TIANLONG

INSTRUMENT SERIES

TIAN LONG

Sample Processing System

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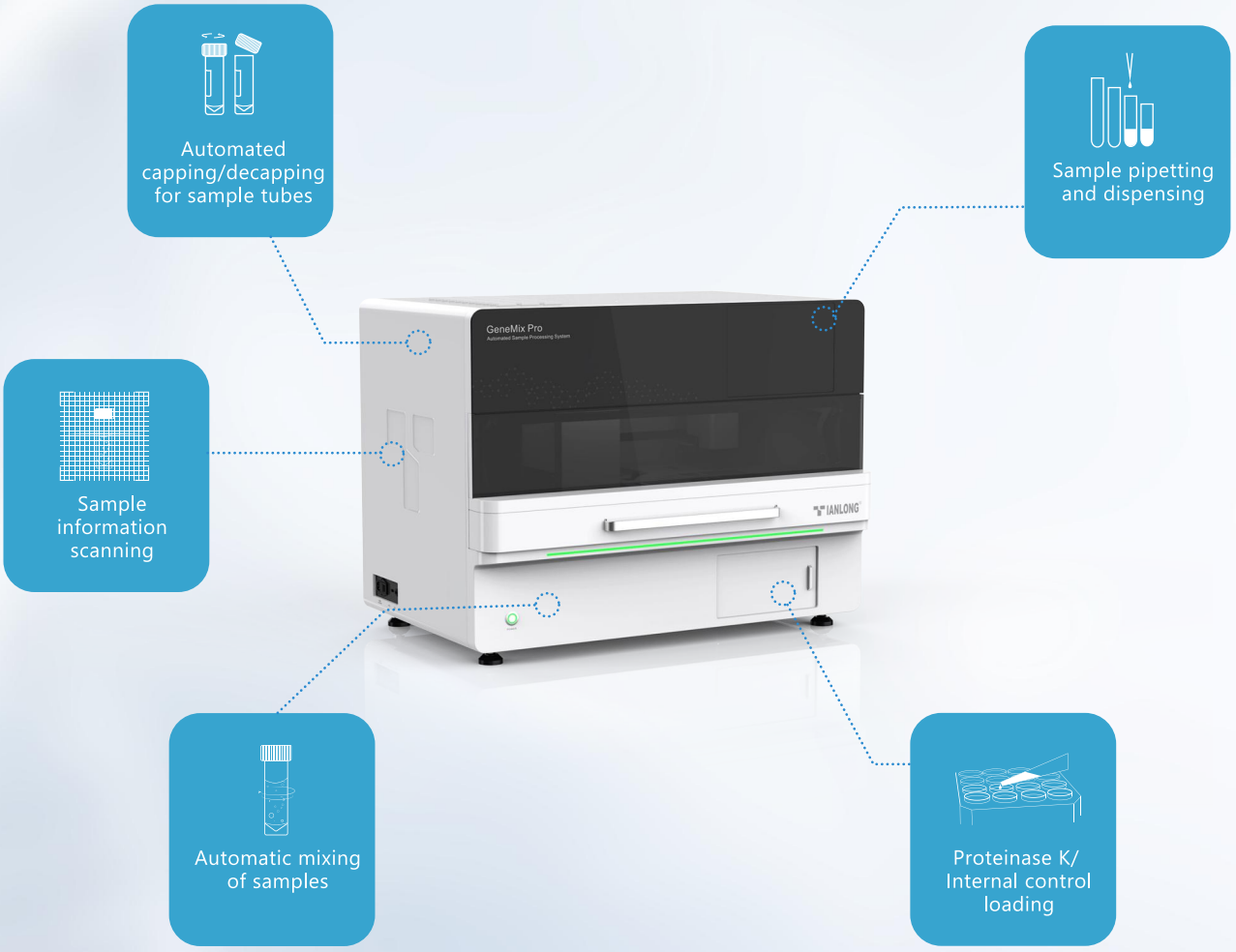
TIANLONG INSTRUMENT SERIES

GeneMix Pro

Automatic Sample Processing System



Maintain sample integrity with a hands-free method of capping and decapping tubes quickly and easily with the Tianlong GeneMix Pro Automatic Sample Processing System. Designed for automating laboratory workflow, GeneMix Pro can process 96 samples within 20min and free professionals from tedious mechanical operations.

The workflow includes automated uncap/recap for sample tubes, sample pipetting and dispensing, Proteinase K/Internal reference reagent loading, automatic mixing of sample tubes. GeneMix Pro can automate laboratory workflow and improve efficiency and safety for medical professionals.

FEATURES

Automate laboratory workflow
With an automated sample preparation process, 96 samples can process within 20 minutes from sample tube scanning to deep well plate scanning

Highly compatible
Compatible with the various specification of sampling tubes and deep-well plates, ready for use with customized specification

Easy of use
"Sample - rack - plate" information scanning automatically, sample to result in closed-loop management can save time and minimize human error

Superior sample protection
With built-in UV light disinfection in the experimental chamber, drop catcher technology and an enclosed design with an internal negative pressure system to ensure sample integrity

SPECIFICATIONS

Product Name	Automatic Sample Processing System-GeneMix Pro
Throughput	96
Handling Time	≤20 minutes for 96 samples
Compatible Sampling Tubes	-Diameter: 13-19mm; Height: 55-115mm -Compatible with 5mL, l0mL and 20mL screwcap sampling tubes; -5-in-l, 10-in-l mixed sampling tubes direct load with cap; -Direct loading with cap for sampling tubes with swab; -Preset with conventional standard sampling tubes, ready for use with customized sampling tubes specifications
Compatible Deep-Well Plates	-6*16T standard ImL deep-well plates -1*96T standard ImL deep-well plates -Compatible with 3mL deep-well plates (including 3 * 8T 3mL large-system deep-well plates of Tianlong) -Preset with conventional standard deep-well plates, ready for use with customized deep-well plates specifications
Pipetting	-Dual independent pipetting modules -Pipetting volume: 5 -1000 µL -Liquid level sensor -Pipetting volume detection
Pipetting Accuracy	5 µL~50 µL: Er: ≤3.5% 50 µL~200 µL: Er: ≤2.5% ≥ 200 µL: Er: ≤2.0%
Pipetting Repeatability/CV	5 µL~50 µL: CV: ≤ 2.5% 50 µL~200 µL: CV: ≤ 1.5% ≥ 200 µL: CV: ≤ 1.0%
Smart Information System	-Sampling tube information scanning (ID code & QR code) -Deep-well plate status identification (open system) /information scanning (Tianlong system) -Automatic barcode scanning of sample racks -"Sample - rack - plate" PCR information scanning, "sample to result" in closed-loop management
Touch Screen	12.1 inch LCD touch screen
Internet Port	USB 3.0/Ethernet port
Dimensions	1130mm(L) x780mm(W) x 920mm(H)
Net Weigh	200Kg
Power Supply	Voltage: 100 - 240 V; Frequency: 50/60HZ; Rated power: 600VA
Temperature	15°C-35°C
Relative Humidity	35%RH-70%RH, non-condensing
Atmospheric Pressure Range	56-106Kpa (Altitude ≤ 4000m)

Nucleic Acid Extractor

- GeneFlex
- Libex
- GeneRotex 24
- GeneRotex 48
- GeneRotex 96
- PANA9600S
- PANA9600X
- Npex192

TIANLONG INSTRUMENT SERIES

GeneFlex

Automatic Nucleic Acid Extractor

For flexible throughput needs, GeneFlex is your ideal answer

GeneFlex Automatic Nucleic Acid Extractor is a compact and flexible automatic nucleic acid extractor designed with rotary mixing technology(RMT). GeneFlex can flexibly compose 16 x n different throughputs to meet the needs of simultaneous extraction for different projects without interfering with each other. Apart from its excellent performance, GeneFlex has also won the German Red Dot Design Award 2021 for its user-friendly design. With flexible throughput and independent extraction module, GeneFlex can be your ideal choice for faster and immediate testing tasks.

Flexible throughput

Small footprint

Immediate results

reddot award winner

FEATURES

Highly flexible for your needs

GeneFlex can flexibly compose 16 x n different throughputs to meet the needs of simultaneous extraction without interfering with each other. With independent extraction module, GeneFlex can realize your different but immediate testing needs from various applications.

Automated workflow and remote upgrade

Automatic identification of reagent protocols and position of mixing sleeves; Remote upgrade and maintenance of instruments and reagent programs.

Minimized contamination measures

1) UV lamp; 2) Internal negative pressure; 3) HEPA filtration; 4) Rotary mixing to reduce aerosols; 5) Able to work inside a biosafety cabinet for highly- contaminated samples.

User-friendly and convenient

1)6.86-inch touch screen operation or smartphone/tablet APP control with Wifi connection; 2) Automatic shutdown after UV disinfection; 3)Noise-free design.

Easy to start experiment anywhere

With mobile power, GeneFlex can start the experiment anywhere to meet different scenario testing needs.

SPECIFICATIONS

Model	GeneFlex 16	GeneFlex 32	GeneFlex 48	GeneFlex 96	GeneFlex 192
Throughput	16	32	48	96	192
Processing Volume	20μL-1700μL				
Sample Processing Volume	200-500μL				
Compatible Consumables	 Customized 96-deep-well plates			Customized single 6-strip tubes	
Inter-well Difference	CV≤3%				
Mixing Method	Rotary mixing				
Rotary Speed	100~3000rpm				
Temperature Control Range	Temperature control separately for lysis and elution. Temperature range from 30°C to 120°C.				
Temperature Control Accuracy	Heating speed: ≥3.8°C/sec. Temperature accuracy: ±1.0°C. Temperature uniformity:≤1.0°C.				
Languages	Chinese/English				
Protocol Management	Flexible to create, edit and delete protocols				
Operation Mode	Mode 1: Android systems in smartphones/tablets Mode 2: 6.86 inch full-color LCD screen				
Automatic Control	Automatic opening and closing of the experiment cabin				
Reagent Identification	Automatic identification of reagent information and running the assays				
Mixing Sleeve Monitoring	Real-time monitoring of the mixing sleeves status in experiment				
Magnetic Bead Residue	≤1%				
Power Failure Protection	Choose freely whether or not to continue the experiment when the power is on again after cutting off				
Disinfection	Ozone + UV disinfection				
Auto Power-off	Auto power-off after UV disinfection				
Negative-Pressure Filtration	Negative pressure HEPA filtration module				
Connection Port Type	USB port				
Weight	7.4Kg (net)				
Instrument Dimensions	210mm(L)*229mm(W)*242mm(H)				
Power Supply and Power Consumption	AC100-240V, 50/60Hz				

EXTRACTION MENU

Application	Product Name	Sample Type	Ordering Code
Human	Virus Nucleic Acid Extraction Kit	Whole blood, serum, plasma, tissue fluid, urine, and swab media, etc.	T338H/T528H
Human	Virus Nucleic Acid Extraction Kit (rapid within 15min)	Swab media or other samples	T339H
Human	Whole Blood DNA/RNA Extraction Kit (For SMA Detection)	Whole blood samples	T509H
Human	Nucleic Acid Extraction Kit (For HCMV/EB DNA Extraction)	Serum, plasma, urine, whole blood, swab samples	T524H/T525H/T526H/T527H
Human	Nucleic Acid Extraction Kit (For Bacteria Genomic DNA Extraction)	Bacterial suspension cultures, cotton swabs, sputum, body fluids and stool samples	T529H/T530H
Human	Nucleic Acid Extraction Kit (For Plasmid DNA Extraction)	Bacterium solution sample	T839H/T840H
Environment	Viral DNA/RNA Extraction Kit	Environmental samples	T806H/T807H/T808H
Plant	Nucleic Acid Extraction Kit (For Plant Tissues Genomic DNA Extraction)	Plant tissue samples	T822H/T823H/T824H
Animal	Animal DNA/RNA Extraction Kit	Nasopharyngeal swabs, environmental samples, serum, blood swabs, and tissue samples	T079H/T080H
Animal	Nucleic Acid Extraction Kit (For Pet Diagnosis)	Nasopharyngeal swabs and environmental samples	T820H
Animal	Animal Tissues Genomic DNA Extraction Kit	Animal tissues samples including processed and fresh tissues	T825H/T826H/T827H

***More extraction reagents are under development and will come soon.**

Libex
Nucleic Acid Extractor

Ensure great process safety, high performance, and user convenience for you

Tianlong Nucleic Acid Extractor Libex utilizes the proven magnetic bead method to extract highly purified nucleic acid from a wide range of sample types relevant for molecular diagnostics, genetic identity testing, forensic testing, biomedical research, and gene expression analysis. The combination of easy-to-use instruments with pre-loaded protocols selection, and magnetic bead-based sample preparation kits filled with unique reagents ensure rapid nucleic acid extraction and highly purified products.

FEATURES

Reliable results you can depend on
With magnetic bead-based extraction kits with pre-filled design, experimenters need only one step to start the extraction, which greatly minimizes manual error and ensures high purity of nucleic acid

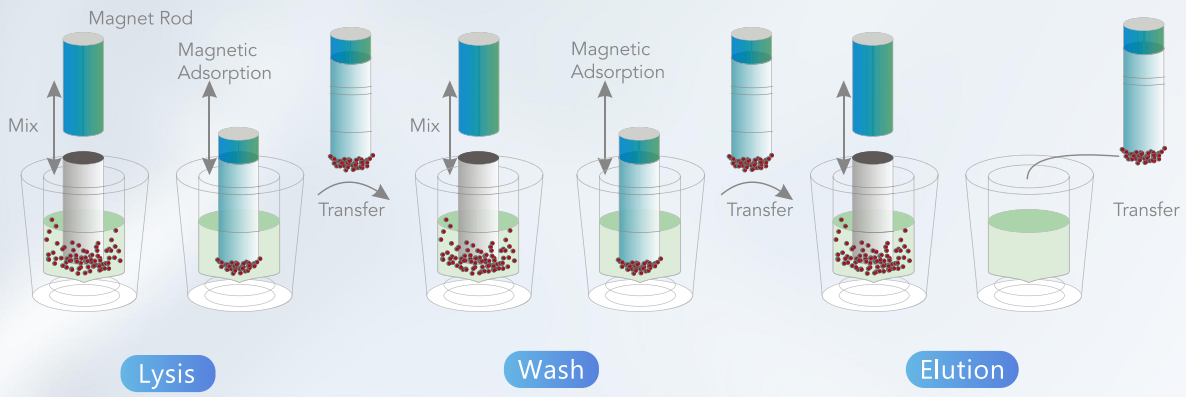
More efficient extraction process
When Libex collocates with pre-filled extraction reagents, 32 samples of nucleic acid for COVID DNA can be extracted within 15 minutes (extraction time varies from reagent to reagent)

More convenient with two configurations
Standalone configuration: Machine keypad operation;
APP control configuration: Cloud-enabled control via Android smartphones/tablets

Efficient contamination control measures
With unique sample cross-contamination control system and UV disinfection function, cross-contamination can be minimized

Simple and remarkable software
With the convenient software based on Android, a protocol can be set up and started with just a few clicks on your phones/tablets. Friendly and intuitive interface make it simple even for first time user

PRINCIPLE



SPECIFICATIONS

Model	Libex
Throughput	1-32
Processing Volume	30-1000uL
Recommended Sample Volume	200uL
Magnetic Bead Residue	≤1%
Suitable Consumables	96-well plates, 6 strip tube
Heating Temperatur	Lysis:room temperature to 120°C Elution:room temperature to 120°C
Processing Mode	Multi-mode, multi-speed available
Reagents	Reagents suitable for Magnetic Bead Method
Operation Mode	Mode1:Cloud-enabled control via smart phones/tablets(Android); Mode 2: Machine keypad operation
Experimental Storage	Up to 15 groups of proarams saved in device; Up to >500 groups of programs saved in the Android app
Protocol Management	Create, edit, delete, protocol mode
Contamination Control	Built-in UV disinfection module
Power Failure Protection	Choose freely whether or not to continue the experiment when the power is on again after cutting off
Connection Port Type	USB
Network Connection	Wifi
Instrument Dimensions	435mm*440mm*445mm(W*L*H)
Weight	31.5kg (net)
Power Supply	AC100-240V,50/60±1Hz; 600w
Operating Temperature Range	10~30°C
Operating Humidity Range	20%-85%

GeneRotex 24

Nucleic Acid Extractor

Workflow for extraction from large volume samples ensures high detection sensitivity

15mL processing volume

5mL sample volume

Tianlong GeneRotex 24 nucleic acid extractor is designed with our innovative rotary mixing technology (RMT), which can reduce aerosol generated during the purification process, minimize the risk of false positives caused by cross-contamination, and ensure the accuracy of experiment results. Compatible with Tianlong specialized large volume nucleic acid extraction kits, GeneRotex 24 can greatly improve detection sensitivity and extraction efficiency. The large sample volume workflow is suitable for more complicated downstream applications.

FEATURES

Workflow for extraction from large volume samples

The GeneRotex 24 is compatible with specialized large volume nucleic acid extraction kits. Up to 15 mL processing volume and 5 mL sample volume make pathogen detection sensitivity easier than before. Your extraction efficiency can be improved greatly.

Independent consumables design

The specialized single reaction tube design allows for the independent extraction of a single sample. This design ensures the sample processing process remains independent, preventing cross-contamination and reagent waste.

Innovative rotary mixing technology

Based on Tianlong's innovative rotary mixing technology(RMT), GeneRotex 24 can reduce aerosol generated during the experiment and minimize the risk of false positives caused by cross-contamination while being super quiet during operation

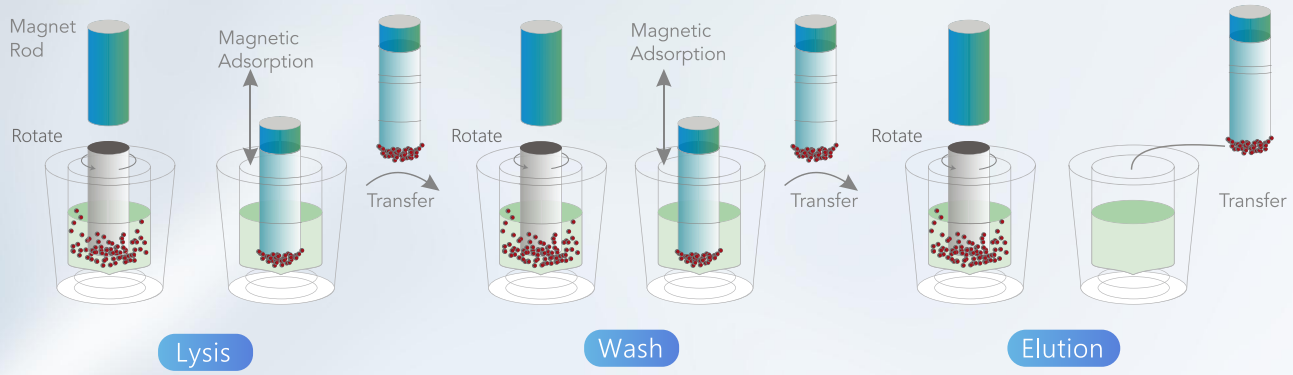
Negative pressure system with HEPA filtration

The negative pressure ventilation design with replaceable HEPA filtration can ensure the exhausted air with no biological hazards

High purification and reliable results

Less than 1% residual amount of magnetic beads increase confidence in your experiment result

PRINCIPLE

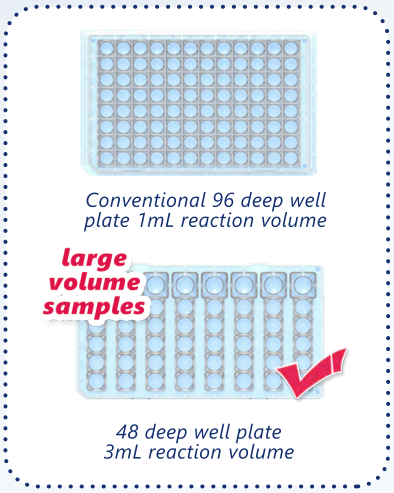


SPECIFICATIONS

Model	GeneRotex 24
Throughput	1-24
Reaction Volume	50-15000μL
Sample Volume	5000μL
Inter-well Extraction Difference	CV≤2%
Compatible Consumables	Specialized 15mL single reaction tube; specialized stirring sleeve
Rotational Speed	≤3000rpm
Heating Temperature	Lysis heating: room temperature to 120°C Elution heating: room temperature to 120°C
Mixing Method	Rotary mixing
Operation Mode	7-inch full-color LCD touch screen operation
Program Storage	Up to 1000 programs can be storaged
Protocol Management	Flexible to create, edit and delete protocols
Automatic Control	Motor-driven automatic opening and closing of the experiment cabinet
Magnetic Bead Residue	≤1%
Power Failure Protection	Choose freely whether or not to continue the experiment when the power is on again after cutting off
Contamination Control	Negative pressure; HEPA exhaust filter module; Built-in UV disinfection module
Connection Port Type	USB port
Weight	45kg (net)
Instrument Dimensions	490mm(L) ×540mm (W) ×480mm (H)
Power Supply and Power Consumption	AC100V-240V,50/60HZ;600VA

GeneRotex 48
Nucleic Acid Extractor

Designed for processing large volume samples with innovative rotary mixing technology



Tianlong GeneRotex 48 nucleic acid extractor is designed with our innovative rotary mixing technology (RMT), which can reduce aerosol generated during the purification process, minimize the risk of false positives caused by cross-contamination, and ensure the accuracy of experiment results. Compatible with Tianlong large volume nucleic acid extraction kits, GeneRotex 48 can greatly improve detection sensitivity and extraction efficiency.

FEATURES

Designed for processing large volume samples
GeneRotex 48 is compatible with Tianlong large volume nucleic acid extraction kits. 1ml sample volume with independent designed consumable makes pathogen detection sensitivity easier than before. Your extraction efficiency can be improved greatly.

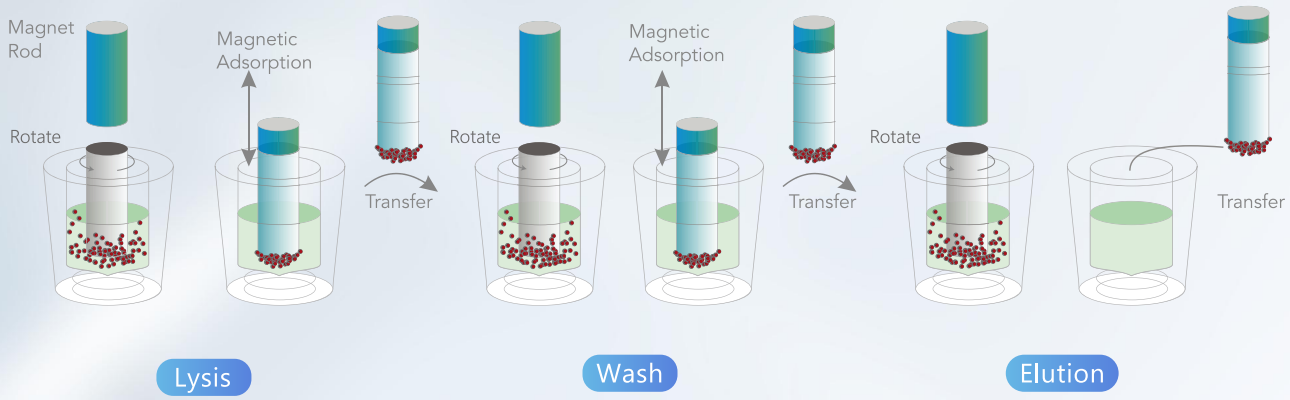
Innovative rotary mixing technology
Based on Tianlong's Innovative rotary mixing technology(RMT), GeneRotex 48 can reduce aerosol generated during the experiment and minimize the risk of false positives caused by cross-contamination while being super quiet during operation

Negative pressure system with HEPA filtration
The negative pressure ventilation design with replaceable HEPA filtration can ensure the exhausted air with no biological hazards

High purification and reliable results
Less than 1% residual amount of magnetic beads increase confidence in your experiment result

7 inch color touch screen
Built-in 7-inch full-color LCD screen, easy to operate the experiment

PRINCIPLE



SPECIFICATIONS

Model	GeneRotex 48
Throughput	1-48
Reaction Volume	50-3000uL
Sample Volume	1000μL
Compatible Consumables	Customized 48-deep-well plates
Rotational Speed	≤3000rpm
Heating Temperature	Lysis heating:room temperature to 120°C Elution heating:room temperature to 120°C
Mixing Method	Rotary mixing
Operation Mode	7-inch full-color LCD touch screen operation
Program Storage	Up to 1000 programs can be storaged
Protocol Management	Flexible to create, edit and delete protocols
Automatic Control	Motor-driven automatic opening and closing of the experiment cabinet
Magnetic Bead Residue	≤1%
Power Failure Protection	Choose freely whether or not to continue the experiment when the power is on again after cutting off
Contamination Control	Negative pressure HEPA exhaust filter module; Built-in UV disinfection module
Connection Port Type	USB port
Weight	45kg(net)
Instrument Dimensions	510mm*490mm*480mm(W*L*H)
Power Supply and Power Consumption	AC100V-240V, 50/60HZ600VA

GeneRotex 96

Nucleic Acid Extractor

Innovative rotary mixing technology offers high efficiency of nucleic acid extraction and purification

Tianlong GeneRotex 96 nucleic acid extractor is designed with our innovative rotary mixing technology (RMT), which can reduce aerosol generated during the purification process, minimize the risk of false positives caused by cross-contamination, and ensure the accuracy of experiment results. The innovative 6*16 extraction module, compatible with 96-deep-well plates and 6-tube strips, can offer high-throughput extraction and reduce reagent waste without the conventional inconveniences caused by fixed throughput. Flexible and efficient, you can extract from 1 to 96 samples per run with GeneRotex 96.

FEATURES

7 inch color touch screen

Built-in 7-inch full-color LCD screen, easy to operate the experiment

High throughput and efficient extraction

6*16 extraction module with special 96 deep well plate and 6 strip tube designed for GeneRotex 96 to ensure high throughput and reduce reagent waste . You can extract from 1 to 96 samples per run

Innovative rotary mixing technology

Based on Tianlong's innovative rotary mixing technology(RMT), GeneRotex 96 can reduce aerosol generated during the experiment and minimize the risk of false positives caused by cross-contamination while being super quiet during operation

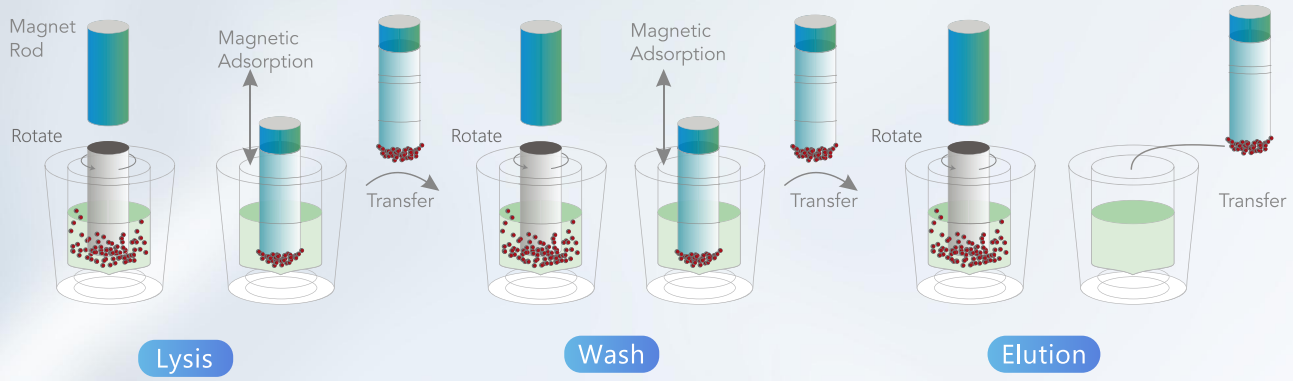
Negative pressure system with HEPA filtration

The negative pressure ventilation design with replaceable HEPA filtration can ensure the exhausted air with no biological hazards

High purification and reliable results

Less than 1% residual amount of magnetic beads increase confidence in your experiment result

PRINCIPLE



SPECIFICATIONS

Model	GeneRotex 96
Throughput	1-96
Reaction Volume	30-1000uL
Sample Volume	200μL
Compatible Consumables	 96-deep-well plates  customized 6 strip tube
Inter-well Extraction Difference	CV≤3%
Rotational Speed	≤3000rpm
Heating Temperature	Lysis heating: room temperature to 120°C Elution heating: room temperature to 120°C
Mixing Method	Rotary mixing
Operation Mode	7-inch full-color LCD touch screen operation
Program Storage	Up to 1000 programs can be storaged
Protocol Management	Flexible to create, edit and delete protocols
Automatic Control	Motor-driven automatic opening and closing of the experiment cabinet
Magnetic Bead Residue	≤1%
Power Failure Protection	Choose freely whether or not to continue the experiment when the power is on again after cutting off
Contamination Control	Negative pressure HEPA exhaust filter module; Built-in UV disinfection module
Connection Port Type	USB port
Weight	45kg(net)
Instrument Dimensions	510mm*490mm*480mm(W*L*H)
Power Supply and Power Consumption	AC100V-240V,50/60HZ;600VA

PANA9600S

Automatic Nucleic Acid Workstation

Faster and cleaner, leading the new era of rotary nucleic acid extraction

PANA 9600S automatic nucleic acid workstation is designed according to the principles of magnetic beads method and rotary nucleic acid extraction technology. This workstation integrates the workflow of sample information scanning, sample loading, nucleic acid extraction, and PCR system setup, which makes your experiment easy to start and greatly saves time for professionals. With compatible nucleic acid extraction kits, the nucleic acids needed can be extracted quickly and efficiently from various sample types including whole blood, serum and plasma, swab and urine for specific downstream applications.

FEATURES

One-key operation for modularized experiment flow
With one-key operation, automated sample information scanning, sample loading, nucleic acid extraction, and PCR system setup for 96 samples of novel coronavirus can be finished within 50min

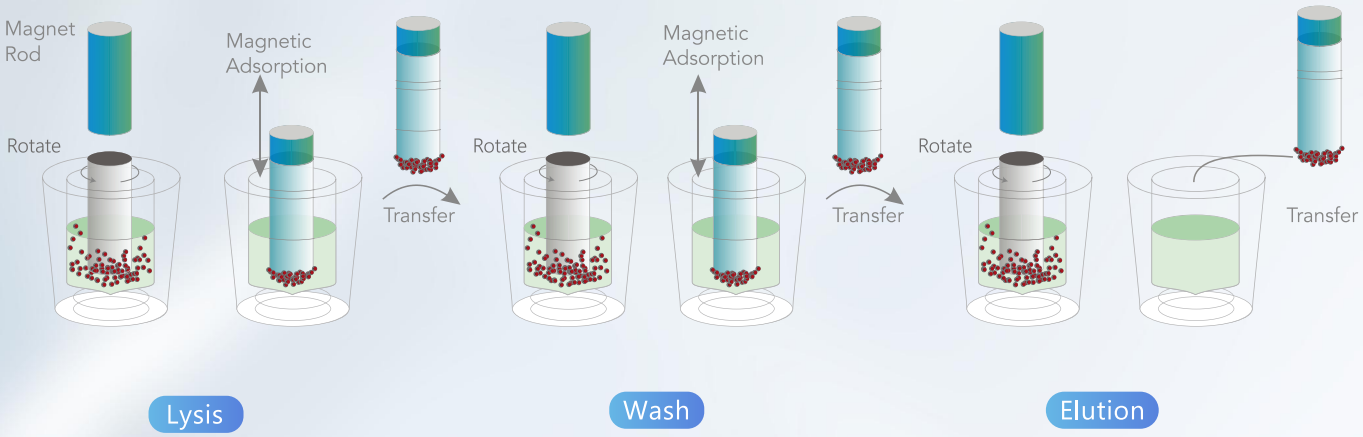
Minimized contamination measures
With rotary nucleic acid extraction, smart drop capture, strict zoning, air filtration, and UV disinfection technology, cross-contamination can be reduced to ensure accurate results

High precision and reliable results
With precise sample loading, accurate temperature ramp control, and precise liquid transfer design, consistent and precise results can be ensured for each of your assays

Highly flexible for your needs
Compatible with various sample types and extraction kits; 4 PCR systems can be set up at the same time

Automated workflow and hands-free operation
Automated barcode scanning for reagent identification, sample loading, nucleic acid extraction, PCR system setup; visualized consumable recognition; easy connection with LIS (laboratory information system)

PRINCIPLE



SPECIFICATIONS

Model	PANA9600S
Sample Capacity	1-96
Technical Principles	Magnetic beads method; Rotary nucleic acid extraction technology
Processing Capacity	Information scanning and nucleic acid extraction of 96 samples per run; 4 different PCR system can be set up
Sample Types	Plasma, serum, whole blood, swab, and urine, etc.
Sample Loading Channels	4
Pipetting Performance	Below 15 μL: accuracy: A≤2.0%, repeatability: CV≤3.0%; 15 μL to 50 μL: accuracy: A≤1.5%, repeatability: CV≤1.5%; Above 50 μL: accuracy: A≤1.0%, repeatability: CV≤1.2%.
Liguid Level Detection	CapSense/Gas pressure sensor
Sample Tubes	Compatible with all types of blood collection tube, 1.5mL and 2.0mL centrifugal tubes, freezing tubes, and sample loading cups, etc.
Temperature Control	Lysis and elution, temperature flexible to control between 35°C and120°C
Information Tool	Barcode scanning for reagent identification; visualized consumable recognition
PCR Reagent Chamber	Avoid light design; power-on automatic refrigeration (4°C~15°C)
PCR Consumables	Compatible with 0.1mL, 0.2mL 8 strip tube and 96-well plates
Minimized Contamination	Independent closed extraction area, top directional exhaust creates an internal negative pressure system Sampling device with air tightness and anti-dropping design External droplet catching plate Sterilizina device in experiment cabin and extraction cabin Customized function: directional ventilation system for the nucleic acid extraction area
Information Technology	Scanning the bar codes of multiple samples one by one while sample holder is loaded Information connection of Sample tube-Deep well plate-PCR tube Easy connection with LIS (laboratory information system)
Device General Information	1370mm(L)*810mm(W)*890mm(H); 220kg(net); 12.1-inch touch screen

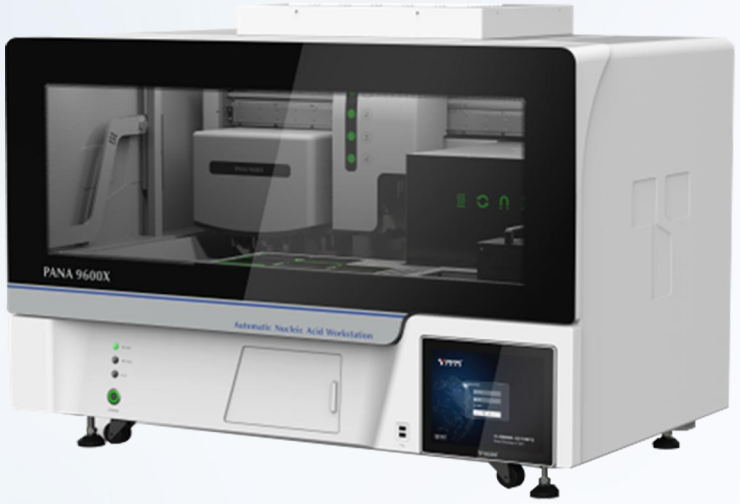
PANA9600X

Automatic Nucleic Acid Workstation

All innovation for boosting your lab efficiency with simplified workflow

PANA 9600X automatic nucleic acid workstation is designed based on magnetic beads method and rotary nucleic acid extraction technology. It integrates the workflow of automatic capping/decapping for sample tubes, sample information scanning, sample loading, nucleic acid extraction, and PCR system setup, which makes your experiment easy to start and greatly saves time for professionals. With compatible nucleic acid extraction kits, the nucleic acids needed can be extracted quickly and efficiently from various sample types including whole blood, serum, plasma and swab scrub solution for specific downstream applications.

1. Automated Capping/ Decapping for Sample Tubes
2. Sample Information Scanning
3. Sample Loading
4. Nucleic Acid Extraction
5. PCR System Set Up



FEATURES

Highly automated workflow and rapid extraction

With one-key operation, automatic capping/decapping for sample tubes, sample information scanning, sample loading, nucleic acid extraction, and PCR system setup for 96 samples can be finished within 40-80 min(relying on the reagent)

More reliable results you can depend on

With precise sample loading, accurate temperature ramp control, and precise liquid transfer design, consistent and precise results can be ensured for each of your assays

Smart information technology

Sample information scan; reagent information identification; visualized consumable recognition; easy connection with LIS (laboratory information system)

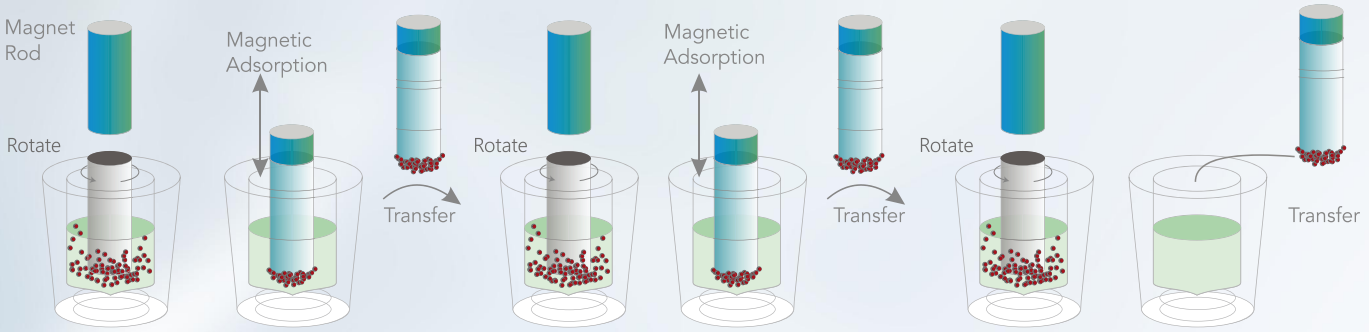
Highly flexible for your needs

Compatible with various sample types and extraction kits; 4 PCR systems can be set up at the same time

Minimized contamination measures

With rotary mixing for nucleic acid extraction, HEPA filter, smart drop capture, strict zoning, and UV disinfection technology, cross-contamination can be reduced to ensure accurate results

PRINCIPLE



SPECIFICATIONS

Model	PANA9600X
Sample Capacity	1-96
Technical Principles	Magnetic beads method; Rotary nucleic acid extraction technology
Processing Capacity	Nucleic acid extraction of 96 samples per run; 4 different PCR system can be set up
Sample Types	Plasma, serum, whole blood, swab scrub solution, etc.
Sample Loading Channels	4
Pipetting Range	1μL-1000μL
Pipetting Performance	Below 15 μL: accuracy: A≤2.0%, repeatability: CV≤3.0%; 15 μL to 50 μL: accuracy: A≤1.5%, repeatability: CV≤1.5%; Above 50 μL: accuracy: A≤1.0%, repeatability: CV≤1.2%.
Liquid Level Detection	CapSense/Gas pressure sensor
Sample Tubes	Compatible with standard blood collection tube, various thread sampling tube, etc.
Temperature Control	Lysis and elution, temperature flexible to control between 35°C and 120°C
Extraction Consumables	96 deep-well plates, 6 strip tubes
Information Tool	Barcode scanning for reagent identification; visualized consumable recognition
PCR reagent chamber	Avoid light design; power-on automatic refrigeration (4°C ~8°C)
PCR Consumables	Compatible with 0.1mL, 0.2mL 8 strip tube, and 96-well plates
Temperature Accuracy	≤2.0°C
Temperature Uniformity	±1.2°C
Minimized Contamination	Anti-droplet: air tightness and anti-droplet design and an external droplet design; Strict zoning; Directional exhaust; HEPA filter; UV disinfection
Information Technology	Scanning the bar codes of multiple samples one by one while sample holder is loaded Information connection of Sample tube-Deep well plate-PCR tube Easy connection with LIS (laboratory information system)
Device General Information	1370mm(L)*810mm(W)*960mm(H); 235kg(net); 12.1 inch touch screen
Interfaces	Ethernet, USB
Power Supply	AC 100-240V, 50-60Hz

Npex 192

Automatic Nucleic Acid Extractor

Ultra-high throughput, optimizing your extraction efficiency with confidence

Tianlong Nucleic Acid Extractor Npex 192 utilizes the proven magnetic bead method to extract highly purified nucleic acid from various samples. With ultra-high throughput and high efficiency, Npex 192 can complete nucleic acid extraction of 192 samples in 12 min. The combination of easy-to-use instruments with pre-loaded protocols selection, and magnetic bead-based sample preparation kits filled with unique reagents ensure rapid nucleic acid extraction and highly purified products.

FEATURES

Ultra-high throughput and rapid extraction

Npex 192 can complete nucleic acid extraction of 192 samples in 12 min. Realizing high-throughput processing of parallel samples and providing high-quality nucleic acids for your downstream applications.

Compact in design and space-saving

With 8-unit deep-well plate layout and Z-axis mechanical motion, Npex 192 can realize rapid extraction with the shortest movement. It can meet your high-throughput needs but also save your lab space.

Easy to operate and visual monitoring

Built-in 7-inch full-color LCD screen, easy to operate the experiment; Built-in scanner can automatically scan and identify the extraction program and start running; Visual monitoring of nucleic acid extraction progress.

Efficient temperature control

Separate temperature control for both lysis and elution. Precise temperature control ranges from room temperature to 120℃, supporting a wide range of reagent programs.

Efficient contamination control measures

1) Negative-pressure HEPA filtration;
2) UV disinfection ;
3) Anti-dripping design.

SPECIFICATIONS

Model	Npex 192
Throughput	1 ~ 192
Processing Volume	30 ~ 1000μL
Compatible Consumables	 96 deep-well-plate (1 ml reaction volume)  Vertical mixing sleeve
Magnetic Bead Residue	≤ 1%
Temperature Control Range	Temperature control separately for lysis and elution. Temperature range from 30°C to 120°C.
Vertical Mixing	8 gears adjustable
Operating Language	Built-in bilingual (Chinese and English) operating languages.
Operation Mode	7-inch color LCD touch screen operation
Protocol Management	Flexible to create, edit and delete protocols
QR Code Scanning	With built-in barcode scanner, automatic scanning, identification and running protocols
Operation Monitoring	Visual monitoring of nucleic acid extraction progress
Program Storage	> 1000 experiment programs can be stored
Contamination Control	1) Negative-pressure HEPA filtration; 2) UV disinfection ; 3) Anti-dripping design
Auto Power-off	Auto power-off after UV disinfection
Power failure protection	Choose freely whether or not to continue the experiment when the power is on again after cutting off
Connection Port Type	USB port
Network Connection	Ethernet connection
Dimensions	710 mm×535 mm×515 mm (L×W×H)
Weight	55 kg
Power Supply	AC 100-240V, 50/60Hz

EXTRACTION MENU

Application	Product Name	Sample Type	Ordering Code
Human	Virus Nucleic Acid Extraction Kit	Swab media samples	T518H
Animal	Animal Virus DNA and RNA Extraction Kit	Nasopharyngeal swab, environmental samples, serum samples, blood swab and tissue sample	T809H
Plant	Nucleic Acid Extraction Kit (For Plant Tissues Genomic DNA Extraction)	Plant tissue samples	T821H

*More extraction reagents can be customized for your applications.

APPLICATION AREA

CDC


Clinical Diagnostics


Entry-Exit Inspection and Quarantine


Food Safety


Research Institute

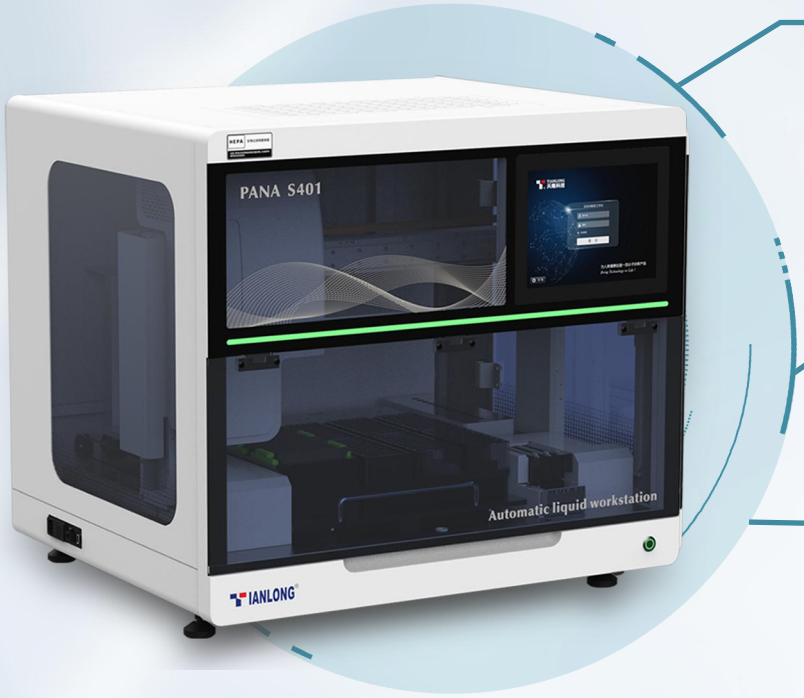
Liquid Handling System

▸▸▸ PANAS401

TIANLONG INSTRUMENT SERIES

PANA S401

Automated Pipetting Workstation



- Reagents pre-mixing and aliquoting
- Automated PCR setup
- Nucleic acid extract retention

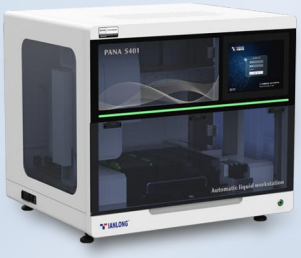
Tianlong PANA S401 Automated Pipetting Workstation is designed as an important tool for PCR Setup, which automates tedious, error-prone manual tasks and provides consistent sample mixing and excellent pipetting performance to standardize your results. Tianlong PANA S401 Automated Pipetting Workstation together with the automated nucleic acid extractor and real-time PCR system, a fully automated, high-throughput, and standardized process of nucleic acid detection can be realized in your lab.

PROVIDE INTEGRATED PCR LAB SOLUTION

1. Sample Pre-processing
2. Automated Nucleic Acid Extraction
3. Automated PCR Setup
4. Real-time PC Detection

GeneMix Pro

GeneRotex 96



PANA S401

Gentier 96E

FEATURES

Precise PCR Setup
Automated PCR setup, 4 loading channels, up to 768 samples per setup

Optimized efficiency and standardized procedures
Provide consistent sample mixing and excellent pipetting performance to standardize your results

Highly compatible with various PCR kits
Compatible with regular PCR tubes, PCR strip tubes and PCR plates (up to 384- well x 2)

Excellent anti-contamination measures
Minimized contamination measures like directional exhaust with HEPA filters, internal negative pressure system

User-friendly
Starting preparation programs with just one click, multiple setups for different tests in one run

SPECIFICATIONS

Model	PANA S401
Sample Loading Channels	4 loading channels
Throughput	96 samples; up to 768 samples per one go
Pipetting Volume	1-1000μL
Tip Volume	5-50μL; 50-1000μL
Performance	Below 15μL: accuracy: A≤2%, repeatability: CV≤3.0% 15μL-50μL: accuracy: A≤1.5%, repeatability: CV≤1.5% Above 50μL: accuracy: A≤1.0%, repeatability: CV≤1.2%
Liquid Level Detection	Pressure-sensing level detection; aspiration with the liquid level to ensure accuracy
Compatible Consumables	Compatible with 0.1mL/0.2mL 8-tube strips, 96-well PCR plates
Operating System	Windows 10 Pro Edition, bilingual interface in Chinese/English
Connectivity	USB port, RS232 port
Overall Size	860mm(L)x733mm(W)x746mm(H)
Instrument Weight	100kg (net)
Operating Environment	Temperature: 15°C-35°C; humidity: ≤70%
Power Supply	AC 220V; 50Hz

Real-time PCR System

- Gentier mini Series
- Gentier 48
- Gentier 96
- Gentier X3

TIANLONG INSTRUMENT SERIES

Gentier Mini Series

Portable Real-Time PCR System

Portable

Fast

Always Online

Portable, fast, and always online, Gentier mini series are designed for mobile, small laboratories, or on-site testing. With excellent performance and portability, Tianlong Gentier mini series revolutionize and solve the problem of limited space and fragmented samples in laboratories, and make your experiments easier to use, more accurate, and more efficient. They can be widely applied in animal disease and infectious disease prevention and control, food safety, scientific research, and other fields. Gentier mini series are now a good companion for animals.

FEATURES

Portable and convenient

Compact and lightweight, Gentier mini series help save bench space and can be moved flexibly to your mobile laboratory for on-site testing. No need for fluorescence calibration after moving.

1s for 16 wells fluorescence scanning

With 2 fluorescence channels, Gentier Mini series can complete all 16 wells fluorescence scanning within 1s, which improves efficiency for lab professionals.

Various control modes

Mode 1: standalone control with 7-inch touch-screen; Mode 2: computer software control; Mode 3: remote control via tablet

Powerful software analysis

Gentier Mini series offers multiple functions including qualitative analysis, absolute quantitative analysis, relative quantitative analysis, SNP analysis, etc.

Instant result analysis

Mode1: direct analysis on Gentier Mini series and results can be printed directly when connected to a thermal printer; Mode 2: analysis through PC software.

Always online

Various ways to stay online: Wifi, USB and internet interface

SPECIFICATIONS

Model	Gentier mini	Gentier mini+
Throughput	1-16	
Fluorescence Channels	2	4
Scanning Time	1s for all wells fluorescence scanning	
Dye Compatibility	Channel 1: FAM, SYBR Green Ⅰ, SYTO 9, Eva Green, LC Green Channel 2: HEX, VIC, TET, JOE	Channel 1: FAM, SYBR Green Ⅰ, SYTO 9, Eva Green, LC Green Channel 2: HEX, VIC, TET, JOE Channel 3: Texas Red, ROX Channel 4: Cy5
Suitable Consumables	0.2mL transparent single tubes and 0.2mL transparent 8-strip tubes  	
Max Heating Rate	≥5.0°C/s	
Max Cooling Rate	≥ 4.0°C/s	
Accuracy of Thermo Control	≤0.1°C	
Lightsource	High-brightness, long-life, maintenance-free LED light source	
Special Temperature Protocol	Conventional PCR, touchdown PCR, long PCR, etc.	
Hot Lid Temperature	40°C-110°C	
Control Modes	Mode 1: 7-inch touch-screen of Gentier mini series Mode 2: computer software Mode 3: remote control via Windows tablet	
Key Applications	Qualitative analysis, absolute quantitative analysis, relative quantitative analysis, endpoint fluorescence analysis, melting curve analysis, and SNP analysis, etc.	
Result Analysis	1: Direct analysis on Gentier mini series and results can be printed directly when connected to a thermal printer; 2: Analysis through PC software.	
Experiment Files	Files can be downloaded by webpage login	
Network Connection	Internet interface, USB, WiFi	
Power Failure Protection	Automatically start running experiments after power supply	
Specifications and Weight	205mm(L)*156mm(W)*153mm(H); 3.2kg	

Gentier 48E/48R

Real-time PCR System

The Tianlong Gentier 48E/48R Real-time PCR System incorporates innovative optical technologies with powerful software to provide maximal reliability and efficiency for all your real-time PCR needs. It is designed to meet the needs of small and medium-sized laboratories, mobile laboratories, and on-site testing. With the 4/2 fluorescence channels, Gentier 48E/48R can process 48 samples in one run. It can make your experiments easier to use, more accurate, and efficient of its excellent performance and portability.

Model	Throughput	Gradient	Channel 1	Channel 2	Channel 3	Channel 4
			FAM, SYBR Green I, etc.	VIC,HEX, TET, JOE, etc.	ROX, Texas Red, etc.	Cy5, etc.
Gentier 48E	1-48	Yes	✓	✓	✓	✓
Gentier 48R			✓	✓		

FEATURES

48 samples to be scanned in 2s

Only 2s for all 48 wells of fluorescence scanning can significantly reduce testing time and improve efficiency for lab professionals.

More convenient with two configurations

Standalone configuration: 7-inch touch screen, direct print sample amplification curve, and CT values by connecting to a thermal printer(optional); PC control configuration: PC software control via connection, one PC can max control 10 instruments.

Efficient temperature control

Gentier 48 E/R only takes 40 minutes to complete a standard PCR amplification process. Temperature accuracy is controlled within 0.1°C .

User-friendly and more flexible

Small in size and light in weight, it can be moved flexibly to your mobile laboratory for on-site testing.

Powerful software analysis

Gentier 48 E/R offers multiple functions including relative quantification, absolute quantification, melting curve analysis, SNP analysis, and is compatible with other fluorescence analysis functions based on the isothermal amplification technique.

SPECIFICATIONS

Model	Gentier 48E	Gentier 48R
Throughput	1-48	
Fluorescence Channels	2	4
Fluorescence Scanning Time	2s	
Optical System		
Light Source	Hiah-brightness, long-life and maintenance-free LED light source	
Detector	Photodiodes (PDs)	
Excitation Range	CH1: 470nm CH2: 523nm CH3: 570nm CH4: 638nm	
Detection Range	CH1: 525nm CH2: 564nm CH3: 610nm CH4: 685nm	
Fluorescence Dynamic Range	Adjustable	
Sample Dynamic Range	1-10^{10} copies	
Thermal Block		
Heating Method	Peltier	
Max Heating Rate	≥ 8.0°C/s	
Max Cooling Rate	≥6.2°C/s	
Accuracy of Thermo Control	≤ 0.1°C	
Gradient Interval Range	1°C-40°C	
Gradient Block	8 row	
Special Temperature Protocol	Thermal qradients PCR, Long PCR, Touch Down PCR	
Sample Testing Linearity and Repeatability	Linear correlation: /r/≥ 0.999 Repeatability: cycle threshold (Ct) value CV≤0.5%	
Software Functions		
Control Modes	Mode1: 7 inch touch screen.Mode 2: PC direct control	
Power Failure Protection	Automatically start running experiments after power supply, no need to wait PC software	
Data Storage and Transmission	Upload and download through USB disk, 1000 results can be stored in machine	
Reporting Function	Templates reserved; customized experiment report	
Key Applications	Relative quantification, absolute quantification, melting curve analysis, SNP analysis	
Others		
Operating System for PC	Win7/Win10/Win11	
Power Supply and Power Consumption	AC 100-240V, 50-60Hz; 600VA	
Weight	11 Kg (net)	
Instrument Dimension	260*400*260mm (W*L*H)	
Suitable Consumables	0.2mL transparent 8-strip PCR tube 0.2mL transparent single PCR tube	

Gentier 96E/96R

Real-time PCR System

The Tianlong Gentier 96E/96R Real-Time PCR System is designed to meet the experimental needs of high-end laboratories. With the 6 (96E)/4 (96R) fluorescence channels, Gentier 96E/96R can process 96 samples in one run. With the powerful and efficient temperature control system, easy-to-use software, user-friendly operational designs, Tianlong Gentier 96E/96R can provide maximal reliability and efficiency for all your real-time PCR needs.

Model	Throughput	Gradient	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
			FAM, SYBR Green I, SYTO 9, Eva Green, LC Green	HEX, VIC, TET, JOE	ROX, Texas Red, etc.	Cy5	Alexa Fluor 680	FRET
Gentier 96E	1-96	Yes	✓	✓	✓	✓	✓	✓
Gentier 96R			✓	✓	✓	✓		

FEATURES

96 samples to be scanned in 7s

Only 7s for all 96 wells of fluorescence scanning can significantly reduce testing time and improve efficiency for lab professionals.

Efficient temperature control

Based on the Peltier heating/colling method, the maximum heating ramp rate is ≥6.1°C/s and the maximum cooling ramp rate is ≥ 5.0°C/s.

Power failure protection design

Power failure protection design can recover the experiment automatically, with no more concern about instantaneous power failure.

More convenient with two configurations

Standalone configuration: 10.4-inch touch screen, PC control configuration: PC software control via connection

Powerful software analysis

Gentier 96 E/R offers various data analysis functions, including absolute quantitative analysis, relative quantitative analysis, SNP analysis, melting curve analysis, etc.

SPECIFICATIONS

Model	Gentier 96E	Gentier 96R
Throughput	1-96	
Fluorescence Channels	6	4
Fluorescence Scanning Time	7s	
Optical System		
Light Source	High-brightness, long-life and maintenance-free LED light source, excitation from the top	
Detector	Photodiode (PD), top scanning	
Excitation Range	CH1: 465nm CH2: 527nm CH3: 580nm CH4: 632nm CH5: 680nm CH6: 465nm	
Detection Range	CH1: 510nm CH2: 563nm CH3: 616nm CH4: 664nm CH5: 730nm CH6: 616nm	
Fluorescence Dynamic Range	Adjustable	
Sample Dynamic Range	1-10 ^{10}copies	
Thermal Block		
Heating Method	Peltier	
Max Heating Rate	≥6.1°C/s	
Max Cooling Rate	≥5.0°C/s	
Uniformity of Thermo Control	±0.1°C	
Accuracy of Thermo Control	≤0.1°C	
Gradient Interval Range	1°C-40°C	
Gradient Block	12 row	
Special Temperature Protocol	Thermal gradients PCR, Long PCR, Touch Down PCR	
Sample Testing Linearity and Repeatability	Linear Correlation:/r/ >0.999 Repeatability: cycle threshold (Ct) value CV <0.5%	
Software Functions		
Control Modes	Mode1: 10.4 inch touch screen Mode 2: PC direct control	
Power Failure Protection	Automatically start running experiments after power supply, no need to wait PC software	
Data Storage and Transmission	Upload and download through USB disk,1000 results can be stored in machine	
Reporting Function	Templates reserved; customized experiment report	
Key Applications	Relative quantification, absolute quantification, melting curve analysis, SNP analysis	
Others		
Operating System for PC	Win7,Win10	
Power Supply and Power Consumption	AC 100-240V, 50-60Hz; 900VA	
Weight	30kg (net)	
Instrument Dimension	355mm*475mm*484mm (W*L*H)	
Suitable Consumables	0.2 mL 96-well plates, 8-tube strips, single tubes (clear, frosted and white)	

Gentier X3 Series

Real-time PCR System

Tianlong GentierX3 Series Real-time PCR System innovates in flexibility and allows users to control three independent blocks in the same PCR system, saving your time and budget. Maximum 3×32-well samples can be run in three different protocols on three independent thermal blocks simultaneously. With the powerful and efficient temperature control system, user-friendly operational designs, Tianlong Gentier X3 Series can provide maximal reliability and efficiency for all your real-time PCR needs.

Advanced flexibility

Improved workflow

3×32
Maximum throughput

FEATURES

Multi-block design to meet different needs

GentierX3 Series has three independently controlled blocks. Maximum 3×32-well samples can be run in three different protocols on three independent thermal blocks simultaneously.

Only 2s for 32 wells fluorescence scanning

With 6/4 fluorescence channels, GentierX3 Series can complete 32 wells of fluorescence scanning in one block within 2s, which improves efficiency for lab professionals.

Efficient temperature control

3 independent thermal blocks with compensation heating function, temperature accuracy, and temperature precision are all ≤ 0.1℃; hot lid with innovative pressure sensing technology ensures that consumables do not deform and reagents do not evaporate

Powerful software analysis

GentierX3 Series can offer multiple functions including absolute quantification analysis, relative quantification analysis, melting curve, high resolution melting (HRM), genotyping, endpoint fluorescence, etc.

User-friendly design for professionals

Built-in 13.3-inch full-color touch, adjustable for different angles; Standalone configuration and PC control configuration; Power failure protection design can recover the experiment automatically;

SPECIFICATIONS

Model	Gentier X3E	Gentier X3S	Gentier X3R	Gentier X3C
				
Touch Screen	YES	NO	YES	NO
Stand Alone Operation	✓	✗	✓	✗
Throughput	32 x 3			
Fluorescence Scanning Time	2s for 32 wells fluorescence scanning			
Fluorescence Channels	6		4	
Dye Compatibility	Channel 1: FAM, SYBR Green I, etc. Channel 2: HEX, TET, VIC, JOE, etc. Channel 3: Texas Red, ROX, etc. Channel 4: Cy5, etc. Channel 5: Alexa Fluor 680, etc. Channel 6: Tamra, Cy3, NED, etc.		Channel 1: FAM, SYBR Green I, etc. Channel 2: HEX, TET, VIC, JOE, etc. Channel 3: Texas Red, ROX, etc. Channel 4: Cy5, etc.	
Heating Rate	Average Heating Rate: ≥ 4.5°C/s ; Max. Heating Rate: ≥6.2°C/s			
Cooling Rate	Average Cooling Rate: ≥ 3.5°C/s; Max. Cooling Rate: ≥ 5.0°C/s			
Accuracy of Thermo Control	≤0.1°C			
Uniformity of Thermo Control	±0.2°C			
Consistency of Thermo Control	≤0.1°C			
Special Temperature Protocol	Touchdown step, long step, gradient step, standard step and so on.			
Repeatability	CV ≤ 1%			
Linear Correlation	| r | ≥ 0.995			
Lightsource	High-brightness, long-life, maintenance-free LED light source			
Key Applications	Absolute quantification analysis, relative quantification analysis, melting curve, high resolution melting (HRM), genotyping, end point fluorescence, etc.			
Data Storage	1000 results can be stored in machine			
Power Failure Protection	Automatically start running experiments after power supply			
Communication Specification	Network Port: TCP/IP protocol; Ethernet connection; USB Port: 2.0;			
Power Supply and Power Consumption	AC 100~240V;50/60Hz; 1000VA;			
Suitable Consumables	 Conventional 0.2 mL 8-strip PCR tube (clear, white)		 Tianlong 0.2 mL 8-strip PCR tube (clear, white) *Special tube for use on Tianlong Automated Detection Workflow	
Dimension	380mm(L) × 410mm (W) × 395mm (H)			
Weight	34kg			

PCR Thermal Cycler

▸▸▸ Genesy

TIANLONG INSTRUMENT SERIES

Genesy 96T

PCR Thermal Cycler

Ultimate performance to meet your diverse needs

The PCR thermal cycler Genesy 96T from Tianlong is easy to operate with a 7-inch color LCD touch screen. By taking advantage of its excellent thermal block, Genesy brings you homogeneous and accurate temperatures, rapidly and precisely controlled ramp rates, and fast and reproducible PCR cycles. The programming of Genesy is also remarkably simple and intuitive. Thanks to all these advantages, Genesy is your ideal equipment for PCR.

FEATURES

7-inch touch screen operation

With 7-inch LCD touch screen, Genesy can function quickly through simple, one-touch commands. Compact design with small footprint, it is also easy to move.

Gradient temperature control

Genesy block features remarkable gradient technology to ensure ramp rates are identical in both gradient and normal modes. Optimized perform assay crosses a maximal 40°C range via 12 gradient.

Intuitive software design

Intuitive software design and friendly interface make it simple even for first time users. Specialized user training is not required.

Flexible to share experiment protocols

1000 experiment protocols can be saved in Genesy. Protocols can also share easily between different Genesys via USB flash disk. Personal protocols can be saved in your USB flash disk to quickly set up your own experiment on any Genesys.

Power failure protection design

Unique power-off protection function can save all the set configurations after power-off, and allow the experiment continues when power-on.

SPECIFICATIONS

Model	Genesy
Reaction volume	0-100μL
Throughput	96
Compatible consumables	 0.2mL single tube  0.2mL 8 strip tubes  o.2mL 96-well plate (skirted, semi-skirted, unskirted)
Temperature control range of the block	4°C-99°C
Temperature control mode	Tube mode & Block mode
Heating technology of the block	Peltier
Gradient block	12 row
Gradient interval range	1°C-40°C
Gradient temperature range	35.5°C-99.5°C
Lid temperature range	40-110°C
Uniformity of thermo control	±0.2°C
Accuracy of thermo control	±0.1°C
Max Heating Rate	≥3.5°C/s
Max Cooling Rate	≥ 2.5°C/s
Interfaces	USB, Ethernet
Dimensions(W*D*H)	260mm*400mm*260mm
Weight	11Kg
Power supply	AC 100-240V, 50-60Hz
Max. Power consumption	600VA
Running noise	<55dB

Fluorescence Quantitative Analyzer

▸▸▸ Fascan 48E

TIANLONG INSTRUMENT SERIES

Fascan 48E

Multi-channel fluorescence quantitative analyzer

Ensure accurate detection for guiding personalized medicine

The Tianlong Fascan 48E Multi-channel fluorescence quantitative analyzer is easy to operate with a 7-inch color LCD touch screen. It is designed for compatibility with Tianlong pharmacogenomic reagents for personalized medicine. With advanced temperature control system and fluorescence detection technology, Fascan 48E can provide fast and accurate results to help treatment in clinical practice.

FEATURES

Instant result analysis

Compatible with Tianlong pharmacogenomic reagents to ensure results accuracy; Detection directly after sample collection and report in about 70 min.

48 samples to be scanned in 2s

With 4 fluorescence channels to detect multiple targets; 2s for all 48 wells of fluorescence scanning, which improves efficiency for lab professionals.

Efficient temperature control

Temperature control ranges from 40.0°C~99.0°C with temperature accuracy ≤ 0.3°C(40.0°C~99.0°C) and ≤ 1°C(4.0°C~39.9°C).

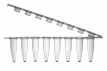
Intuitive software design

Intuitive software design and user-friendly interface make it easy to operate even for first-time users. With remarkable software for automatic interpretation of results; Reports are easy to read .

User-friendly and convenient

1)Two configurations: 7-inch LCD touchscreen operation or PC software control via connection;2)Noise-free design with running noise≤65 dB; 3)Power failure protection design.

SPECIFICATIONS

Model	Fascan 48E
Throughput	48
Fluorescence Channels	4
Fluorescence Scanning Time	2s
Dye Compatibility	Channel 1: FAM, SYBR Green Ⅰ,etc. Channel 2: HEX, VIC, TET, JOE,etc. Channel 3: Texas Red, ROX,etc. Channel 4: Cy5,etc.
Lightsource	High-brightness, long-life, maintenance-free LED light source
Detector	Photodiode (PD)
Temperature control range	From 4.0°C to 99.0°C
Accuracy of Thermal Control	≤ 0.3°C(40.0°C~99.0°C)； ≤ 1°C(4.0°C~39.9°C)
Sample Testing Repeatability	CV≤0.5%
Sample Testing Linearity	| r | ≥ 0.990
Control Modes	Mode 1: 7.0 inch touch screen Mode 2: PC software
Data Storage and Transmission	Up to 1000 programs can be stored in machine
Power Failure Protection	Automatically start running experiments after power supply
Communication Specification	Network port: TCP/IP protocol; Ethernet connection;
Suitable Consumables	 0.2mL transparent single tubes  0.2mL transparent 8-strip tubes
Instrument Dimensions	400mm(L)x260mm(W)×260mm(H)
Weight	11kg
Power Supply and Power Consumption	AC 220V± 10%, 50Hz; 600VA
Running Noise	≤65 dB

ASSAY WORKFLOW

1 Sample Collection

2 Sample Detection

3 Analysis and Report

Molecular Diagnosis All-in-one Solution

- Panall 8000
- iGenecase 1600

TIANLONG INSTRUMENT SERIES

Panall 8000

All-in-one Molecular Diagnosis System

Fewer steps. Walkaway workflow. High quality results.

One key operation and walkaway workflow

Sample in-result out system

Closed system minimizes contamination

12.1″

12.1-inch intuitive touchscreen

No extra equipment needed

No interpretation of results needed

Quality results you can rely on

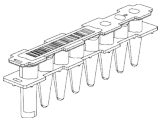
8 samples can be tested at the same time

Tianlong Panall 8000 All-in-one Molecular Diagnosis System is a simple and secure molecular diagnosis system that integrates the functions of sample tube decapping/capping, sample loading, nucleic acid extraction, PCR setup, PCR detection and result analysis, which can realize a true sample in -result out detection process and bring great convenience for professionals with only one-key operation.

COMPATIBLE CONSUMABLES

Specialized sample tube

Specialized nucleic acid extraction kit



Specialized nucleic acid detection kit

Sample in -result out system

TESTING MENU

Category	Product Name	Target Pathogen
Respiratory Infections	Respiratory 7 Types Pathogen Multiplex Nucleic Acid Detection Kit	FluA, FluB, RSV, ADV, HRV, HPIV and MP
	Respiratory 8 Types Pathogen Multiplex Nucleic Acid Detection Kit	FluA, FluB, RSV, ADV, HRV, HPIV, MP and SARS-CoV-2
	Respiratory 17 Types Pathogen Multiplex Nucleic Acid Detection Kit	FluA, FluA/H1, FluA/H3, FluB, RSV, ADV, HRV,HPIV1, HPIV2/4, HPIV3, CP, MP, CorHKU1/OC43, CorNL63/229, HMPV, HBoV and SARS-CoV-2
Gastrointestinal Infections	Gastrointestinal Bacteria Virulence Gene Nucleic Acid Detection Kit	21 types of common gastrointestinal bacteria virulence genes including ipaH, cdtA, aggR, eae, O1rfb, ompW, cdtB, stIa, stx2,SEN1383, invA, cdtC, ETEC—lt, tlh, O139rfb, ctxA, foxA, stIb, stx1, STY4669, STM0159
	Diarrhea Syndrome 21 Types Pathogens Multiplex Nucleic Acid Detection Kit	21 types of pathogens causing diarrhea including EIEC, ETEC, EPEC, EHEC, EAEC, SHIG, ASTV, SAPV, EADV, PS, VCH, VFLU, SAL, C. diff, CAMP, Rotavirus A/B/C, NoV GI, NoV GII, YE
Sexually Transmitted Infections	HPV Genotypes 18 Nucleic Acid Detection Kit	18 types of HPV including 16, 18, 26, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 68, 73 and 82
	Sexually Transmitted Infections Multiplex Nucleic Acid Detection Kit	9 types of STIs including CT, NG, UU, TV, MG, MH, UP, HSVI, HSVII
Encephalitis / Meningitis Infections	Encephalitis and Meningitis 11 Types Pathogens Multiplex Nucleic Acid Detection Kit	11 types of pathogens including E. coli, H. influenzae, L. monocytogenes, N. meningitidis, GBS, GAS, S. pneumoniae, S. aureus, S. suis, MTB, Crypto

*Other test projects are under development and will come soon.

RESULT ANALYSIS

Figure 1：Positive standard amplification curve and result analysis (Respiratory 17)

Figure 2: Negative standard amplification curve and result analysis (Respiratory 17)

Figure 3：Positive standard amplification curve and result analysis (Gastrointestinal 21)

Figure 4: Negative standard amplification curve and result analysis (Gastrointestinal 21)

ORDERING INFORMATION

Nucleic acid detection kit

- Ready-to-use freeze-dried type
- Multiple pathogens detection in a single run
- Stable at room temperature and cost-effective for transportation
- Anti-contamination design with liquid paraffin preventing evaporation
- High sensitivity and high accuracy

Respiratory Infections

Product Name	Respiratory 7 Types Pathogen Multiplex Nucleic Acid Detection Kit (Fluorescence PCR Method; Freeze-dried)	Respiratory 8 Types Pathogen Multiplex Nucleic Acid Detection Kit (Fluorescence PCR Method; Freeze-dried)	Respiratory 17 Types Pathogen Multiplex Nucleic Acid Detection Kit (Fluorescence PCR Method; Freeze-dried)
Cat.No	P763H	P347H	P764H
Specification	24T/Kit(Freeze-dried)		
Specimen	Oropharyngeal swab		
Sensitivity	200 copies/mL		
Precision	≤5%		
Storage & Validity	2-30°C for 12 months		
Compatible Extraction Kit	T819H-Tianlong Nucleic Acid Extraction Kit (For Viral DNA and RNA)		

Gastrointestinal Infections

Product Name	Gastrointestinal Bacteria Virulence Gene Nucleic Acid Detection Kit (Fluorescence PCR Method; Freeze-dried)	Diarrhea Syndrome 21 Types Pathogens Multiplex Nucleic Acid Detection Kit (Fluorescence PCR Method; Freeze-dried)
Cat.No	P344H	P975H
Specification	24T/Kit(Freeze-dried)	
Specimen	Stool samples, anal swab samples	
Sensitivity	500 copies/mL	
Precision	CV≤5%	
Storage & Validity	2-30°C for 12 months	
Compatible Extraction Kit	T838H-Tianlong Nucleic Acid Extraction Kit (For Enteropathogen DNA and RNA)	

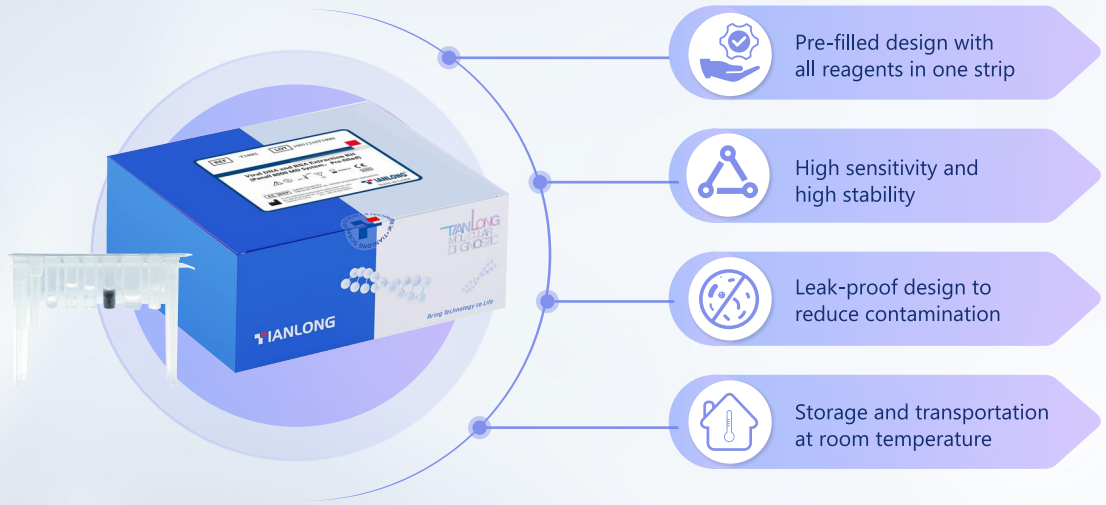
Sexually Transmitted Infections

Product Name	HPV Genotypes 18 Nucleic Acid Detection Kit (Fluorescence PCR Method; Freeze-dried)
Cat.No	P828H
Specification	24T/Kit(Freeze-dried)
Specimen	Female cervical epithelial cells
Sensitivity	500 copies/mL
Precision	CV≤5%
Storage & Validity	2-30°C for 12 months
Compatible Extraction Kit	-

Meningitis/Encephalitis Infections

Product Name	Encephalitis and Meningitis 11 Types Pathogens Multiplex Nucleic Acid Detection Kit (Fluorescence PCR Method; Freeze-dried)
Cat.No	P976H
Specification	24T/Kit(Freeze-dried)
Specimen	Whole blood, oropharyngeal swab
Sensitivity	500 copies/mL
Precision	CV≤5%
Storage & Validity	2-30°C for 12 months
Compatible Extraction Kit	T847H-Tianlong Nucleic Acid Extraction Kit (For Pathogen DNA and RNA)

Nucleic acid extraction kit



Product Name	Cat.No	Specification	Sample Type
Nucleic Acid Extraction Kit (For Viral DNA and RNA)	T819H	24T/Kit(Pre-filled) 1T/ Strip x 24 Strips	Oropharyngeal swab samples
Nucleic Acid Extraction Kit (For Enteropathogen DNA and RNA)	T838H	24T/Kit(Pre-filled) 1T/ Strip x 24 Strips	Stool samples, anal swab samples
Nucleic Acid Extraction Kit (For HPV DNA)	-	24T/Kit(Pre-filled) 1T/ Strip x 24 Strips	Cervical swab samples
Nucleic Acid Extraction Kit (For Pathogen DNA and RNA）	T847H	24T/Kit(Pre-filled) 1T/ Strip x 24 Strips	Whole blood, oropharyngeal swab

APPLICATION AREA

PARAMETERS

Model	Panall 8000
Sample Throughput	1~8 samples at the same time
Pipetting Range	20μL ~250μL
Detection time	1~2 hours,relying on the reagent
Channel and Available Fluorescein	Channel 1: FAM, SYBR Green I, etc. Channel 2: VIC, HEX, TET, JOE, etc. Channel 3: ROX, Texas Red, etc. Channel 4: Cy5, etc.
Pipetting Performance	20μL ≤ V＜40μL: accuracy: A≤5.0%, repeatability: CV≤3.0% 40μL ≤ V＜100μL: accuracy: A≤3.0%, repeatability: CV≤1.5% V ≥100μL: accuracy: A≤1.0%, repeatability: CV≤1.0%
Extraction Heating Rate	Average heating rate: ≥ 1.5°C/s；
Extraction Temperature Accuracy	≤ 1.0°C
PCR Heating Rate	Average heating rate: ≥ 4.5°C/s Maximum heating rate: ≥ 6.1°C/s
PCR Cooling Rate	Average cooling rate: ≥ 3.5°C/s; Maximum cooling rate: ≥ 5.0°C/s.
PCR Temperature Accuracy	≤ 0.1°C
Sample Testing Linearity and Repeatability	Linear correlation: /r/ ≥ 0.998 Repeatability: CV≤ 1.5%
Information Management	Sample information: with scanner inside, Panall 8000 can scan and record the sample information; Reagent information: visual system can automatically identify the kit information and run the corresponding program
Minimized Contamination	Directional exhaust & negative pressure system; HEPA filtration; UV disinfection; Shortest fixed path for sample operation
Data Storage	1000 experiment files can be stored
Language	Chinese and English
Power Supply and Power Consumption	AC 100~240V, 50/60Hz; 1200VA
Communication Specification	Internet Port: TCP/IP protocol, Ethernet connection USB Port: USB 2.0
Dimension	750mm(L) × 350mm (W) × 600mm (H)
Weight	80Kg

Panall 8000

All-in-one Molecular Diagnosis System

Embrace flexibility with *open system* to create broad molecular test menu

Tianlong Panall 8000 All-in-one Molecular Diagnosis System is a simple and secure molecular diagnosis system that integrates the functions of sample tube decapping/capping, sample loading, nucleic acid extraction, PCR setup, PCR detection and result analysis, which can realize a true sample in -result out detection process and bring great convenience for professionals with only one-key operation.

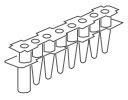
Panall 8000 is designed as an open platform that is compatible with molecular diagnostic tests from different manufacturers. Tianlong intends to collaborate with best-in-class IVD assay developers to bring new tests to the Panall 8000 All-in-one Molecular Diagnosis System for a broad range of disease categories.

COMPATIBLE CONSUMABLES

Specialized sample tube

Specialized nucleic acid extraction kit

*Tianlong can customize nucleic acid extraction reagents to match your PCR detection needs



Specialized nucleic acid detection kit

*Open system for PCR protocol and compatible with PCR reagents from different manufactures

Sample in -result out system

TEST PORTFOLIO

Tianlong offers an extensive menu of tests on the system covering respiratory infections, sexually transmitted infections, encephalitis/meningitis infections, and gastrointestinal infections. Tianlong also offers customized reagents for the Panall 8000 All-in-one Molecular Diagnosis System that enables labs to program user-defined PCR analysis protocols and streamline their PCR tests.

- **Respiratory Infections**
- **Sexually Transmitted Infections**
- **Bloodborne Infections**

Expand Testing Menu

- **Gastrointestinal Infections**
- **Encephalitis/Meningitis Infections**
- **Customized reagents** (open system for PCR protocol)

OPEN SYSTEM

Tianlong Panall 8000 is an open system that enables laboratories to program user-defined PCR analysis protocols. Laboratories can use user-defined protocols in addition to those developed by Tianlong. The simple and efficient design of the Tianlong Panall 8000 allows you to test a wide range of sample types and meet emerging diagnostic requirements through customized reagents. Tianlong intends to work with our partners to bring more new tests to the Panall 8000 for detection of a broad range of disease categories.

Features

Compatible with PCR reagents from different manufactures

Empty PCR tubes work with your PCR reagents

Customize collaboration mode for a more diversified menu

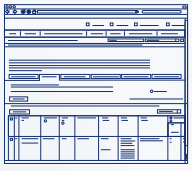
Tianlong will collaborate with our partners to jointly expand the testing menu. Tianlong can customize nucleic acid extraction reagents to match your PCR reagents for more business possibilities.

Available for more application scenarios

An open system with a diversified testing menu can meet your emerging diagnostic requirements and apply in more scenarios. Tianlong Panall 8000 compatible with your reagents can optimize the detection process with minimal hands-on time and make detection more efficient.

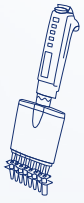
The open system workflow on Tianlong Panall 8000

Set user-defined protocols



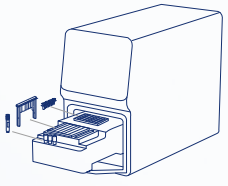
Laboratories can program user-defined PCR analysis protocols according to their testing needs.

Tranfer PCR reagents



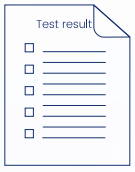
Professionals can transfer your PCR reagents to the Tianlong specialized PCR tubes.

Load samples and reagents



Load the sample tubes, extraction reagent, and PCR reagent to Tianlong Panall 8000 and start your experiment.

Analysis and report



Panall 8000 can start detection with one-key operation and report in about 1-2 hours, relying on the reagent.

APPLICATION AREA


Health Clinic

Hospital Emergency and Outpatient Department

CDC


Research Institute

APPLICATION CASE

Bloodborne pathogen detection reagents from KHB on Tianlong panall 8000

- Detection of top 3 bloodborne pathogens: HBV, HCV, HIV (Type1+2)
- High sensitivity and high specificity
- Wide subtypes coverage

Testing item	Product Name	Target Pathogen
Bloodborne Infections	KHB Nucleic Acid Testing Kit for HBV DNA, HCV RNA and HIV RNA (Type 1+2)	HBV, HCV, HIV(Type 1+2)
	KHB Nucleic Acid Testing Kit for HBV DNA	HBV
	KHB Nucleic Acid Testing Kit for HCV RNA	HCV
	KHB Nucleic Acid Testing Kit for HIV RNA (Type 1)	HIV (Type 1)

Kit Specifications

Product Name	KHB Nucleic Acid Testing Kit for HBV DNA, HCV RNA and HIV RNA (Type 1+2) (Real-time PCR)	KHB Nucleic Acid Testing Kit for HBV DNA (Real-time PCR)	KHB Nucleic Acid Testing Kit for HCV RNA Real-time PCR)	KHB Nucleic Acid Testing Kit for HIV RNA (Type 1) (Real-time PCR)
Specimen	Serum/plasma			
Analysis Method	Qualitative	Quantitive	Quantitive	Quantitive
LoD	HBV: 2.5 IU/mL HCV: 9 IU/mL HIV-1: 20 IU/mL HIV-2: 40 IU/mL	5 IU/mL	12.5 IU/mL	20 IU/mL
Precision	CV≤5%	CV≤5%	CV≤5%	CV≤5%
Storage & Validity	-20°C±5°C for 12 months			
Cat.No	-	-	-	-
Specification	96T/Kit	96T/Kit 32T/Kit	96T/Kit 32T/Kit	96T/Kit 32T/Kit
Compatible Extraction Kit	T552H-Tianlong Nucleic Acid Extraction Kit (For blood screening) 		T562H-Tianlong Nucleic Acid Extraction Kit (For HIV/HBV/HCV) 	

ATTACHED FILE

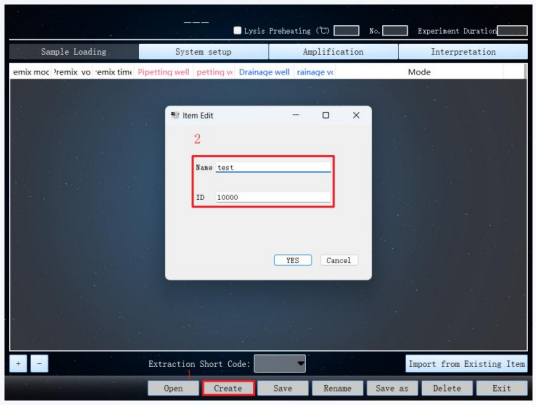
SOP for setting your PCR protocol in panall 8000 open system

1 Start setting

Login in superadmin mode. Choose in turn Setting＞Item Management＞Item Edit

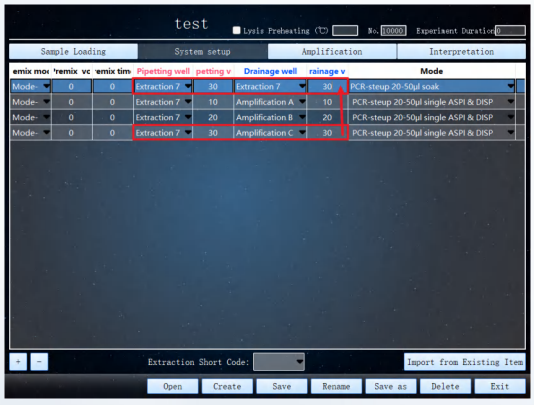
2 Set new experiment

Edit the new experiment name and ID



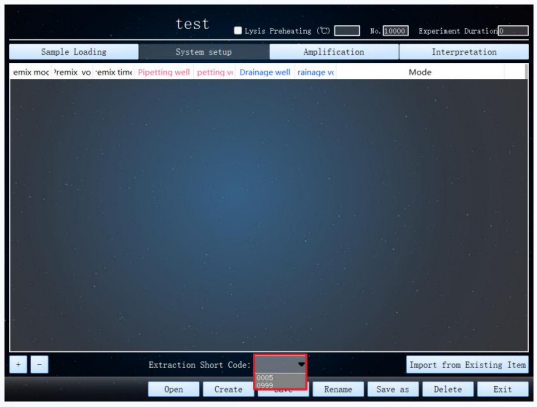
3 Sample loading and PCR system setup

Choose sample loading, mixing and dispensing mode and set parameters



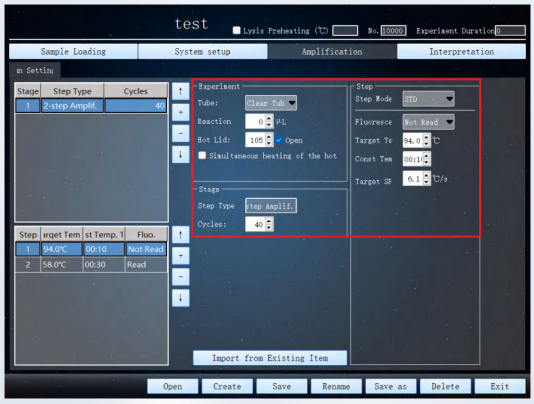
4 Choose extraction protocol

Choose the extraction reagent protocol according to your detection needs



5 Set PCR protocol

Choose the amplification method and set the amplification cycles and steps



6 Set target gene and internal control

Result analysis by independent gene interpretation or Joint gene interpretation

*After PCR protocol set up, user can save the protocol as an template, and start your new experiment quickly with pre-configured templates.

PARAMETERS

Model	Panall 8000
Sample Throughput	1~8 samples at the same time
Pipetting Range	20μL ~250μL
Detection time	1~2 hours,relying on the reagent
Channel and Available Fluorescein	Channel 1: FAM, SYBR Green I, etc. Channel 2: VIC, HEX, TET, JOE, etc. Channel 3: ROX, Texas Red, etc. Channel 4: Cy5, etc.
Pipetting Performance	20μL ≤ V＜40μL: accuracy: A≤5.0%, repeatability: CV≤3.0% 40μL ≤ V＜100μL: accuracy: A≤3.0%, repeatability: CV≤1.5% V ≥100μL: accuracy: A≤1.0%, repeatability: CV≤1.0%
Extraction Heating Rate	Average heating rate: ≥ 1.5°C/s;
Extraction Temperature Accuracy	≤ 1.0°C
PCR Heating Rate	Average heating rate: ≥ 4.5°C/s Maximum heating rate: ≥ 6.1°C/s
PCR Cooling Rate	Average cooling rate: ≥ 3.5°C/s; Maximum cooling rate: ≥ 5.0°C/s.
PCR Temperature Accuracy	≤ 0.1°C
Sample Testing Linearity and Repeatability	Linear correlation: /r/ ≥ 0.998 Repeatability: CV≤ 1.5%
Information Management	Sample information: with scanner inside, Panall 8000 can scan and record the sample information; Reagent information: visual system can automatically identify the kit information and run the corresponding program
Minimized Contamination	Directional exhaust & negative pressure system; HEPA filtration; UV disinfection; Shortest fixed path for sample operation
Data Storage	1000 experiment files can be stored
Language	Chinese and English
Power Supply and Power Consumption	AC 100~240V, 50/60Hz; 1200VA
Communication Specification	Internet Port: TCP/IP protocol, Ethernet connection USB Port: USB 2.0
Dimension	750mm(L) × 350mm (W) × 600mm (H)
Weight	80Kg

iGenecase 1600

Diagnostics-in-a-Suitcase

Take your testing anywhere with this lab in a suitcase

Tianlong suitcase laboratory iGenecase 1600 contains all necessary devices (GeneFlex Nucleic Acid Extractor, Gentier mini Portable Real-Time PCR System) and compatible consumables for PCR detection. With mobile power supply, professionals can start the experiment anywhere. iGenecase 1600 can be applied in various scenarios including animal disease and infectious disease prevention and control, food safety, scientific research, and other fields. The small, mobile laboratory fitting in a suitcase can deliver test results quickly and accurately,which is ideal for your on-site testing needs.

KEY CONFIGURATIONS

GeneFlex 16
Automatic Nucleic Acid Extractor

- Flexible Throughput
- Small Footprint
- Immediate Results

reddot award winner

Gentier mini Series
Portable Real-Time PCR System

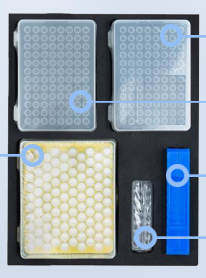
- Portable
- Fast
- Always Online

LAYOUT IN SUITCASE LAB

- Portable Real-time PCR System
- Power Strip and Power Cable
- Mobile Power Supply

- Pipette

- Automatic Nucleic Acid Extractor
- Mini Centrifuge
- Mini Vortexer



- 1000μL Filter Tips
- 20μL Filter Tips
- 200μL Filter Tips
- PCR Racks
- PCR Tubes

FEATURES

Portable to meet on-site testing need
Lab in a suitcase is portable and flexible to meet your on-site testing needs. Various scenarios applications include infectious disease prevention and control, food safety and other fields.

Flexible to take your testing anywhere
With a mobile power supply, professionals can start the experiment anywhere. No need to worry about no power supply outdoors and sudden power off indoors

Lab in a suitcase to be more convenient
The small, mobile laboratory fitting in a suitcase can deliver test results quickly, which is ideal for your on-site testing needs. Crash-proof design can ensure the stability of the suitcase lab.

Highly efficient extraction and detection
1s to complete fluorescence scanning of all wells
15 min to complete sample nucleic acid extraction

Easy and convenient to start the experiment
1 click to start nucleic acid extraction
3 clicks to complete real-time PCR operations

APPLICATION AREA

SPECIFICATIONS

iGenecase 1600 Diagnostics-in-a-Suitcase

Weight	33 kg	
Dimensions	500mm (L) × 300mm (W) × 755mm (H)	
Automatic Nucleic Acid Extractor		
Model	GeneFlex 16	
Sample Throughput	16	
Maximum Processing Volume	1700μL	
Recommended Sample Volume	200-500μL	
Compatible Consumables	Customized 96-well deep-well plates, 6-tube strips	
Mixing Method	Rotary Mixing	
Rotation Speed	100~3000rpm	
Temperature Control Range	Temperature control separately for lysis and elution. Temperature range from 30°C to 120°C.	
Temperature Control Accuracy	Heating speed: 4.0±0.2°C/s. Temperature accuracy: ±1.0°C. Temperature uniformity:≤1.0°C.	
Reagent Identification	Automatic identification of reagent information and running the assays	
Magnetic Bead Residue	≤1%	
Weight	7.4 Kg(net)	
Dimensions	210mm (L) × 229mm (W) ×242mm (H)	
Portable Real-Time PCR System		
Model	Gentier mini	Gentier mini+
Throughput	16	16
Fluorescence Channels	2	4
Compatible Consumables	0.2mL transparent single tubes, and 8-strip tubes	
Dye Compatibility	F1: FAM, SYBR Green I, LC Green, Eva Green, SYTO 9 F2: HEX VIC TET JOE	F1: FAM, SYBR Green I, LC Green, Eva Green, SYTO 9 F2: VIC, HEX, TET, JOE; F3: ROX, TEXAS-RED; F4: CY5
Max Heating Rate	≥5.0°C/s	
Max Cooling Rate	≥ 4.0°C/s	
Accuracy of Thermo Control	≤ 0.1°C	
Weight	3.2Kg	
Dimensions	205mm (L) × 156mm (W) x 153mm (H)	

ATP Hygiene Monitoring System

- Biolum
- Biolum Pro

TIANLONG INSTRUMENT SERIES

Biolum

Portable ATP Hygiene Monitoring System

Your reliable hygiene safety guardian

Fast
Result in 10s for one test

Powerful Memory Capacity
256 test plans, 256 user IDs,
2000 test program, 10000 results

Sensitive
Detect down to 10^{-16} mol of ATP

User-friendly
3.5 inch high resolution color screen, intuitive menus, simple to use

Template
Pre-configured templates including different industries and locations, together with upper and lower limits can start your test immediately

Connectivity
Connect PC via USB or Bluetooth, and connect printer through Bluetooth

Low Consumption
Using Li-ion battery that can work more than 8h continually

Highly Portable
Within 300g with battery

PERFORMANCE TESTED
AOAC
RESEARCH INSTITUTE
LICENSE NUMBER 022401

Biolum Portable ATP Hygiene Monitoring System, a powerful tool for implementing and managing your hygiene monitoring program. Taking advantages of the progressive testing swab, the hygiene level will be evaluated in seconds, and the results can be visualized on screen. Featuring the state-of-art technology, the Biolum is a user-friendly, flexible, and accurate quality monitoring system. It has all the features to maximize its value to your business.

COMPATIBLE SWABS

QuickSwab

ATP QuickSwab is a simple to use, all-in-one and pen-sized sampling device,with the pre-moistened swab that offers extraordinary accuracy and precision for many industrial applications

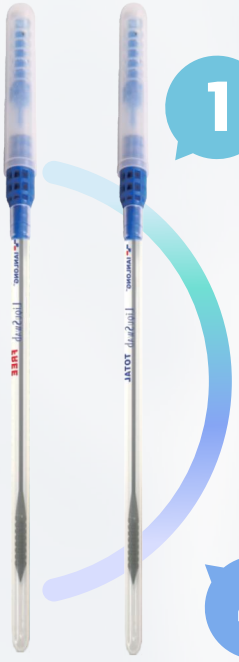
1. Sampling&Reaction together,easy to use
2. Pre-moistened swab tip
3. Accurate, high reproducibility
4. 10s for one test

PERFORMANCE TESTED AOAC RESEARCH INSTITUTE LICENSE NUMBER 022401

Test Procedure

LiquSwab

LiquSwab is an easy-to-use ATP liquid test that works with the Biolum hygiene monitoring system from Tianlong. The swab is available in two formats: Free and Total. LiquSwab Free measures dissolved ATP that is free in liquid(non-microbial ATP). LiquSwab Total measures both free ATP and microbial ATP (non-microbial and microbial ATP) in the liquid. The difference between LiquSwab Total and Free provides an indication of microbial contamination in the samples.



1. Easy to operate
2. 10s for one test
3. 12 month shelf life at 2-8°C, 4 weeks shelf life at 21-25°C
4. Detect down to 10^{-16} mol of ATP

Test Procedure

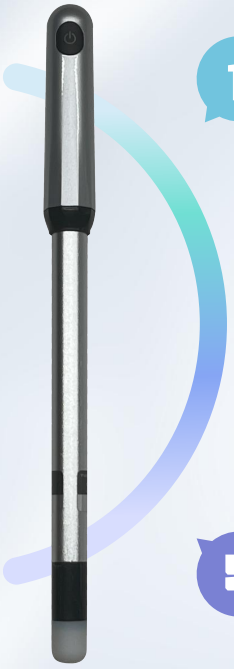
ACCESSORIES

EternalLight-H

ATP Detector Optical Calibrator

EternalLight-H is a reusable device for quick and reliable calibration verification. We recommend incorporating instrument calibration into a quality control program to verify that the Biolum ATP continues to operate correctly and is under control. EternalLight-H provides an all-in-one, reusable positive and negative calibration verification, activated by the click of a button.

By pressing the button on the cap, EternalLight-H will emit a 3 seconds green LED light to indicate power on. EternalLight-H can be used as a positive control when on. In the off state, EternalLight-H can be used as a negative control to remind the user whether the null value is normal.



1. **LED calibration verification device featuring negative and positive modes**
2. **Verifying as part of a quality control program and proving system working properly**
3. **Powered by an easily replaceable coin battery**
4. **Reusable device allowing for unlimited calibration verification**
5. **Compatible with Biolum ATP hygiene monitoring system**

Test Procedure

Negative test

1 Biolum self-checking

2 Checking the EternalLight-H

3 Insert EternalLight-H into Biolum

Taking care not to press the button

4 Close the lid of Biolum

5 Press "OK" to start measurement

6 Record initial RLU results

Instrument No:	
Negative EternalLight-H RLU	*
Positive EternalLight-H RLU	

*Record your initial negative RLU. RLU range should be within 0-4.

Positive test

1. 
Biolum self-checking

2. 
Checking the EternalLight-H

3. 
Insert EternalLight-H into Biolum

4. 

Press the button on EternalLight-H to turn device on

5. 
Close the lid of Biolum

6. 
Press "OK" to start measurement

7. 
Record initial RLU results

Instrument No:	
Negative EternalLight-H RLU	
Positive EternalLight-H RLU	*

***Record your initial positive RLU. RLU range should be within 160-240.**

Interpretation: record your initial positive RLU and negative RLU, if either of the RLU is not within the range, please start calibration.

Calibration

1. 
Select in turn "Setting"-"Help"-"Calibration"

2. 
Set the RLU value to 200 RLU

3. 
Wait instrument background calibration complete

4. 
Press the button on EternalLight-H to turn device on

5. 

Insert EternalLight-H for calibration

6. 
Remove EternalLight-H and close the lid

7. 
Continue the calibration process until done

8. 
Take positive and negative test to validate again

APPLICATION AREAS

PERFORMANCE

ATP hygiene monitoring is a simple, rapid, and quantitative testing method to verify cleaning effectiveness. The critical performance characteristics of ATP hygiene monitoring systems are:

Sensitivity - the smallest amount of ATP detectable

Consistency - the variation of results from repeated tests of the same sample

Accuracy - the measured ATP value compared to the true value

Precision - the repeatability of the test to produce the same result

Tianlong Biolum ATP Hygiene Monitoring System has an AOAC certificate and The data generated from the Biolum AOAC certificate shows its excellent performance in sensitivity, consistency, accuracy, and precision. Tianlong Biolum is highly sensitive and can detect extremely low levels of ATP molecules and monitor the efficacy of higher cleaning standards, resulting in a lower risk of microbial contamination.

Sensitivity

The table below shows the smallest amount of ATP detectable by each ATP hygiene monitoring system. Tianlong Biolum shows higher sensitivity with limit of detection (LOD) <1 fmols, compared with the performance of 3M and Kikkoman systems. Tianlong Biolum is capable of measuring lower amounts of ATP and monitoring the efficacy of higher cleaning standards.

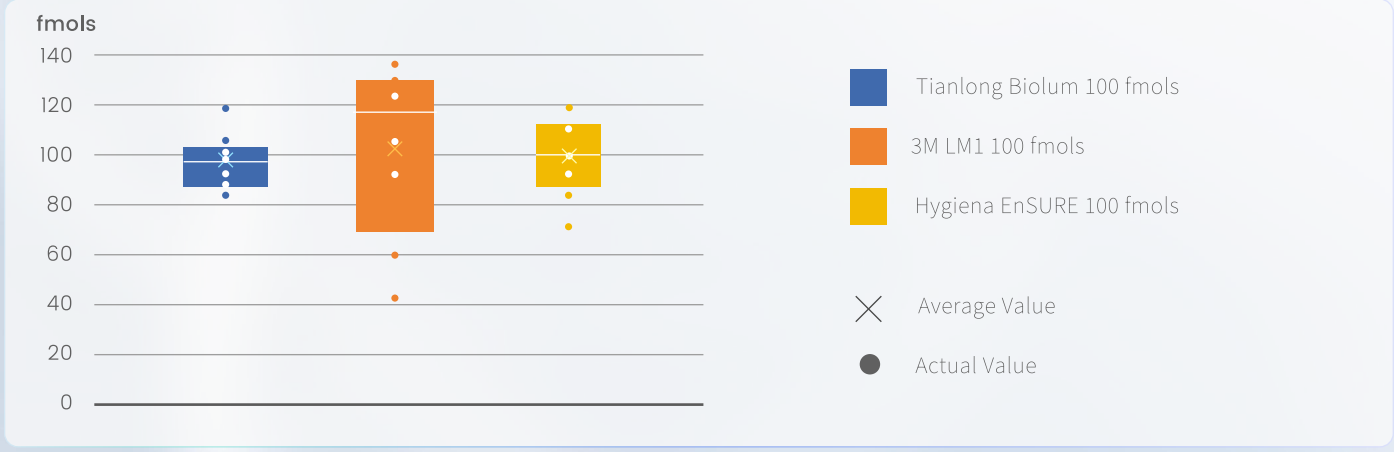
Lower amount of ATP (fmols) detected = greater sensitivity

Model	Kikkoman	3M	Hygiena	Tianlong
	Lumitester PD-30	LM1	EnSURE	Biolum
Lod (fmols)	>3	>3	<1	<1

Data provided by Tianlong AOAC certificate #022401, Hygiena AOAC certificate #101803, Kikkoman AOAC certificate #051901, 3M AOAC certificate #041901

Accuracy

At 100 fmol ATP concentration and test for ten times, the graph below shows Tianlong Biolum produces more accurate results than 3M, and produces the most consistent results close to the actual value than 3M and Hygiena. Accordingly, Tianlong Biolum has greater consistency and accuracy.



Comparison of accuracy and precision of Tianlong Biolum versus other brands measuring 100 fmols of ATP

Precision and Consistency

The AOAC report shows that Tianlong Biolum can detect various microorganisms and food residues with good consistency and high precision.

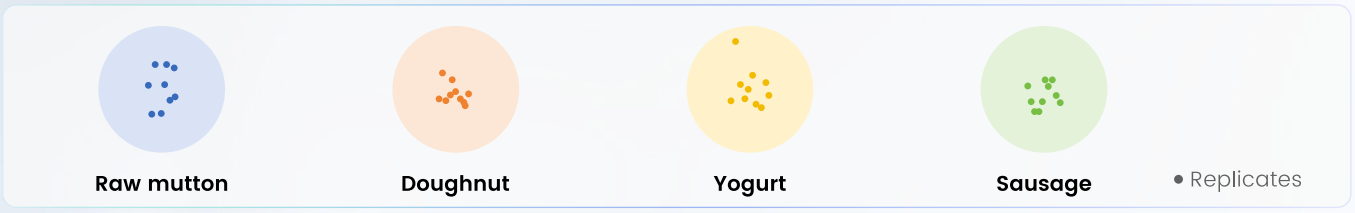
Microorganism Detection

Tianlong Biolum and compatible QuickSwab detect different types of microorganisms (Gram-positive bacteria, Gram-negative bacteria, yeast) in a dilution of 10^{-4} or even more times.

Detection efficacy of different types of microorganisms

Food Residues Detection

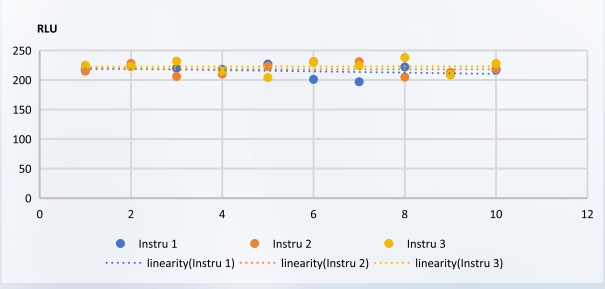
Tianlong Biolum and compatible QuickSwab detect different types of food residues (raw meat, cooked meat products, dairy products, baked foods) in a dilution of 10^{-4}.



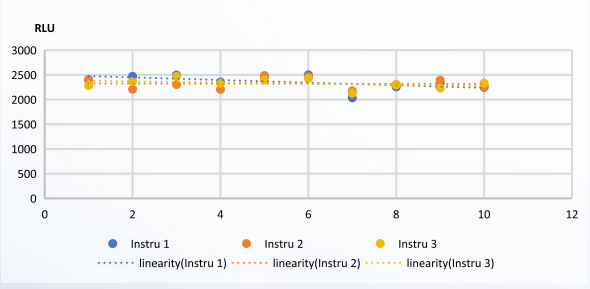
Detection efficacy of different food residues

Batch Difference

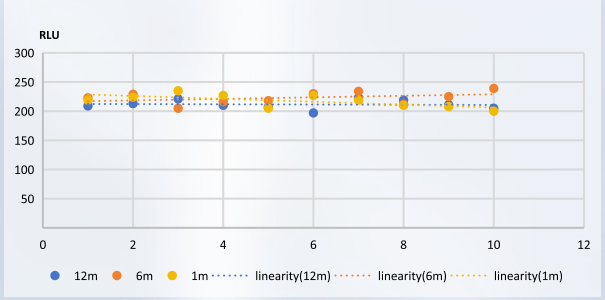
Three batches of Tianlong Biolum ATP hygiene monitoring system and QuickSwab produced in different months are detected under different concentrations of ATP. The graphs show similar linearity, which means Tianlong ATP hygiene monitoring system and compatible swab can provide consistent performance for customers.



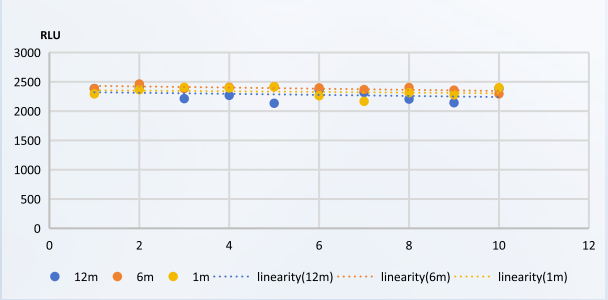
Tianlong Biolum system performanc
at 100 fmols of ATP



Tianlong Biolum system performance
at 1000 fmols of ATP



Tianlong QuickSwab performance
at 100 fmols of ATP



Tianlong QuickSwab performance at
1000 fmols of ATP

SPECIFICATIONS

Model	Biolum
Dimensions	189mmx70mmx35mm
Weight	280g
Detection Limit	10^{-16} moles ATP
Detection Deviation	±5% or±5 RLUs
Self-calibration at Startup	15s or 60s
Real-time Detection Time	10s/test
Memory Capacity	256 test plans, 256 user IDs, 2000 test program and 10000 results
Communication Interface	USB, Bluetooth
Test Repeatability	8%-20%
Correlation Coefficient	$R^2 \geq 0.995$
Power Supply	Rechargeable battery
Running Time	Continuously work for > 8hrs,standby for>600 hrs
Operating Temperature Range	5-40°C
Operating humidity Range	20-80%

Swabs

Cat.No.	Swabs	Specification	Remark
A017H	QuickSwab	20 pieces/package	Surface test
A010H	LiquSwab Total	20 pieces/package	Liquid test (Total ATP)
A011H	LiquSwab Free	20 pieces/package	Liquid test (Free ATP)

Calibration Verification

Model	EternalLight-H
Service life	5 years
Battery	CR1025 lithium battery (3V)

Biolum Pro

Portable ATP Hygiene Monitoring System

Make hygiene monitoring easier as using a smartphone

Verify sanitation in 10s for one test

Intuitive smartphone design with 5-inch touch shatter-proof screen

Highly sensitive to detect down to 10^{-16} mol of ATP

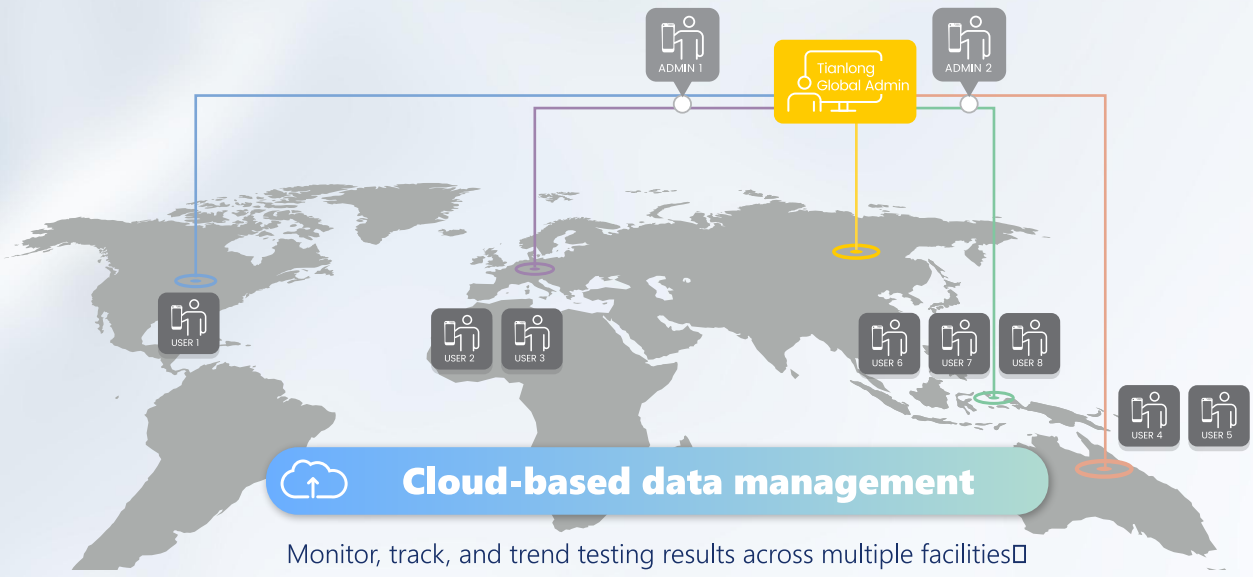
Secure cloud-based data management

Web-based platform, no software downloads needed

With USB-C charging port for user convenience

Pre-configured templates including different industries and locations

Biolum Pro is our new-generation hygiene monitoring system. The innovative design makes it a smartphone in your hand. Featuring state-of-the-art technology, the new device can provide you with rapid and accurate data to support your hygiene monitoring program. Cloud-based data management enables users to monitor, track, and trend testing results across multiple facilities, making risk management easier than ever. Biolum Pro innovates to make everything easier and maximize its value to your business.

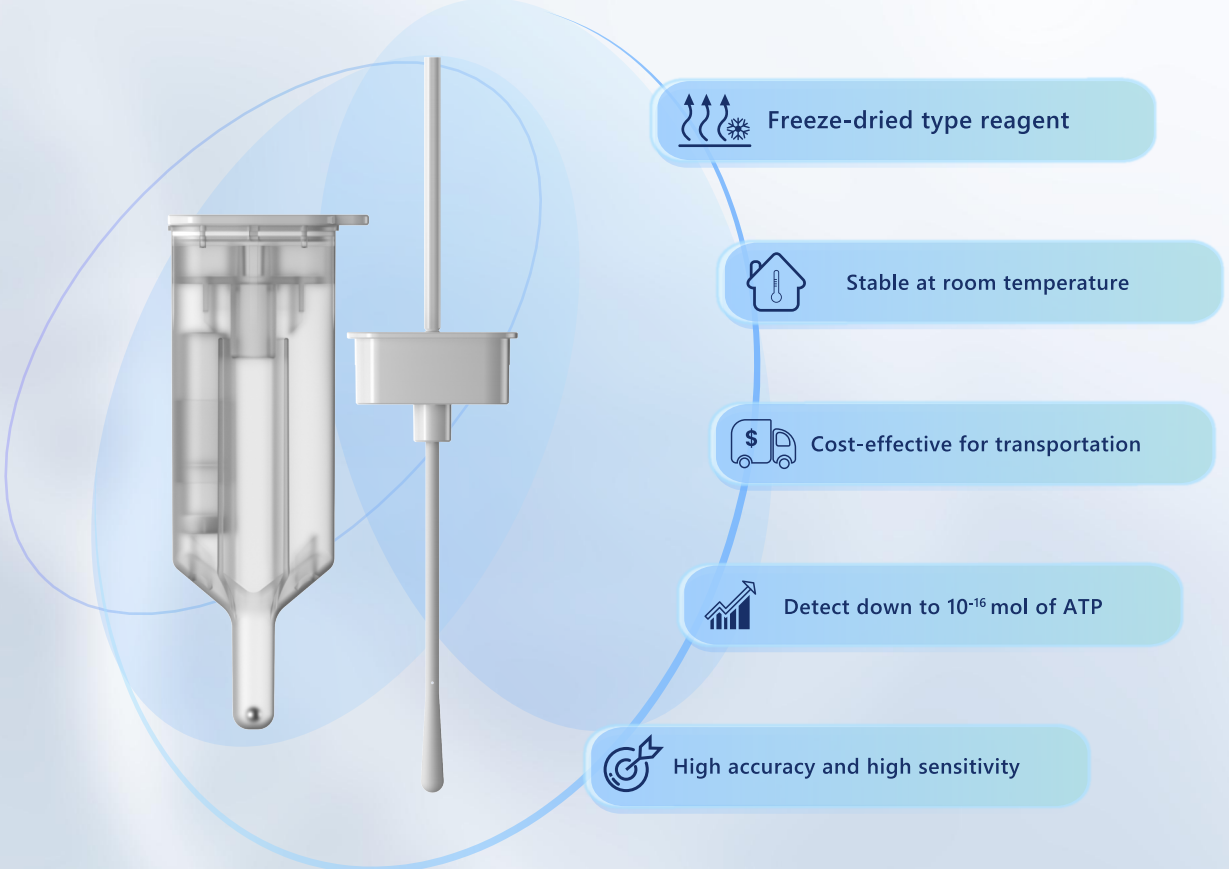


Monitor, track, and trend testing results across multiple facilities

COMPATIBLE SWABS

Lyophilized Surface Swab

ATP Lyophilized Surface Swab is a simple-to-use sampling device for surface cleanliness testing. It is compatible with the Biolum Pro ATP hygiene monitoring system. ATP Lyophilized Surface Swab can offer extraordinary accuracy and precision for many industrial applications.



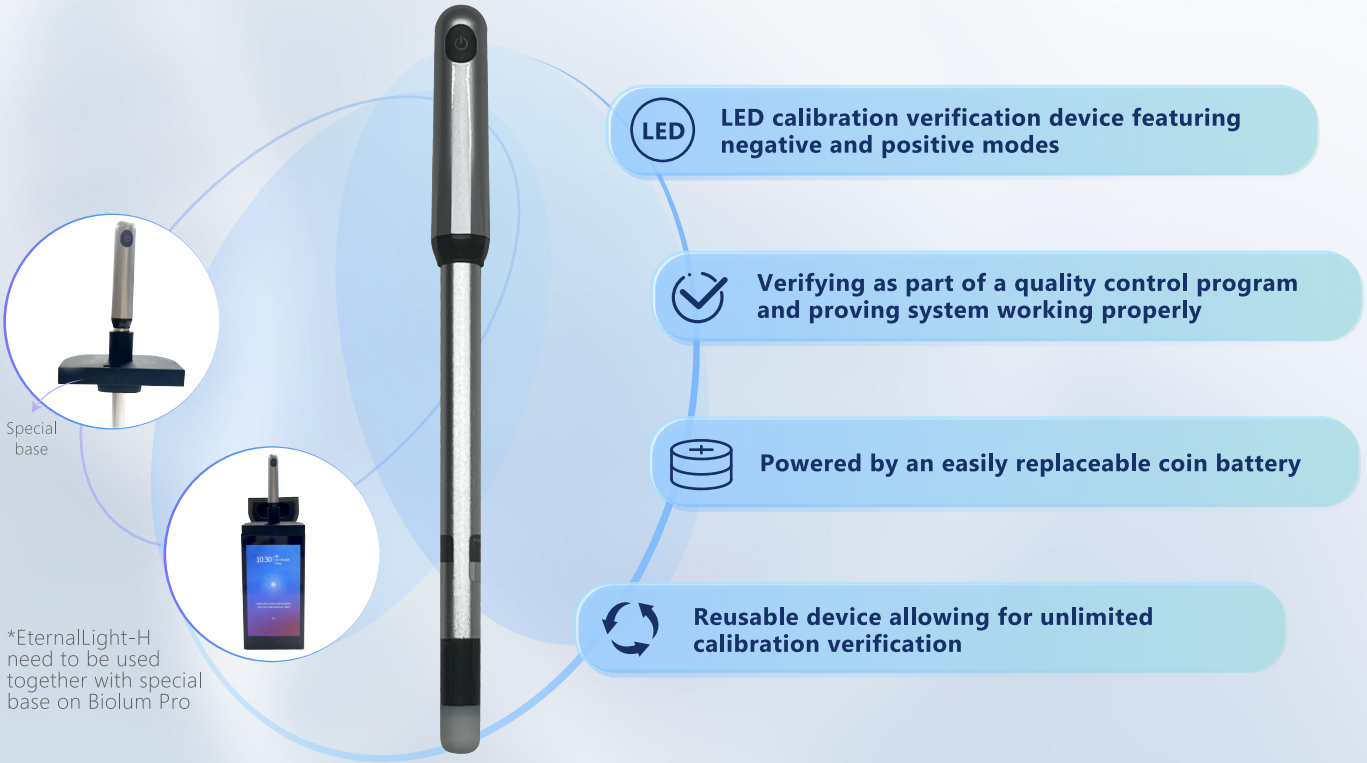
Test Procedure

ACCESSORIES

EternalLight-H

ATP Detector Optical Calibrator

Biolum Pro will ensure the test accuracy every time turning on the self-check function. Also, the additional calibration can be used to verify the accuracy by EternalLight-H.This calibration verification device is highly compatible with both Biolum and new-generation Biolum Pro ATP hygiene monitoring system.



SPECIFICATIONS

Model	Biolum Pro
Dimensions	74mm×75mm×164mm
Weight	420g
Detection Limit	10^{-16} mol of ATP
Real-time Detection Time	10s/test
Memory Capacity	255 test plans, 255 user IDs, 255 test program and 10000 results
Communication Interface	USB, Bluetooth, WiFi, NFC
Correlation Coefficient	$R^2 \geq 0.995$
Power Supply	Rechargeable battery
Running Time	Continuously work for more than 100 tests
Operating Temperatures Range	5°C-40°C
Operating humidity Range	20-85%RH

Swabs

Cat.No.	Swabs	Specification	Remark
A030H	Lyophilized Surface Swab	10 pieces/package	Surface test

Calibration Verification

Model	EternalLight-H
Service life	5 years
Battery	CR1025 lithium battery (3V)

APPLICATION AREAS


Food Processors


Health Care


Food Service


Environment Protectio


Other Industries

Agglutination Automated Detection System

▸▸▸ RBT320

TIANLONG INSTRUMENT SERIES

RBT320

Agglutination Automated Detection System

Tianlong RBT320 Agglutination Automated Detection System is designed for the detection of Brucellosis based on the Rose Bengal Test (RBT) method. Designed for automating laboratory workflow, Tianlong RBT320 integrates various functions, including automatic sample loading, sample mixing, photographing, AI image recognition, and result interpretation. With optimized efficiency, RBT320 can process 320 samples per hour and is suitable for large-scale screening of Brucella antibodies. Tianlong RBT320 is highly automated and can empower your lab with maximum efficiency and effectively avoid human errors, the use of the RBT method can also be cost-effective for you lab.

FEATURES

RBT

Standardized detection based on the RBT method

With a temperature monitoring system to ensure the experiment temperature (22±4°C) and alarm for abnormality, reaction plates with 2cm in diameter, and 4 minutes reaction time, which fully meet the requirements of RBT Brucellosis detection international standard and ensure results accuracy

Highly efficient to meet large-scale Brucellosis screening needs

Up to 320 samples can be processed per hour with RBT320. The automated instrument with standardized workflow can greatly drive lab efficiency for large-scale screening of Brucella antibodies and save human labor for your lab

Automated workflow and hands-free operation

RBT320 is highly automated and can complete the whole experiment process automatically, which can free professionals from repetitive work and avoid human errors in operation and in result interpretation

AI

AI image recognition to interpret the results

With AI image recognition technology, consistent and precise results can be ensured and effectively avoids errors caused by visual inspection

Highly compatible with your needs

RBT320 can meet reaction conditions of different RBT reagents and is compatible with most common RBT reagents on the market

SPECIFICATIONS

Model	RBT320
Operation Time	24T/4min (320T /hour)
Sample Throughput	320T (16T * 20)
Sample Type	Blood serum
Sample Loading Channels	4
Compatible Sampling Tubes	-Compatible with various specifications of blood collection tubes -1.5mL/2.0mL centrifuge tubes, cryotubes, etc.
Compatible Consumables	-Specialized 8-test PET reaction plates with 2cm reaction diameter -200μL disposable tips
Pipetting Repeatability	15μL~50μL: Er ≤ 1.5%, CV ≤ 1.5% ≥50μL: Er ≤1.0%, CV ≤ 1.2%
Liquid level Detection	Capacitive/pressure sensing
Report Function	Customized experiment report
Auto Power-off	Automatic shutdown after UV disinfection
Contamination Control	1) Negative pressure system with HEPA filtration; 2) UV disinfection; 3) Droplet capture technology; 4) Fully enclosed biosafety cover protection
Visualized Consumable Recognition	Sample loading status monitoring; Reaction plate loading monitoring; Identification and position of tips; Reagent status monitoring
Operation Language	Chinese/English
Operating Mode	PC software control via connection
Data Connection	Ethernet
Dimensions	1250 mm x 710 mm x 960 mm (L x W x H)
Power Supply	AC 100-240V, 50/60Hz

APPLICATION AREAS

Animal CDC

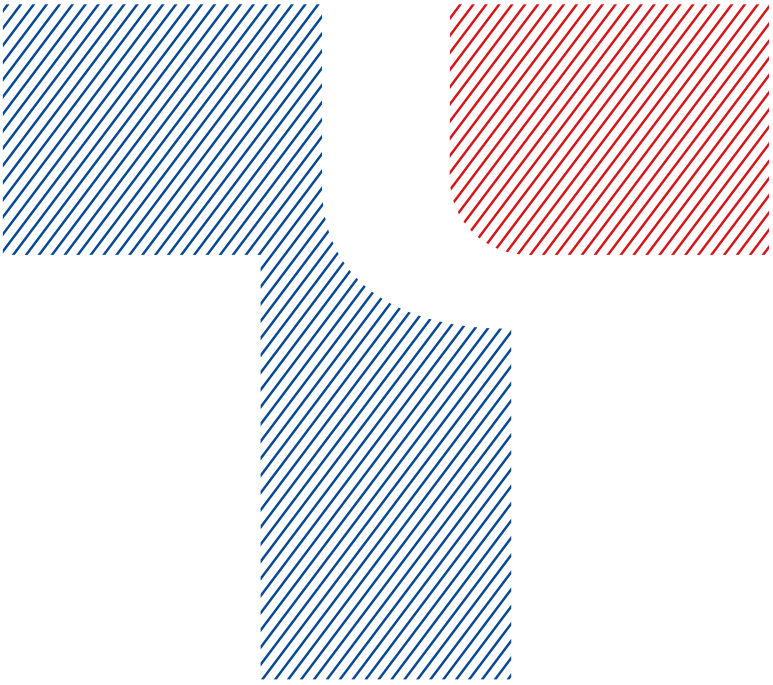
Epidemiological investigation of Brucellosis in animal disease control centers

Livestock Farms

Evaluating the immunization effect of the Brucellosis vaccines in cattle, sheep, pigs and isolation detection for variety introduction

Testing Laboratory

Providing testing report when quarantine on transfer



Bring Technology to Life

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