AIGS
Automatic **I**ntegrated **G**ene detection **S**ystem

AIGS is the fully integrated system for fast molecular diagnostics, which combines the nucleic acids extraction and realtime PCR amplification, by using the microfluidic cartridge preassembled kit to realize the fully integrated gene data analysis for the samples. It can be widely used for many kinds of gene detection, such as the clinical diagnostic market, food safety, agriculture, army and public security.

As the new generation gene detection system, AIGS 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 lab, by using the preassembled kits, AIGS can run as a POCT system without the complicated operation.

(AIGS host)   (AIGS slaver)

CE IVD (available in March 2019)

Application:

- Female health
- Respiratory diseases
- Digestive diseases
- Veterinary diseases
- Genetic diseases
- Food safety

- Digestive diseases
- Food safety
- Sexually transmitted diseases
- Respiratory diseases
- Female health
- Genetic diseases
- Veterinary diseases

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Features

A fully integrated gene extraction and analysis system

The close system ensures easy operation without a PCR lab. The preassembled kits using the microfluidic technology guarantee the instant detection by adding the sample to the kit without need of preparing the reagents.

Multiplex PCR detection individually controlled

AIGS includes 4 individual detection units.
Each unit can run one target kit at any time.
One unit can run a multiplex PCR test up to 5 colors.
AIGS has two models,one includes the controller,which can control the extra 5 sets of AIGS without controller.

Upgradable to run 24 sanples simultaneously

Up to 5 slave AIGS units can be connected to the AIGS host so to achieve the tests of 24 samples simultaneously.
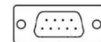
High sensitivity and accurate result

Using the high sensitive Hamamazu PMT detector
Microfluidic designed cartridge

Internet+ data transfer

Connectors: Wifi, GPRS, Clouds
The detection data could be sent directly to clouds.
It can be connected to LIS or HIS easily

Wi-Fi

LAN

RS-485

Add sample   Add magnetic beads   load cartridge to AIGS   Run   Report

Run

Report

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WORKFLOW

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, puncture fluid, other samples after homogenizing. Add magnetic beads from the kit.

3rd Step: Put the cartridge into the detection unit of AIGS machine. Select the channel to run. It will automatically get the report.

Lysis

Extraction

PCR amplification and detection

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AIGS KITS

Group B Streptococcus(GBS)
N.Gonorrhoeae(NG)
Chlamydla Trachomatls(CT)
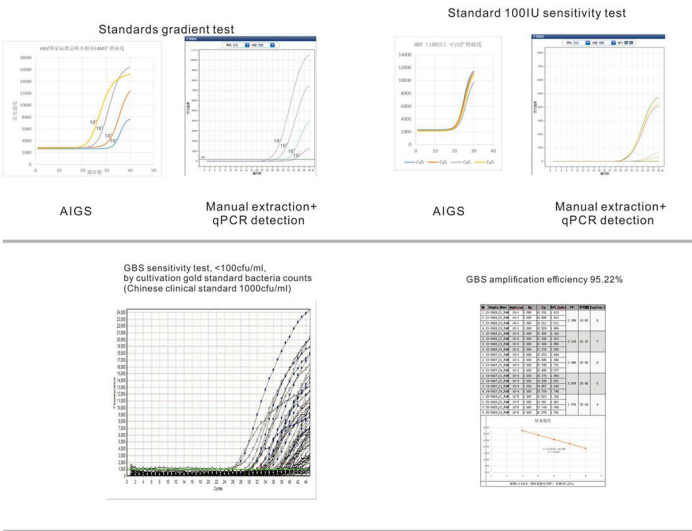*Ureaplasma Urealyticum(UU)*
Herpes Simplex Virus(HSV)

CE IVD

(Self - declare)

Easy operation, Microfluidic design,
Close system, No contamination

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

Standard 100IU sensitivity test

Standards gradient test

AIGS | Manual extraction+ qPCR detection | AIGS | Manual extraction+ qPCR detection

GBS sensitivity test, <100cfu/ml, by cultivation gold standard bacteria counts (Chinese clinical standard 1000cfu/ml)

GBS amplification efficiency 95.22%

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

Nr	Sample_Nam	Amplicon	tissue	eline_cons	aseline_slo	Plateau	Nq	Cq	Eff_Indiv	N0_indiv
1	A05_FAM	not_named	undefined	3100.219	1.228	6428.260	2.569	27.749	2.256	0.000
2	B05_FAM	not_named	undefined	3203.420	0.839	6849.998	2.569	27.662	2.184	0.000
3	D05_FAM	not_named	undefined	3436.551	3.768	7658.246	2.569	27.179	1.919	0.000
4	D07_FAM	not_named	undefined	3557.834	2.216	5500.596	2.569	26.393	1.960	0.000
5	E05_FAM	not_named	undefined	3374.318	1.622	7400.482	2.569	27.286	1.833	0.000
6	E07_FAM	not_named	undefined	3603.523	5.708	5431.943	2.569	26.687	1.985	0.000
7	F05_FAM	not_named	undefined	3228.439	4.195	7628.782	2.569	27.911	2.055	0.000
8	G05_FAM	not_named	undefined	3264.503	3.921	7903.240	2.569	27.784	2.174	0.000

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Specifications

Model	LifeReady 1000
Sample capacity	4 sample(up to 24 samples by connecting to the slaver units)
Dynamics range	$1-10^{10}$Copies
Block temperature range	40℃-99.9℃
Block temperature fluctuation	≤±0.5℃
Block temperature accuracy	≤0.5℃
Temperature display accuracy	0.1℃
Block ramping rate	4℃/S
Dyes	F1: FAM,SYBER 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	≤5S
Input power	AC100-240V,50-60Hz,350W
Data connector	USB，WiFi
Size	380mm×305mm×343mm