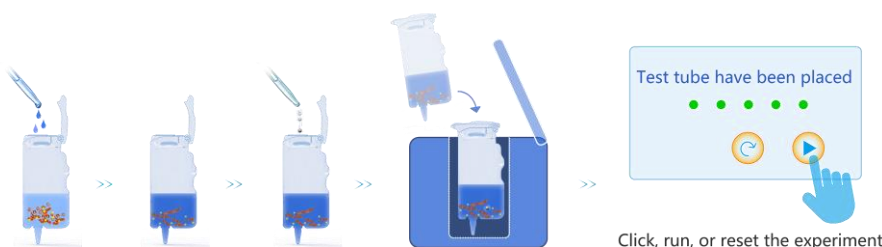
Only one hour from sampling to report

1st Step: Scan the cartridge to load the preset protocol directly with the sample information.

2nd Step: Add sample, such as whole blood, sputum, serum and other samples after homogenizing. Add magnetic beads in the kit.

3rd Step: Put the cartridge into the AMDS machine. Select the channel to run. It will automatically get the report.

- Lysis buffer
- Wash buffer1
- Wash buffer2
- PCR reaction buffer



A fully integrated gene extraction and analysis system

The close system ensures easy operation without a PCR laboratory.

The preassembled kits using the microfluidic technology guarantee the instant detection by adding the sample to the kit without need of preparing the reagents.

It combines the automatic nucleic acid extraction, fast PCR detection and direct report.

Multiplex PCR detection individually controlled

AMDS includes 4 individual detection units.

Each unit can run one target kit at any time without need to wait.

One unit can run a multiplex PCR test up to 5 colors.

High sensitivity and accurate result

Using the high sensitive Hamamatsu PMT detector and Microfluidic designed cartridge.

Internet + data transfer

Connectors: USB, Wi-fi, Clouds.

The detection data could be sent directly to Clouds.

It can be connected to LIMS or HIS easily.

EXAMPLE OF AVAILBLE REAGENT KITS

Group B Streptococcus (GBS)	In newborns, it can cause a serious illness known as group B strep disease.
Chlamydia Trachomatis (CT)	Chlamydia, is a bacterium that causes chlamydia.
N. Gonorrhoeae (NG)	It causes the sexually transmitted genitourinary infection gonorrhea.
Ureaplasma Urealyticum (UU)	A type of urinary tract infection that can be sexually transmitted.
Herpes simplex virus (HSV I&II)	Common severe infections include encephalitis, meningitis, neonatal herpes and in immunocompromised patients, disseminated infection.
Coronaviruses (CoV)	A large family of RNA viruses that cause illness ranging from the common cold to more severe diseases.

SPECIFICATION

Model	AMDS 400
Sample Capacity	4 Sample (Up to 24 samples by connecting to the additional units)
Dynamic Range	1-10 ¹⁰ copies
Block Temperature Range	40°C – 99.9°C
Block Temperature Fluctuation	±0.5°C
Block Temperature Accuracy	≤0.5°C
Temperature Display resolution	0.1°C
Heating & cooling temperature Rate	4°C/s
Dye	F1: FAM, SYBR Green I F2: HEX, VIC F3: TAMRA, Cy3 F4: TEX RED, ROX F5: Cy5
Fluorescence Detection Repeatability	CV ≤3%
Fluorescence Detection Accuracy	≤5%
Fluorescence Detection Time	≤5 sec.
Input Power	AC100-240V, 50-60Hz, 350W
Data Connector	USB, Wi-Fi
Size (W x D x H)	380mm x 305mm x 343mm

ISO 13485 