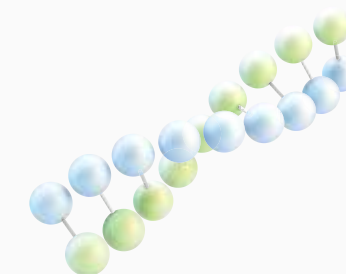# TIANLONG
MOLECULAR DIAGNOSTIC

TIANLONG®

XI'AN TIANLONG SCIENCE AND TECHNOLOGY CO., LTD.
No.389 Zhuhong Road, Xi'an, Shaanxi Province, 710018
TEL. 029-82218051 82085666 **FAX.** 029-82216680
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TIANLONG
MOLECULAR DIAGNOSTIC

PRODUCT LIST

Nucleic Acid Extractor
Real-Time PCR System
PCR Thermal cycler

TIANLONG®

Bring Technology to Life

TIANLONG®

INTRO-DUCING

Xi'an TianLong
Science and Technology Co., Ltd.
Bring Technology to Life

Tianlong, an innovative high-technology company oriented in molecular diagnostic techniques. Since its foundation in 1997, TianLong keeps devoting itself to provide professional PCR detection devices, auxiliary reagents and high quality solution services for molecular diagnosis market.

Tianlong is a national high-tech enterprise,Tianlong obtained the medical devices and reagents production and operation licenses from SFDA, and also certified to ISO 13485 and ISO 9001 standards. The products of Tianlong include Nucleic Acid Extraction System, Real-time Quantitative PCR detection System, DNA Thermal Cycler for PCR, Portable ATP hygiene monitoring system and all the related reagents including nucleic acid extraction kits, real-time PCR kits, QuickSwab etc.

With the development of our market and the enrichment of our products, Tianlong has set up a distribution network covering all of mainland China. Meanwhile, Tianlong attends AACC in America, MEDICA in German, exhibitions in Brazil, Dubai and other important medical exhibitions to expand international market every year.

As one of the leading molecular diagnostic instruments company in China, Tianlong not only has the advantages in instrument field, but also fully enters the business in reagent field. A 1000 m^2 GMP standard reagent manufacturing center was established in Suzhou Tianlong.

Today, Tianlong's products and services can be found all over the country. Inspired by the needs of our customers, we adopt advanced technologies and transform them into accessible innovation, bring technology to life.

TIANLONG
MOLECULAR DIAGNOSTIC
PRODUCT LIST

CONTENTS

Libex
Nucleic Acid Extractor

TianLong Nucleic Acid Extractor Libex utilizes the proven magnetic-particle technology 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 particle-based sample preparation kits filled with unique special reagent ensures the rapid nucleic acid extraction and highly purified products.

LIBEX EXTRACTOR AND PREPARATION KITS OFFERING YOU

Easy Operation
unique remote contr pad saving time and improve your work efficiency.
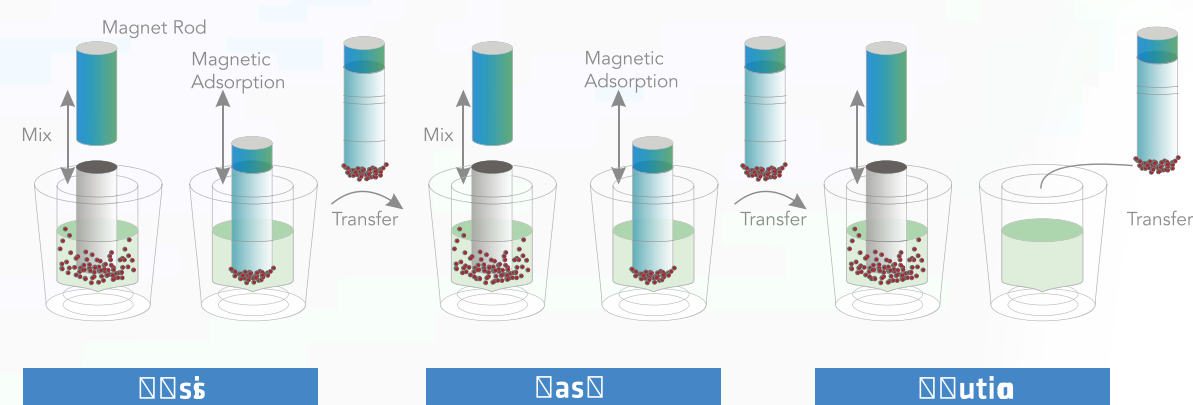
Fast startup and immediate results
With pre-filled extraction kits and differernt packing, you can start your experiments in minutes

Reliable result you can depend on
high-quality nucleic acid ready to use in sensitive downstream applications.

PRINCIPLE

Magnet Rod

Magnetic Adsorption

Mix

Magnetic Adsorption

Transfer

Mix

Transfer

Transfer

Lysis

Wash

Elution

Easy, Flexible, and Reliable new generation technology for rapid Extraction

EASY OPERATION

SIMPLY REMARKABLE SOFTWARE

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

UNIQUE REMOTE CONTROL

Libex is an open system that can be easily operated through a 3.5" screen keyboard combine with an unmatched remote control pad, no external computer is required. The pad connect the main unit via wifi, the "Extraction System"app allows the operator to create, edit or delete the protocols, the protocols can also be easily shared between the main unit and pad, saving your stand-by time and improve your work efficiency.

The hidden handle for easily moving.

FAST STARTUP AND IMMEDIATE RESULTS

The proven magnetic particle-based sample preparation kits with special reagents ensure high-performance results of your extraction procedures. The unrivaled ease of use of Tianlong extraction Kits enable fast and reproducible extraction without the need for specialized training. The extensive application range delivers the flexibility that is essential for laboratories from a wide variety of sample types, like whole blood, tissues, FFEP etc

> With magnetic particle-based sample preparation kits, experimenters need only few steps to start the extraction instead of add the sample and reagents one by one, save the work time and also reduce the work errors.

> Tianlong extarction kits offer you different packing size such as 20 ,40, 64 tests which you can easily manage your extraction sample number per run.

> Temperature adjustable Heating system on the block can also facilitate the process of lysis and improve the wash efficiency, save your extraction time.

> Tianlong single extraction kit work with the single docking make the one sample extaction be possible and simple.
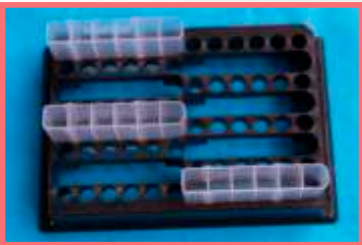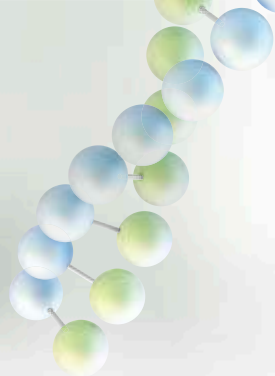
TIANLONG NUCLEIC ACID EXTRACTION KIT

No.	Product Name	Cat.No	Method	Specification Test/Kit
1	Viral DNA and RNA Extraction Kit	T101	Magnetic Beads method	Pre-filled, 64T
		T102	Magnetic Beads method	Pre-filled, 20T
		T103	Magnetic Beads method	Pre-filled, 40T
		T104	Magnetic Beads method	Pre-filled, 1T(20pieces)
		T105	Magnetic Beads method	Pre-filled, 64T(60μl elution)
		T106	Magnetic Beads method	Pre-filled, 20T(60μl elution)
		T107	Magnetic Beads method	Pre-filled, 40T(60μl elution)
		T108	Spin column method	Non-Pre-filled,32T
		T109	For HCV	Pre-filled, 64T
		T122	For HCV	Pre-filled, 1T(20pieces)
				Proteinase K(dry powder,11mg for 60T)
		T111	For HCMV,EB	Pre-filled, 20T
		T112	For HCMV,EB	Pre-filled, 64T
		T123	For HCMV,EB	Pre-filled, 1T(20pieces)
				Proteinase K(dry powder,11mg for 60T)
		T113	For HPV	Pre-filled, 20T
		T114	For HPV	Pre-filled, 64T
		T115	For HPV	Pre-filled, 1T(20pieces)
2	Plant Tissues Genomic DNA Extraction Kit	T086	Magnetic Beads method	Non-Pre-filled,50T
		T085	Magnetic Beads method	Pre-filled, 64T
3	Animal Tissues Genomic DNA Extraction Kit	T092	Magnetic Beads method	Pre-filled, 20T
		T093	Magnetic Beads method	Pre-filled, 64T
		T094	Magnetic Beads method	Non-Pre-filled,50T

No.	Product Name	Cat.No	Method	Specification Test/Kit
4	Bacteria Genomic DNA Extraction Kit	T131	Magnetic Beads method	Pre-filled, 20T
		T132	Magnetic Beads method	Pre-filled, 64T
		T133	Magnetic Beads method	Non-Pre-filled,50T
		T134	Magnetic Beads method	Pre-filled, 1T(20pieces)
5	Whole Blood Genomic DNA Extraction Kit	T140	Magnetic Beads method	Pre-filled, 64T
		T141	Magnetic Beads method	Pre-filled, 20T
		T142	Magnetic Beads method	Pre-filled, 40T
		T143	Magnetic Beads method	Pre-filled, 1T(20pieces)
		T144	Magnetic Beads method	Non-Pre-filled,50T
6	DBS (Dried Blood Spot) Genomic DNA Extraction Kit	T150	Magnetic Beads method	Pre-filled, 64T
		T151	Magnetic Beads method	Pre-filled, 20T
		T152	Magnetic Beads method	Pre-filled, 40T
		T153	Magnetic Beads method	Pre-filled, 1T(20pieces)
7	FFPE Genomic DNA Extraction Kit	T161	Magnetic Beads method	Pre-filled, 1T(20pieces)
		T162	Magnetic Beads method	Non-Pre-filled,20T
		T163	Spin column method	Non-Pre-filled,20T
		T164	FFPE dewaxed solution	100mL
8	Free Circulating DNA Extraction Kit	T171	Magnetic Beads method	Pre-filled, 1T(20pieces)
		T172	Magnetic Beads method	Non-Pre-filled,20T
		T173	Spin column method	Non-Pre-filled,20T(For Tumor detection)
9	TB-DNA Extraction Kit	T135	Magnetic Beads method	Pre-filled, 64T
		T136	Magnetic Beads method	Pre-filled, 20T
		T137	Magnetic Beads method	Pre-filled, 1T(20pieces)
10	Stool DNA/RNA Extraction Kit	T181	Magnetic Beads method	Pre-filled, 20T
		T182	Magnetic Beads method	Pre-filled, 64T
		T183	Magnetic Beads method	Pre-filled, 1T(20pieces)
11	Buccal Swabs DNA Extraction Kit	T191	Magnetic Beads method	Pre-filled, 20T
		T192	Magnetic Beads method	Pre-filled, 64T
12	Saliva DNA Extraction Kit	T196	Magnetic Beads method	Pre-filled, 20T
		T197	Magnetic Beads method	Pre-filled, 64T
13	Amniotic Fluid DNA Extraction Kit	T201	Magnetic Beads method	Pre-filled, 20T
		T202	Magnetic Beads method	Pre-filled, 64T
14	Plasmid DNA Extraction Kit	T936	Magnetic Beads method	Pre-filled, 1T(20pieces)
		T901	Magnetic Beads method	Pre-filled, 64T
		T935	Enzyme	Rnase A 25g/tube(Dry powder)* Rnase A Diluent 1.25ml/tube*
15	Total Tissue RNA kit	T934	Magnetic Beads method	Pre-filled, 64T
16	Magnetic Base	T400		
17	Single Kits Docking	T500		
18	96 deep-well plate	T300		
19	Mixing Sleeves	T301		

Note: Rnase A and Rnase A Diluent should be purchased separately, and each one can be used on 10 kits 64T Plasmid extraction kit.

RELIABLE RESULT
YOU CAN DEPEND ON

TianLong Nucleic Acid Extractor Libex is designed to ensure great process safety, high performance, and user convenience.

> A message will popup on the screen in case cabin door opened during experiments to reduce potential contamination.

> The precise mechanic control system helps to reduce intra-contamination.

> The disposable consumables: 96 deep well plate and mixing sleeve facilitate to reduce inter-contamination.

> An intelligent-design UV lamp decontaminates the inner surface of the system as needed.

PERFORMANCE

Genomic DNA was isolated from 10 human whole blood samples with the Tianlong Libex and real-time PCR were run by Tianlong Real-time PCR System TL988.

Figure1. Agarose gel electrophoresis

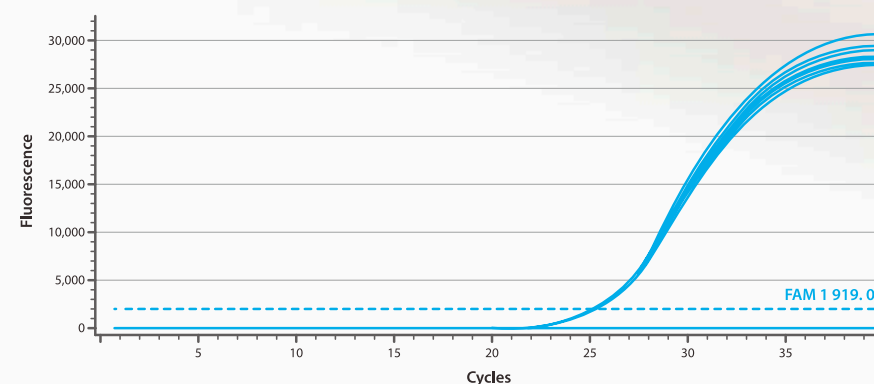| Sapmle	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
A260/A280	1.8	1.83	1.81	1.84	1.82	1.84	1.81	1.82	1.81	1.82
A260/A230	2.01	2.02	2.03	2.01	2.04	2.05	2.05	2.05	2.01	2.02
ng/µl	123.3	132.4	112.1	109.8	113.6	125.5	125.5	126.2	118.3	122.5

Figure2. Concentration and purity

Figure3. Real-time PCR was done using 5 ng of extract the product (homo sapiens Beta-actin, ACTB) DNA in each of the 96 block positions. Low variation Cq values (Cq range = 0.12 and SD = 0.030) in each of the 96 positions demonstrated temperature homogeneity and equal treatment of all samples - independent of block position.

SPECIFICATIONS

Items	Parameter	
Processing Volume	30-1000 ul	
Capacity	1- 32 samples per run qork woth Tianlong pre-filled extraction kits.	
Collection efficiency of the magnetic particles	≥95 %	
Heating Temperature (Not suitable for 48samples per run)	For cell lysis	Room temperature to 120 °C
	For nucleic acid elution	Room temperature to 120 °C
Processing-mode	Multi-mode, multi-speed available	
Reagents	Reagents suitable for Magnetic Particle Method	
Operation Interface	Chinese/English-Language Operating System, Touch-control Operation	
Storage Capacity	15 preinstalled protocols in main unit, unlimited in pad	

Items	Parameter
Protocol Management	Create, edit, delete, protocol mode
Pollution control	UV light
Computer Interface	USB
Network Communication	Ethernet (optional)
Dimensions (W × L × H)	440 mm × 435 mm × 445 mm
Weight	31.5kg
Power Requirements	AC110±10 %/230 V ±10 %, 50 Hz/60 H ±1 Hz, 600 W
Temperatures allowed during operation	10-40 °C
Relative humidity allowed during operation	<80 %

A new platform of Necleic Acid Extraction
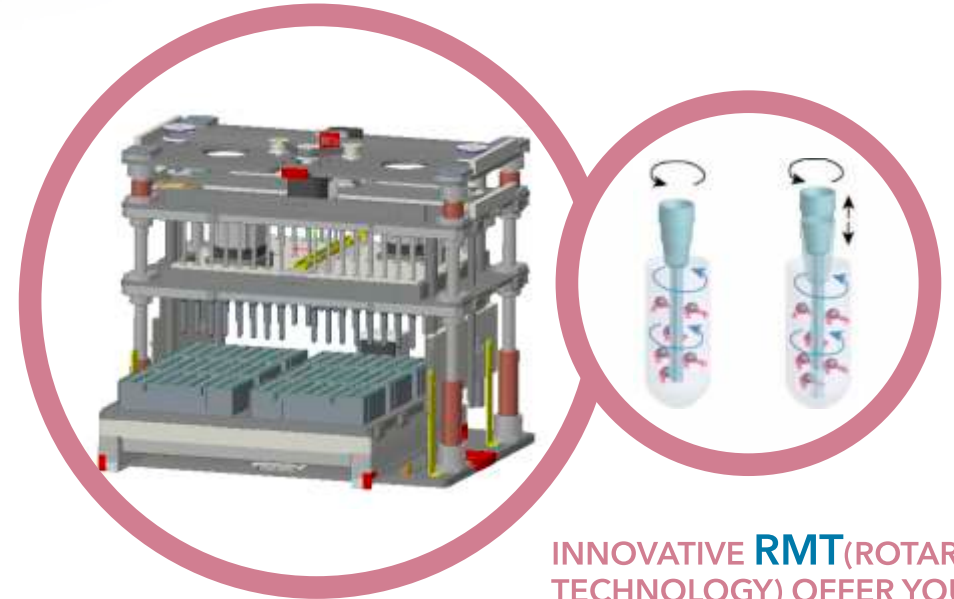## Rotation Necleic Acid Extractior
GeneRotex Series

INNOVATIVE RMT(ROTARY MIXING TECHNOLOGY) OFFER YOU

> 1.High efficiency of purfication
> 2.50% aerosol reduces compare with traditional oscillation method
> 3.Prevention of cross-contamination
> 4.Running noise lower than 60 decible

7 INCH LED SUPER SCALE COLOR TOUCH SCREEN, EASY TO OPERATE.

FLEXIBLE THROUGHPUT OPTIONS:

> **96 THROUGHPUT** : 6*16 Extraction module with special 96 deep well plate and 6-well single strip designed for GeneRotex to ensure high throughput and reduce reagent lost.you can extract from 1 to 96 samples per run.

> **48 THROUGHPUT**: Big sample volume increases detection sensitivity; 1ml sample volume with independent designed consumable makes 10IU/ml infectious pathogen sensitivity detection easier than before.

> **24 THROUGHPUT**: Innovative 5ml large sample volume design can satisfy multi detection requirements such as prenatal DNA testing and drug use for tumors related detection.

COMPATIBLE WITH ALL THE CURRENTLY TIANLONG PRE-FILLED NUCLEIC ACID EXTRACTION KITS

> More than 90% nucleic acid recovery rate and higher than 98% magnetic beads recovery rate increas confidence in your experiment result, especially for low concentration sample detection. The detection rate of 10 IU/ml HBV and 30 IU/ml HCV are both more than 98%.
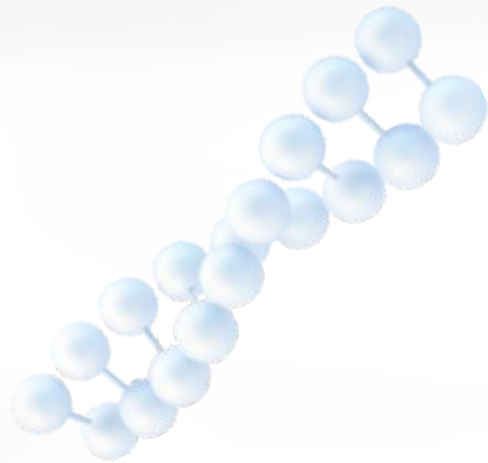
SPECIFICATIONS

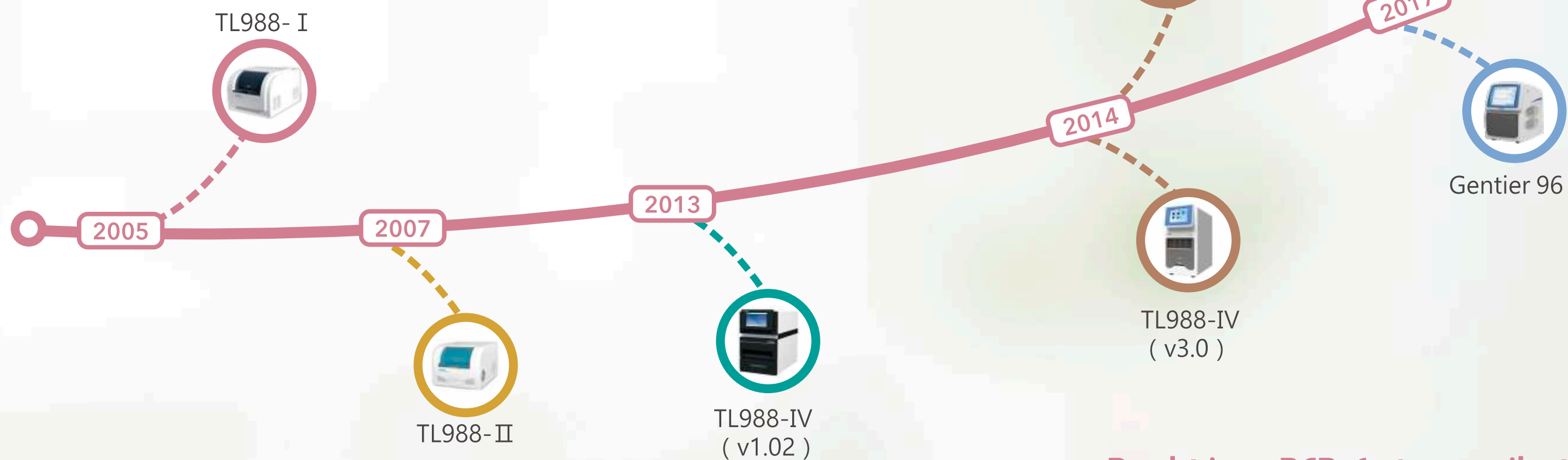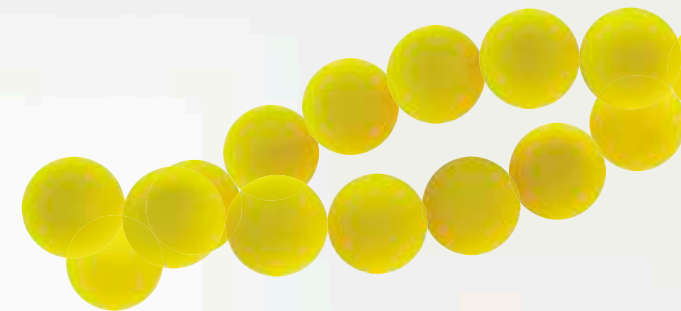| Models	GeneRotex 96	GeneRotex 48	GeneRotex 24
Throughputs	1~96	1~48	1~24
Reaction volume	30~1000μl	30~3000μl	30~15000μl
Sample volume	200μl	1000μl	5000μl
Compatible consumables	96 well DWP, customized 6-well single strip	Customized 48 well DWP	Customized large volume 6-well single strip
Rotationalspeed	≤2000rpm	≤3000rpm	≤3000rpm
Temperature range	Lysis heating：RT ~ 120℃ Elution heating：RT ~ 120℃		
Mixing method	Rotary Mixing		
Operation langues	Chinese/English		
Operation mode	seven-inch full color LED touch screen operation		
Protocol storage	With 20 sets model protocol internally, up to 10,000 protocols can be stored		
Protocol management	Flexible to creat, edit and delete protocols		
Magnetic beads recovery rate	≥98%		
Difference between wells	CV≤1% ;		
Operation noise	≤60 dB ;		
Contamination control	Nagative pressure HEPA exhaust filter module, built-in UV lamp		
Interface	USB port		
Weight	43KG		
Size	490*520*480mm		
Power supply	AC110-240V, 50Hz/60Hz, 600W		
Temperature range	10-40℃		
Humidity range	≤80%		

Pana9600S
Automated Nucleic Acid Extraction System

> Sample tubes directly loading: 1~96samples ,−>96-well PCR plate or 8-strip tubes
> Sample transfer+Nucleic acid extraction+PCR reaction system build-up
> Mature extraction mode −> Rotary Mixing Technology+ deep well plate cover
> TAT: 96 samples, 60~90min/run(protocol-dependent)
> pLLD: Liquid level detection, Tip situation detection (block, losen, drop)
> cLLD: Liquid level detection, Automatic position calibration
> Droplets catcher: Electrical droplets catcher
> Machine vision: automatic consumable recognition
> Reagent chamber refrigeration, automatic or manual sample and reagent barcode scanner
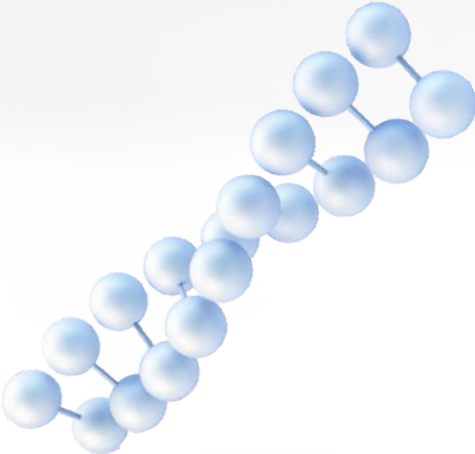   LIS connection..

SPECIFICATIONS

Throughput	1-96
Functions	Automated sample information identification+Nucleic acid Extraction + PCR reaction system build-up
Reaction time	Accomplishes automated sampling, extraction and PCR reaction system construction of 96 samples(including quality and standard material) within 60-90mins.
Sample types	Plasma, serum, whole blood, swab wash solution, etc.
Sampling channels	1-4
Pipetting range	5-1000µl
Tip types	5-50µl, 50-1000µl
Pipetting performance	Less than 50µl: Acurracy: A≤3.0%, Repeatability: CV≤3.0%； More than 50µl: Acurracy: A≤2.0%, Repeatability: CV≤1.0%；
Liquid level detection	CapSense/Gas Pressure Sensor
Sample tubes	Compatible with all types of blood collection tube, 1.5ml and 2.0ml centrifuge tube, freezing tube and sampling cup.
Extraction principle	Magnetic bead Extraction method（transferring mixture of magnetic bead, nucleic acid and molecule)
Extraction heating module	Elution heating at around 85℃
Required No. of Extraction wells	≤6；
Visual inspection technology	Monitoring consumable and reagent inventory status in real time.
PCR kit cabin	Avoid light design, power-on automatic refrigeration（4℃~8℃）
PCR consumables	Compatible with 0.1µl, 0.2µl 8-strip tube and 96 plate
Contamination prevention design	（1）Independent closed extraction area, top directional exhaust creates an internal negative pressure system. （2）Sampling device with air tightness and anti-dropping design （3）External droplet catching plate （4）Sterilizing device in experiment cabin and extraction cabin
Information technology	（1）Scanning the bar codes of multiple samples one by one while sample holder is loaded. （2）Enable to connected with external scanner to scan single sample bar code. （3）Identifies bar code of extraction kit, automatic extraction protocol reading. （4）Scanning bar codes of PCR kit components separately, automatic amplification protocol recognizing. （5）With automatic transferring function of sample information from extraction to PCR reaction. Sample bar code information delivered to PCR sample setting by One-Click, able to connect with LIS system.
System software	Windows 7
Interface types	USB2.0、Etherent; Support HL7 protocol to connect with LIS
Operation noise	<65dB
Operation environment	Temp.（10℃-35℃）Humidity（≤70%）
Instrument size	1350mm*820mm*850mm
Instrument weight	250Kg
Power supply	AC 220V±22V, 50/60Hz

New Generation Real-time PCR System from Tianlong
Gentier Series

Real-time PCR System milestone

TL988-I

2005

2007

TL988-II

2013

TL988-IV
(v1.02)

2014

TL988-II
(Updated)

TL988-IV
(v3.0)

2017

Gentier 48

Gentier 96

Real-time PCR System
Gentier 48 Series

Your ideal choice for qPCR

TOP LID HANDLE

10 INCH TOUCH SCREEN

USB PORT

Real-time PCR System
Gentier 96 Series

Your ideal choice for qPCR

USB PORT

10.4 INCH TOUCH SCREEN

96 WELL HEATING BLOCK

REMOVABLE AIR VENT COVER

Model	Sample	Channel	Gradient
Gentier48 E	48	4	Yes
Gentier48 S	48	4	No
Gentier48 R	48	2	Yes

Model	Sample	Channel	Gradient
Gentier96 E	96	6	Yes
Gentier96 S	96	6	No
Gentier96 R	96	4	Yes
Gentier96 C	96	4	No

TIANLONG
MOLECULAR
DIAGNOSTIC

Gentier48 E
(4-Ch with Gradent)

Gentier48 S
(4-Ch without Gradent)

Gentier48 R
(2-Ch with Gradent)

UP
GRADE

From lower channel to higher
channel with only software key

Gentier96 E
(6-Ch with Gradent)

Gentier96 S
(6-Ch without Gradent)

Gentier96 R
(4-Ch with Gradent)

Gentier96 C
(4-Ch without Gradent)
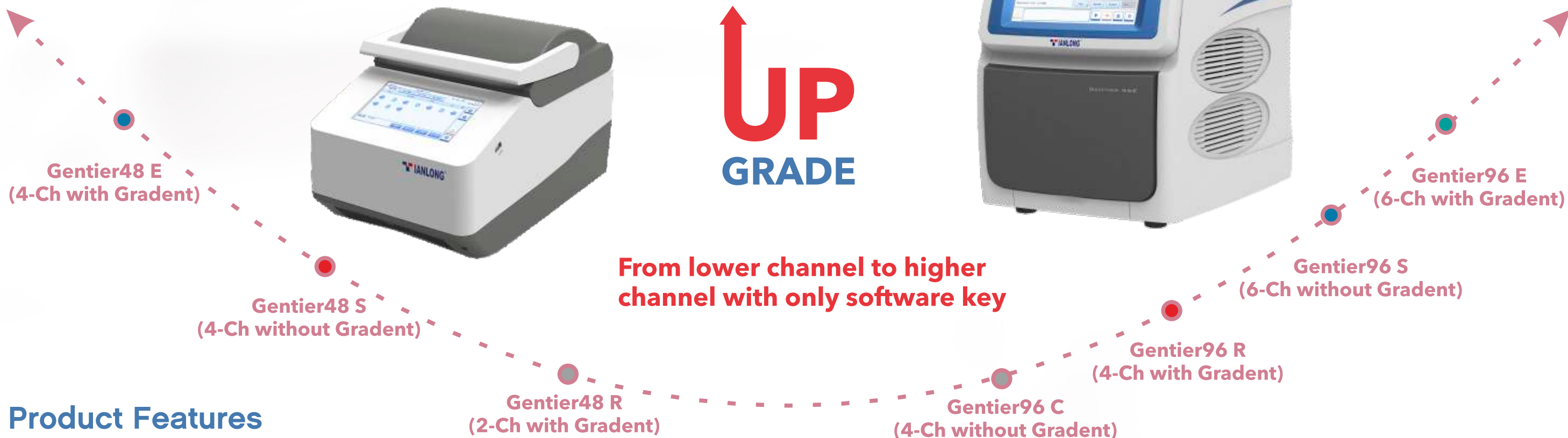
Product Features

1 DESIGN FOR FLEXIBLE USE

> Standard with 10.4' or 7'' LCD touch screen, functions quickly accessible through simple, one-touch commands

> Wizard operation to lock and unlock the transport locker.

> Message alarm indicate the status of the machine

> USB port update software and firmware

> Unique power-off protection function can save all the setted configurations for sudden power outages, and allow the experiment continues when power supply is restored.

1.Co-located configuration(PC control)   2.Standalone (PC-free) configuration   3.Networked configuration
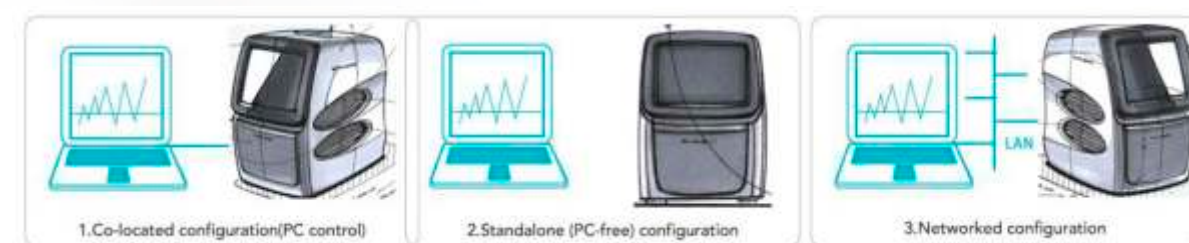
System can be installed in three distinct configurations, providing unmatched flexibility and convenience.

> 1. Co-located configuration (PC control)

> 2. Standalone (PC-free) configuration (Data can be export by USB and analysis on PC)

> 3. Networked configuration (PC software automatically detect all systems in LAN and allow to remote monitoring one of experimental progress and downloading of the completed run file to the PC at your desk,one PC can max control 10 instuments)

TIANLONG
MOLECULAR
DIAGNOSTIC

2
FAST AND UNIFORM HEATING SYSTEM

> Concealed lid with constant temperature and isopiestic pressure

> Electrical controlled elevating & automatic locked platform

> Thermo block is based on improved heat pipe technology, leading to extraordinary Iintra-well temperature homogeneity and maximized inter-well, inter-cycle reproducibility.

> Highly efficient PID&DSP control algorithm ensures faster respond and stronger interference resistance, fast and uniform heating and heat sinking

Max heating rate: 8.0℃/s

Avg heating rate: 6.0℃/s

Max coolting rate: 5.5℃/s

Avg cooling rate: 4.0℃/s

Temperature accuracy: ±0.1℃

Temperature uniformity: ±0.1℃

Max heating rate: 6.1℃/s

Avg heating rate: 4.5℃/s

Max coolting rate: 5.0℃/s

Avg cooling rate: 2.8℃/s

Temperature accuracy: ±0.1℃

Temperature uniformity: ±0.1℃

Support High Resolution Melting (HRM) function, Min temperature resolution 0.06℃

3
HIGH SENSITIVE AND PRECISE OPTICAL SYSTEM

> High-sensitivity and wide dynamic range of fluorescence detection system, sample dynamic range could be from 10^1 to 10^{10} copies

> Fast and precise mechanical scanning structure ensures the illumination uniformity of 96 wells, Eliminate edge effects, no need for ROX calibration

> Fluorescence excitation by a high-intensity and long-life LED, Bulb Luminance will not attenuation over time, free maintenance optical system through the entire life

> Professional designed fluorescence filters realize the highly fluorescence transmittance and meanwhile minimize the fluorescence channel crosstalk.

CH1	CH2	CH3	CH4
FAM
SYBR Green I
SYTO 9
EvaGreen
LC Green	HEX
VIC
TET
JOE	Texas Red
ROX	Cy5

Gentier 48E/48S

1 465 /510 (FAM,SYBR Green I,SYTO9,EvaGreen,LC Green)
2 527/ 563 (HEX,VIC,TET,JOE)
3 580 /616 (ROX,Texas Red)
4 632/ 664(Cy5)
Channls are same with Roche LightCycler 96, Agilent Mx3000P

LED-excitation and PD-detection

2s lateral optical scanning

Gentier 48R

1 465 /510 (FAM,SYBR Green I, SYTO9, EvaGreen, LC Green)
2 527/ 563 (HEX,VIC,TET,JOE)

CH1	CH2	CH3	CH4	CH5	CH6
FAM
SYBR Green I
SYTO 9
EvaGreen
LC Green	HEX
VIC
TET
JOE	Texas Red
ROX	Cy5	Alexa Fluor
680	FRET
					TAMRA
Cy3

Gentier 96E/96S(CH1-CH6)

Currently channls are same with Bio-rad CFX96,Qiagen RotorGene Q
Can change FRET to TAMRA/CY3 in future, it can be the seme with all ABI qPCR, Agilent Mx3005P

Gentier 96R/96C(CH1-CH4)

Channls are same with Roche LightCycler 96,
Agilent Mx3000P,SLAN 96S/P,TL988 of Tianlong

LED-excitation and PD-detection

7s top optical scanning for 96 wells and 6channels

4
EASY-TO-USE SOFTWARE

> Friendly interface and clearly functional modules design, first-time users can easily start a new experiment.

> All experiment data and setting options are shown conveniently on a single interface.

File Transmission

Instrument Management
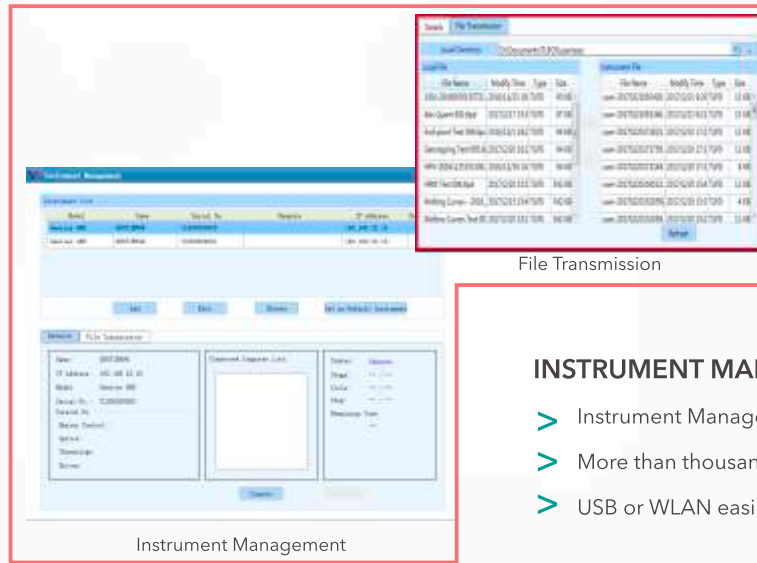
INSTRUMENT MANAGEMENT & DATA TRANSMISSION

> Instrument Management allow you managing all the Gentiers in the WLAN

> More than thousands results can be stored in device

> USB or WLAN easily transfer experiments data anywhere you needed
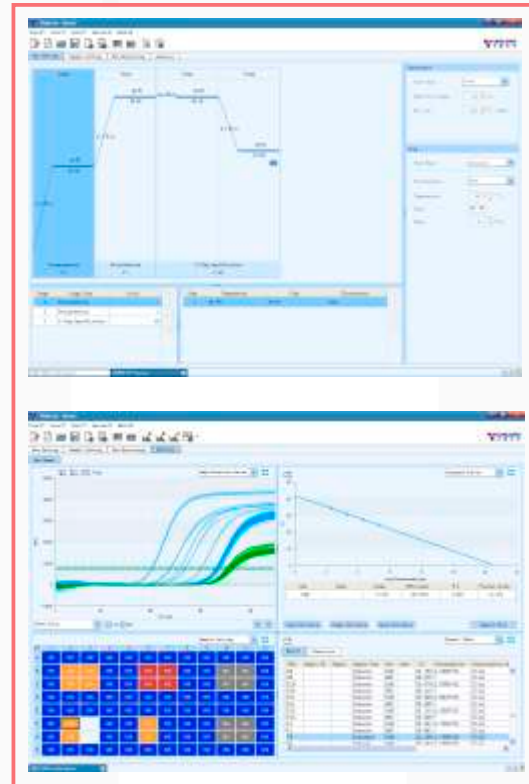
EXPERIMENTS MANAGEMENT

> Multi-options to start an experiment: New, New for Existed, Open data file, Double click data file

> User can define the experiments name for documentation

> User can define the data storage directory themself

> Pre-installed templates can help user more easier to edit the protocals.

Stage Types
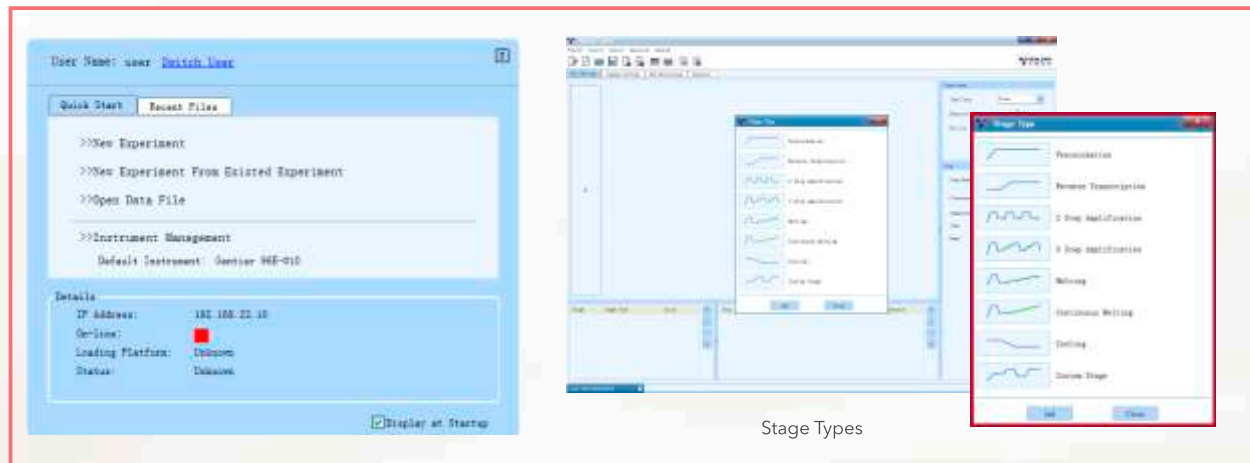
5
RUN MONITORING

> All running infoirmation in one screen, intuitivly and simply

> User can define each model to see what they like on the screen:Real-time Flurescence ,Heat map, Run info,Sample Setting, Sample info...

> Run the experiment first by devie, later edit the sample setting in PC, when PC conencted to machine, setting upload to machine automaticly.

> After experiment, data download to PC automaticly.
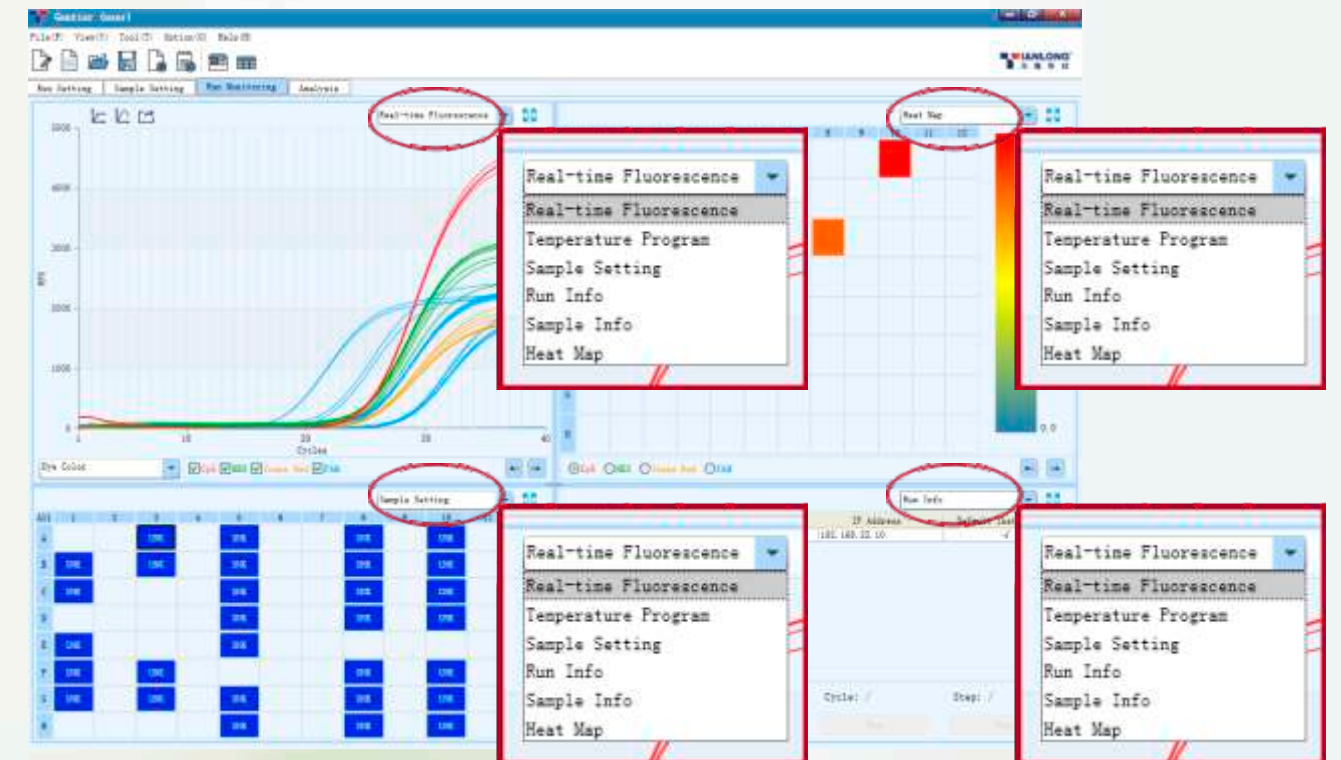
6
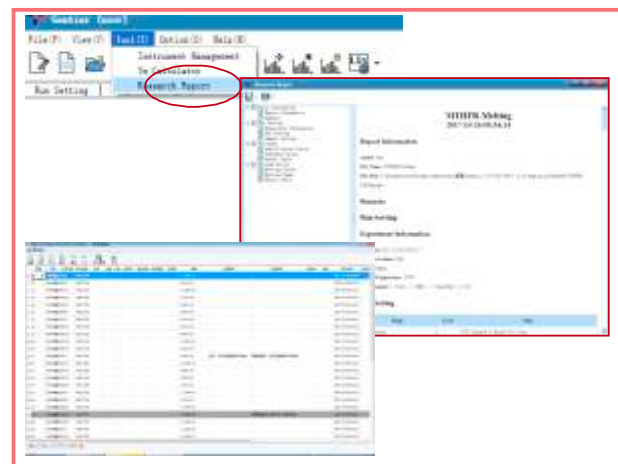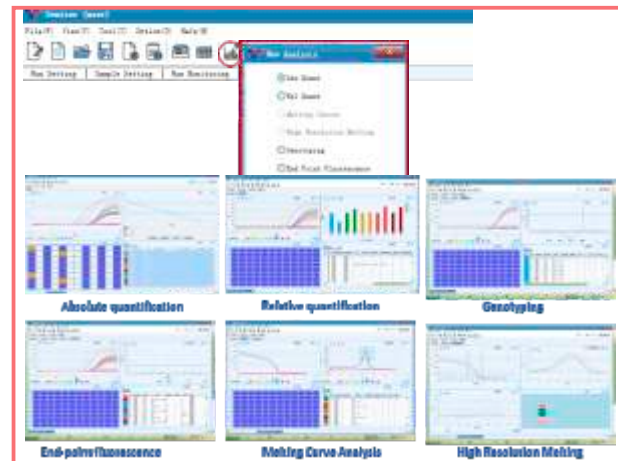## DATA ANALYSIS

> Optional baseline setting: Automatic or Manual

> Multi-option analytical method for different requirements: Automatic or Manual threshold method, normalization method

> Reference Dye analysis

TIANLONG
MOLECULAR DIAGNOSTIC
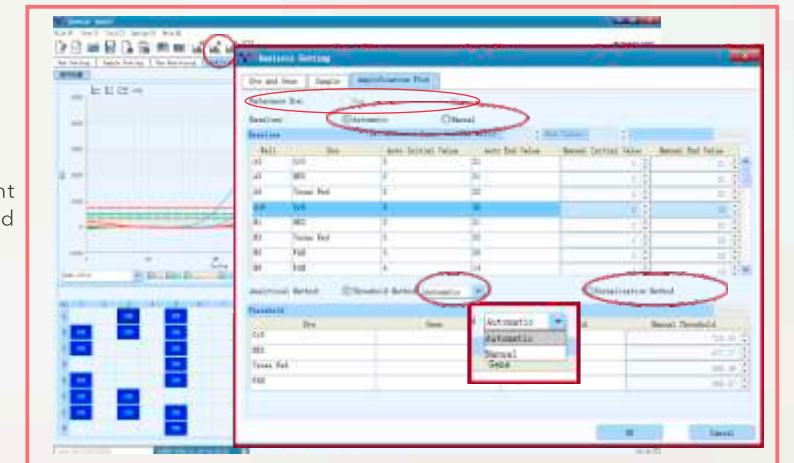
DATA ANALYSIS-MOST COMPREHENSIVE DATA ANALYSIS

> One data can use different analysis method

Absolute quantification | Relative quantification | Genotyping
End-point fluorescence | Melting Curve Analysis | High Resolution Melting

7 QUALITY DATA

> 300IU HBV DNA absolute quantitative full plate test(with standard curves).

FAM for HBV DNA

HEX for internal control
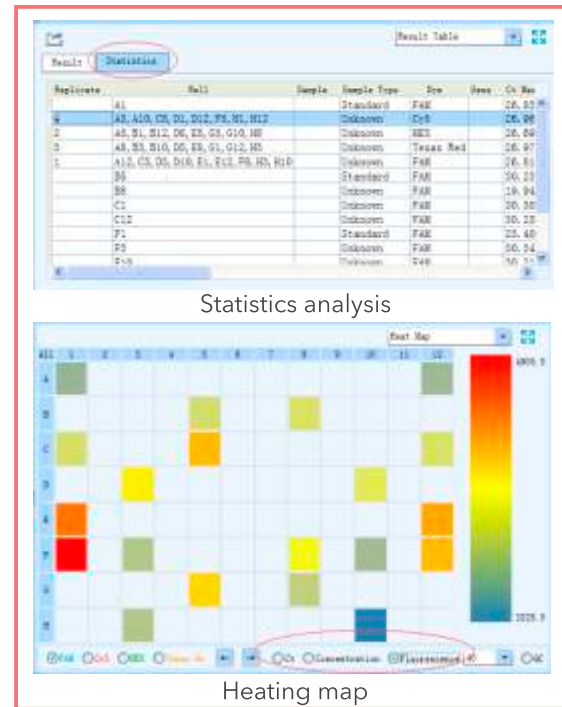
Statistics analysis

Heating map

DATA ANALYSIS-OTHERS

∧ Statistics analysis: Replicate,Gene types

∧ Heating map options: Ct, Concentration, Flurescence

∧ LIS connectivity, can export csv,Excel and Txt format

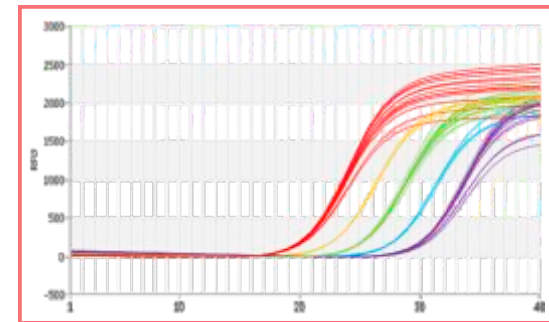∧ Row data and results can export in Excel format

REPORT

< Unique designed universal report(Research and Clinical) can be customized according to the requirements, report review and print function help clinical documentation as needed.

HBV DNA ABSOLUTE QUANTITATIVE UNIFORMITY

GRADIENT DILUTED SAMPLES UNIFORMITY

Gradient diluted sample amplification curves.
Can set different colors for each sample.

CA16/EV71/EU UNIFORMITY

Multiplex PCR uniformity with CA16/EV71/EU assay.
Left and right half are low/high concentration duplicate samples.
FAM for CA16,Cy5 for EU.
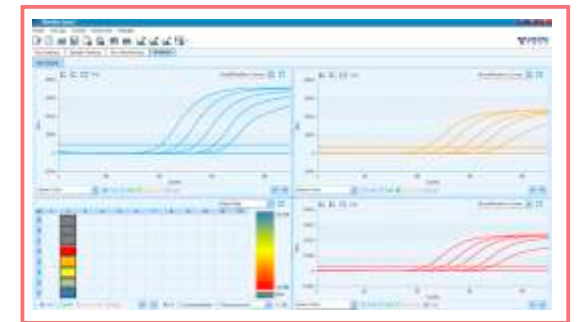
MTHFR C677T SNP GENOTYPING

MTHFR C677T SNP genotype test with genotyping analysis function.

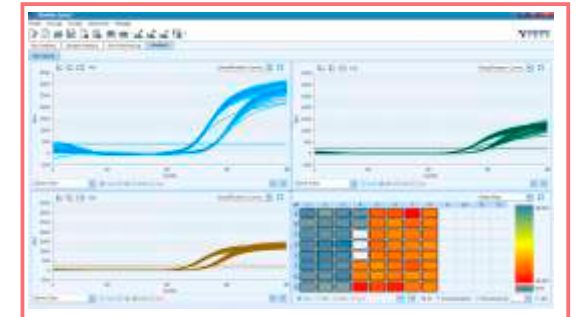## SYBR GREEN I MELTING CURVE UNIFORMITY

Temperature uniformity of melting curve with SYBR Green I dye.

MULTIPLEX PCR GRADIENT SAMPLES UNIFORMITY

4 colors multiplex PCR gradient sample test
HEX channel is used for internal control, isn't shown on this page.
A good performance even with multiplex PCR.

HPV 16+2 UNIFORMITY

HPV high risk genotyping assay
Multiplex PCR uniformity performance with HPV 16+2 high risk types assay.
Left and right half are low/high concentration duplicate samples.
HEX for HPV 16, ROX for HPV 18 , FAM for the rest of 16 high risk types.
Cy5 channel is for internal control, not shown on this page.

MTRR A66G ,MTHFR A1298C MELTING CURVES SNP ANALYSIS

Multiplex PCR melting curves for SNP analysis.
FAM channel is for MTRR A66G，ROX channel is for MTHFR A1298C.
The left melting peak is the wild type, the right melting peak is the mutation.
And twin-peak means the sample is heterozygote.

MTHFR C677T HRM ANALYSIS
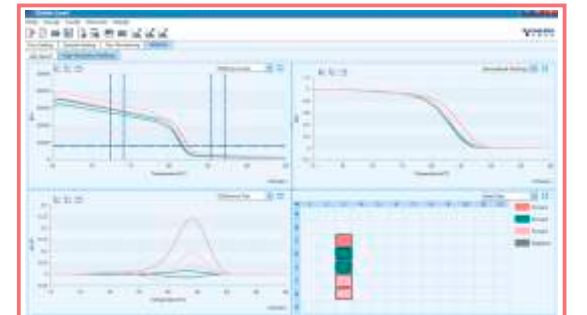
High Resolution Melting (HRM) analysis for MTHFR C667T SNP with saturation dye.
Group 1 is the wild type,Group 2 is the mutation, Group 3 is the heterozygote.

SPECIFICATIONS

	Gentier 48E	Gentier 48S	Gentier 48R	Gentier 96E	Gentier 96S	Gentier 96R	Gentier 96C
Thermal Block							
Sample capacity(wells)	48			96			
Reaction Volume	5-100 µL			0-100 µL			
Consumables	0.2ml 8-strip tubes ,0.2ml PCR single tube(Optical flat cap,clear tube)			0.2ml 96-well Plates（unskirt）；0.2ml 8-strip tubes,0.2ml PCR single tube(Optical flat cap,clear,frosted,white tube)			
Temperature range	0°C-100°C			0°C-100°C			
Heating/cooling method	Peltier			Peltier			
Max heating rate	8.0°C/sec			6.1°C/sec			
Average heating rate	6.0°C/sec			4.5°C/sec			
Max cooling rate	5.5°C/sec			5.0°C/sec			
Average cooling rate	4.0°C/sec			2.8°C/sec			
Temperature accuracy	±0.1°C			±0.1°C			
Temperature uniformity	±0.1°C			±0.1°C			
Gradient Range	1°C-40°C	N/A	1°C-40°C	1°C-40°C	N/A	1°C-40°C	N/A
Gradient block	8 row		8 row	12 row		12 row	
Special temperature protocol	Gradient PCR,Long PCR,Touch Down PCR	Long PCR,Touch Down PCR	Gradient PCR,Long PCR,Touch Down PCR	Gradient PCR,Long PCR,Touch Down PCR	Long PCR,Touch Down PCR	Gradient PCR,Long PCR,Touch Down PCR	Long PCR,Touch Down PCR
Heat Lid							
Temperature range	Room Temperature-110°C			Room Temperature-110°C			
Optical System							
Excitation Source	4LEDs		2LEDs	6LEDs		4LEDs	
Detector	Photodiode			Photodiode			
Detection Position	Excitation and scan from lateral			Excitation and scan at top			
Detection method	4 channels scanning at the same time, no edge effect.			6 channels scanning at the same time, no edge effect.			
Detection time	2 seconds for 48 wells for all channels			7 seconds for 96 wells for all channels			
Range of excitation/ emission wavelengths(nm)	1 465 /510 (FAM,SYBR Green I,SYTO9,EvaGreen,LC Green) 2 527/ 563 (HEX,VIC,TET,JOE) 3 580 /616 (ROX,Texas Red) 4 632/ 664(Cy5)		1 465 /510 (FAM,SYBR Green I,SYTO9, EvaGreen,LC Green) 2 527/ 563 (HEX,VIC,TET,JOE)	1.465 /510 (FAM,SYBR Green I,SYTO9,EvaGreen,LC Green) 2.527/ 563 (HEX,VIC,TET,JOE)　　3.580 /616 (ROX,Texas Red) 4.632/ 664(Cy5)　5.680 /730 (Alexa Fluor680)　　6.465 /616 (FRET)		1.465 /510 (FAM,SYBR Green I,SYTO9,EvaGreen,LC Green) 2.527/ 563 (HEX,VIC,TET,JOE)　　3.580 /616 (ROX,Texas Red) 4.632/ 664(Cy5)	
Probe	Taqman Probe,Molecular beacons probe, Scorpion probe			Taqman Probe,Molecular beacons probe,Scorpion probe ,FRET		Taqman Probe,Molecular beacons probe,Scorpion probe	
Multiplexing	Up to 4 targets		Up to 2 targets	Up to 6 targets		Up to 4 targets	
Fluorescence Linearity	r≥0.990			r≥0.990			
Fluorescence Dynamic Range	Adjustable			Adjustable			
Performance							
Sample Linearity	/r/≥0.999			/r/≥0.999			
Sample repeatability	Ct value CV≤0.5%			Ct value CV≤0.5%			
Sample Dynamic Range	1-10^{10} copies			1-10^{10} copies			
Software Functions							
Data Analysis modes	Qualitative analysis,Absolute quantification, Relative quantification,Genotyping analysis,Endpoint analysis, Melt curve analysis, High Resolution Melting			Qualitative analysis,Absolute quantification, Relative quantification,Genotyping analysis,Endpoint analysis, Melt curve analysis, High Resolution Melting			
Control modes	1.7 touch screen 2.PC direct control 3.WLAN control(One PC can control max 10 units, and device can be controled by any PC in the WLAN)			1.10.4' touch screen 2. PC direct control 3. WLAN control(One PC can control max 10 units, and device can be controled by any PC in the WLAN)			
Data Storage	Upload and download through USB disk,1000 results can be stored in machine			Upload and download through USB disk,1000 results can be stored in machine			
Power failure protection	Automatically start running experiments after power supply, no need wait PC software			Automaticly start running experiments after power supply, no need wait PC software			
Customize Report	Templetes reserved ,report can customized			Templetes reserved ,report can customized			
Administration Management	Administrator can set functions limits for users			Administrator can set functions limits for users			
Fault Management	Fault report and analysis, solution instruction			Fault report and analysis, solution instruction			
LIS connection	CSV,Excel,TXT format data output,open port for LIS connection			CSV,Excel,TXT format data output,open port for LIS connection			
Others							
PC operating system	Win 7, Win 10			Win 7, Win 10			
Communication Port	1 ethernet and 2 USB			1 ethernet and 3 USB			
Footprint(WxDxH)	260mm X 400mm X 260mm			355mm X 480mm X 485mm			
Weight	11kg			30kg			
Power usage	AC 100 to 125 V / 200 to 240 V (50/60 Hz).			AC 100 to 125 V / 200 to 240 V (50/60 Hz).			
power consumption	600VA			900VA			
Work environment	Temperature:10°C~30°C Humidity:20%~85%			Temperature:10°C~30°C Humidity:20%~85%			

PCR Kits list from Tianlong

	Product name	Technology	Spec	Cat.No.
Bloodborne Infections	Hepatitis C Virus(HCV) PCR Kit	Real-time PCR	32	P100
	Hepatitis B Virus(HBV) PCR Kit	Real-time PCR	32	P101
	Hepatitis B Virus Genotyping PCR Kit	Real-time PCR	32	P119
Sexually Transmitted Infections	Chlamydia Trachomatis(CT) PCR kit	Real-time PCR	32	P103
	Neisseria Gonorrhoeae(NG) PCR kit	Real-time PCR	32	P104
	Ureaplasma Urealyticum(UU) PCR kit	Real-time PCR	32	P105
	Human Papilloma Virus(HPV) PCR kit	Real-time PCR	32	P120
	CT/NG/UU/UP Multiplex PCR Kit	Real-time PCR	50	P132
Transplantation Infections	Herpes Simplex Virus 2(HSV-2) PCR Kit	Real-time PCR	32	P106
	Human CytomegaloVirus(HCMV) PCR Kit	Real-time PCR	32	P107
	Measles Virus /Rubella Virus(MV/RV) PCR Kit	Real-time PCR	32	P108
Respiratory Infections	Mycoplasma pneumonia (MP) PCR Kit	Real-time PCR	32	P109
	Ebola virus(Zaire) PCR Kit	Real-time PCR	32	P114
	Mycobacterium tuberculosis PCR Kit	Real-time PCR	32	P121
	Human Influenza Virus A/B PCR Kit	Real-time PCR	32	P122
	Group B Streptococcus(GBS) PCR Kit	Real-time PCR	32	P123
	Respiratory syncytial virus A/B PCR Kit	Real-time PCR	25	P028
	Human Influenza Virus B genotyping(Yamagata&Victoria) PCR Kit	Real-time PCR	25	P073
	Human Influenza Virus A/B & respiratory syncytial virus Multiplex PCR Kit	Real-time PCR	24	P259
	Human Influenza Virus B（Yamagata&Victoria）and A（H1&H3）Multiplex PCR Kit	Real-time PCR	25	P255
	Respiratory 12 types virus Multiplex PCR Kit	Real-time PCR	10	P260
	Avian Influenza Virus H7/HPAI-H7/N9 Multiplex PCR Kit	Real-time PCR	25	P262
	Respiratory 15 types virus Multiplex PCR Kit	Real-time PCR	10	P232
	MERS-CoV PCR Kit	Real-time PCR	25	P071
Gastrointestinal Infections	Coxsackie A6/A10 virus PCR Kit	Real-time PCR	32	P115
	Enterovirus 71/Coxsackievirus A16/enterovirus PCR Kit	Real-time PCR	32	P116
	Enterovirus PCR Kit	Real-time PCR	32	P117
	Norovirus GI/GII PCR Kit	Real-time PCR	32	P134
	Vibrio cholerae O139/O1 PCR Kit	Real-time PCR	25	P049
	Salmonella enterica/Shigella Multiplex PCR Kit	Real-time PCR	25	P085
	Sapovirus/Adenovirus/Astrovirus Multiplex PCR Kit	Real-time PCR	25	P252
Heredity	HLA-B27gene detection Kit	Real-time PCR	32	P118
	SMN1/SMN2 gene detection Kit	PCR HRM	32	P124
	HLA-B*1502 gene detection Kit	Real-time PCR	25	P135
Oncology	Epstein-Barr Virus(EBV) PCR Kit	Real-time PCR	32	P110
	Human B-raf gene V600E mutation detection Kit	ARMS Proble	20	P111
	Human k-ras mutation detection Kit	PCR Melting	20	P112
	Human Her-2 gene detection Kit	PCR HRM	20	P125
	Human Septin9 gene methylation detection Kit	Real-time PCR	32	P126
	Human EGFR 29 types mutations detection Kit	PCR Melting	12	P138
Pharma cogenetics	Human HLA-B*5801 gene detection Kit	Real-time PCR	25	P127
	Human CYP2C19 Genotyping detection Kit	PCR Melting	24	P128
	CYP2D6*10\CYP2C9*3\ADRB1(1165G＞C)\AGTR1(1166A＞C)\ACE(I/D)gene detection Kit	PCR Melting	24	P129
	Human MTHFR PCR Kit	PCR Melting	24	P130
	Human CYP2C9\CYP4F2\VKORC1 gene detection Kit	PCR Melting	25	P131
	Human ALDH gene detection Kit	PCR Melting	25	P133
	Human MTHF\MTRR gene detection Kit	Real-time PCR	20	P139
Tropical Infections & Zoonoses	Hantavirus/Seoul virus PCR Kit	Real-time PCR	25	P068
	ZiKa virus PCR Kit	Real-time PCR	25	P074
	Yellow fever virus PCR Kit	Real-time PCR	25	P075
	Dengue virus/ZiKa virus/Chikungunya virus Multiplex PCR Kit	Real-time PCR	25	P251
	Dengue virus genotyping(I/II/III/IV) PCR Kit	Real-time PCR	25	P257

Molecular Diagnostic POCT Platform
MiPana Series

> **Full-automatic:** sample in-result out;

> **Easy operation:** add samples, scan barcodes→operate by one key→issue a test report:

> **Full-integrative:** integrated sample preprocessing, nucleic acid extraction, PCR amplification, multi-target nucleic acid test, intelligent test result interpretation;

> **Small size:** volume 320mm(L)×160mm (W) ×160mm (H)-single module;

> **Point-of-care test, multi-target:** 15 targets can be tested within 30~50min (relying on Panel);

> **Fexible flux:** centralized control, multi-module stacking, with any samples tested in no time once supplied;

> **Barcode scanning:** there is a QR code on the reaction disc, which can be scanned automatically to complete all information allocation;

> **Network connection:** equipped with Wifi and WLAN interfaces, able to deliver test data automatically;

> **Pollution-free:** all-closed operation, with no requirements for operators or the environment.

TL POCT TEST KIT FOR MULTIPLE PATHOGENS IN RESPIRATORY TRACT

15 different pathogens are tested concurrently (virus+ bacteria+ mycoplasma+ chlamydia); test kit is stored and transported at normal temperature

| Classification	15 common pathogens in respiratory tract
Virus	Influenza A virus (FluA); influenza B virus (FluB); respiratory syncytial virus (RSVA &B); human metapneumovirus (MPV); adenovirus (AdV); human rhinovirus (hRV); parainfluenza virus 1 (PIV1); parainfluenza virus 2 (PIV2); parainfluenza virus 3 (PIV3)
Mycoplasma Chlamydia Bacteria	Mycoplasma pneumoniae (MP); chlamydia pneumoniae (CP); bordetella pertussis (BP); legionella pneumophila (LP) ; diplococcus pneumoniae (SP); haemophilus influenzae (HIB)

PCR Thermal Cycler
Genesy

HIGH PERFORMANCE INSTRUMENT THAT
FITS THE REQUIREMENTS OF TODAY'S SCIENTIST

Genesy--The new PCR thermal cycler from Tianlong, is quite easy to operate with a 7′ color LCD touch screen. By taking advantages of its excellent thermo-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 alsoremarkably simple and intuitive. Thanks to all these advantages, Genesy is your ideal equipment for PCR.

REPRODUCIBILITY

> Genesy block features remarkable gradient technology to ensure that ramp rates are identical in both gradient and normal mode.

> Optimized perform assay crosses a maximal 40℃ range via 12 gradient temperatures.
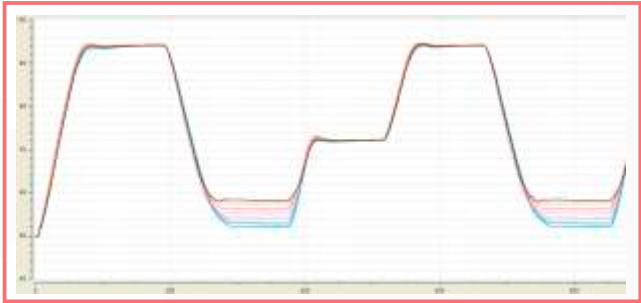
FLEXIBILITY

> 1000 experiment protocals can be saved in the machine

> Protocols can be easily shared between different Genesys via USB flash disk, personal protocols can also be saved in your USB flash disk to quickly setup your own experiment on any Genesys.
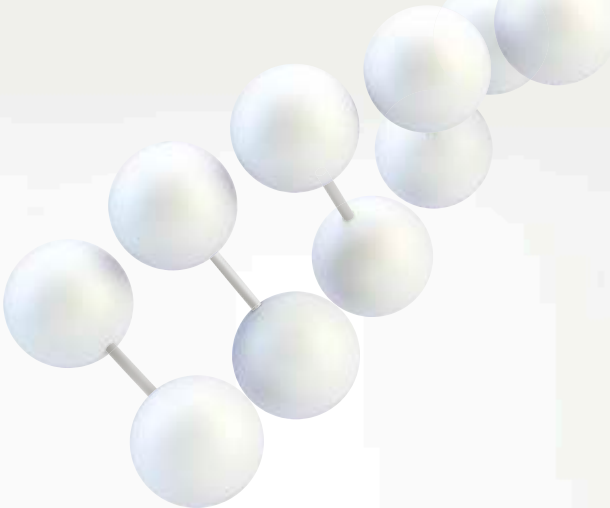
Intuitivly software design, specialized user training is not required, friendly interface make it simple even for first time users.

Compact design with very small footprint, very easy to be easily moved

7″ LCD touch screen, functions quickly accessible through simple, one-touch commands.

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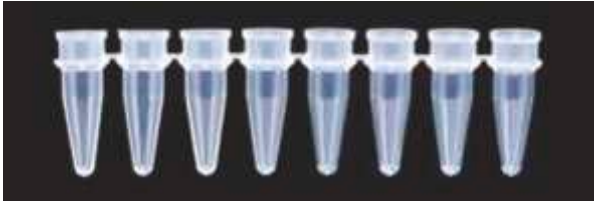
CONSUMABLES

0.2ml single tube   0.2ml 96-well plate(skirted, semi-skirted, unskirted)
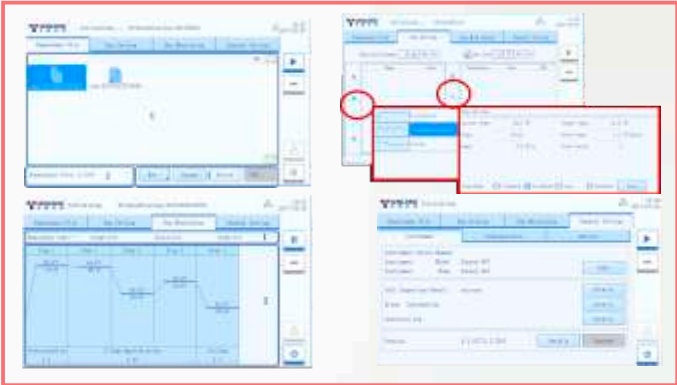
8-strip tubes

SPECIFICATIONS

Items	Parameter
Thermo block	Aluminum
Sample Capacity	96 × 0.2 ml, 0.2 ml single tube, 8-strip tubes, 0.2 ml 96-well plate (skirted, semi-skirted, unskirted)
Temperature control range of the block	99.9 °C
Temperature control mode	Tube mode & Block mode
Heating technology of the block	Peltier
Gradient block	12 row (horizontal)
Gradient range	0.2~20 °C
Gradient temperature range	30~99 °C
Lid temperature range	40~110 ℃
Block homogeneity: 20 °C~72 °C 95 °C	±0.2 °C ±0.3 °C
Block temperature accuracy	±0.1 °C
Heating rate*	MAX 4.5 °C/s
Cooling rate*	MAX 4.5 °C/s
Interfaces	USB, Ethernet
Dimensions (W × D × H)	260 mm × 400 mm × 260 mm
Weight	12 Kg
Power supply	AC 100~240 V, 50~60 Hz
Max. Power consumption	600 VA