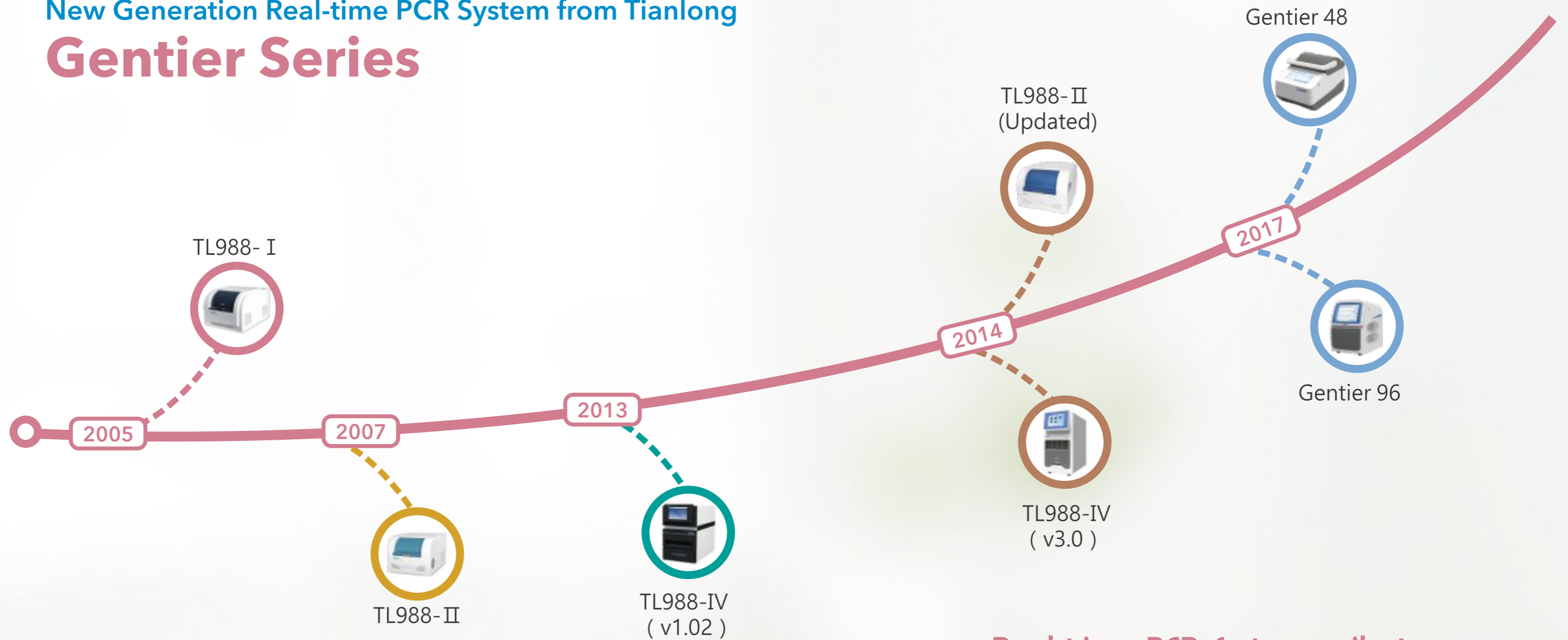
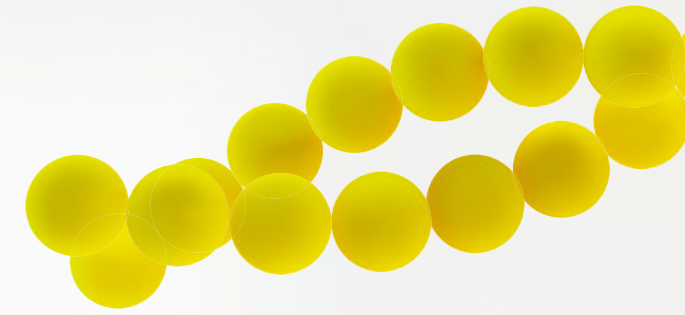


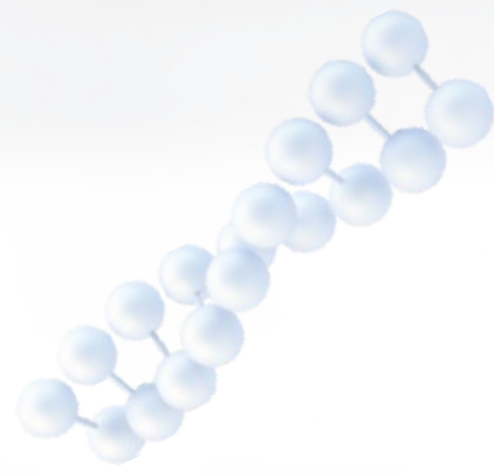
New Generation Real-time PCR System from Tianlong

# Gentier Series



**Real-time PCR system milestone**





# Real-time PCR System Gentier 48 Series

Your ideal choice for qPCR

# Real-time PCR System Gentier 96 Series

Your ideal choice for qPCR



Model	Sample	Channel	Gradient
Gentier48 E	48	4	Yes
Gentier48 R	48	2	Yes

Model	Sample	Channel	Gradient
Gentier96 E	96	6	Yes
Gentier96 R	96	4	Yes

**Gentier48 E**  
(4-Ch with Gradient)



**Gentier48 R**  
(2-Ch with Gradient)



**Gentier96 E**  
(6-Ch with Gradient)

## 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.



**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)

## 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 intra-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°C/s  
Avg heating rate: 6.0°C/s  
Max cooling rate: 5.5°C/s  
Avg cooling rate: 4.0°C/s  
Temperature accuracy: ±0.1°C  
Temperature uniformity: ±0.1°C



Max heating rate: 6.1°C/s  
Avg heating rate: 4.5°C/s  
Max cooling rate: 5.0°C/s  
Avg cooling rate: 2.8°C/s  
Temperature accuracy: ±0.1°C  
Temperature uniformity: ±0.1°C

## 3 HIGH SENSITIVE AND PRECISE OPTICAL SYSTEM

- > High-sensitivity and wide dynamic range of fluorescence detection system, sample dynamic range could be from 10<sup>1</sup> to 10<sup>10</sup> 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

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(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(CH1-CH4)

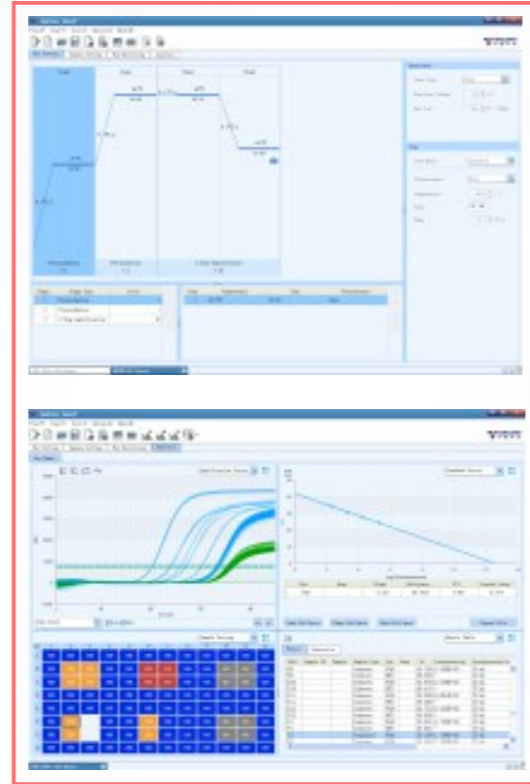
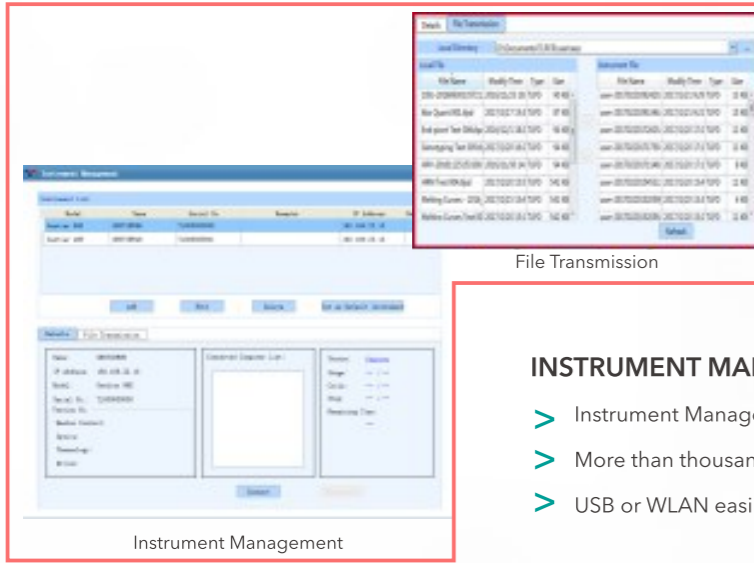
Channls are same with Roche LightCycler 96,  
Agilent Mx3000P,SLAN 96S/P,TL988 of Tianlong



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.

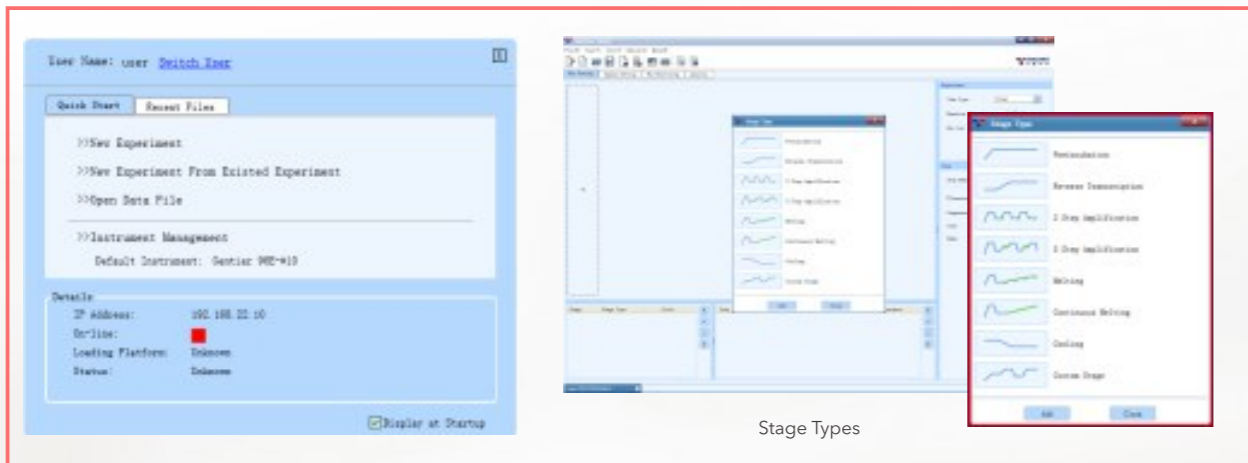


### INSTRUMENT MANAGEMENT & DATA TRANSMISSION

- > 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

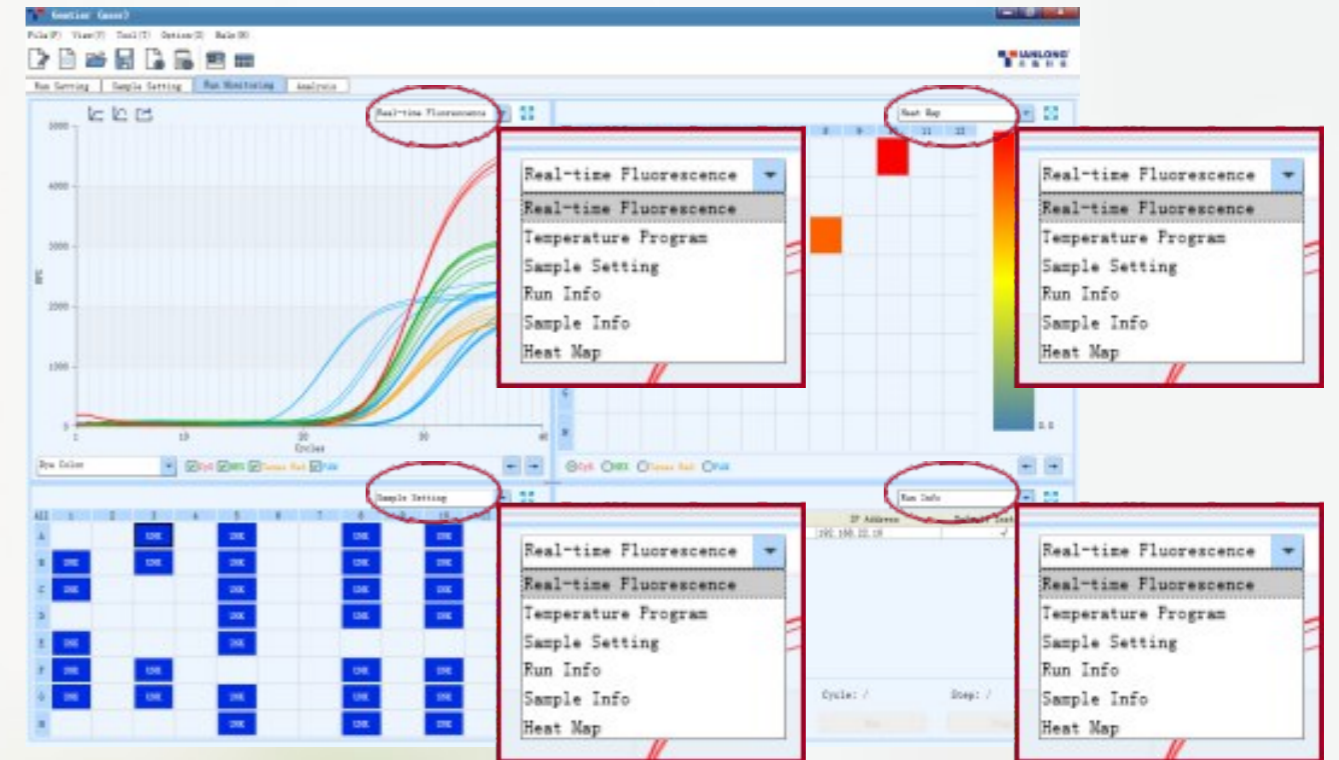
### EXPERIMENTS MANAGEMENT

- > 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 protocols.



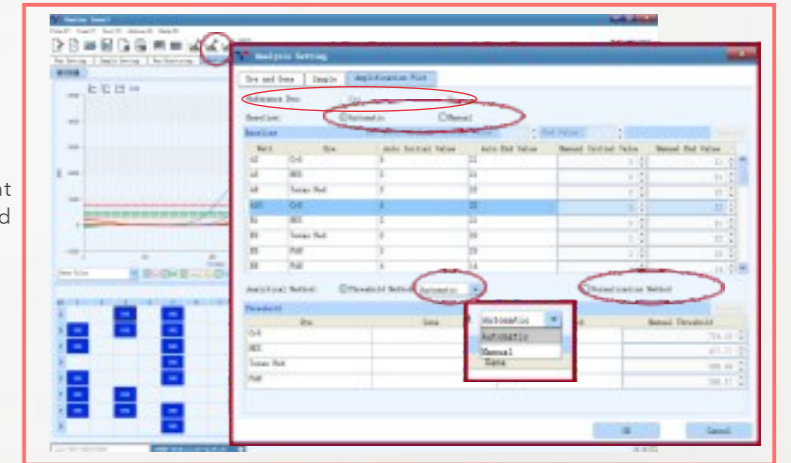
## 5 RUN MONITORING

- > All running information in one screen, intuitively and simply
- > User can define each model to see what they like on the screen: Real-time Fluorescence, Heat map, Run info, Sample Setting, Sample info...
- > Run the experiment first by device, later edit the sample setting in PC, when PC connected to machine, setting upload to machine automatically.
- > After experiment, data download to PC automatically.



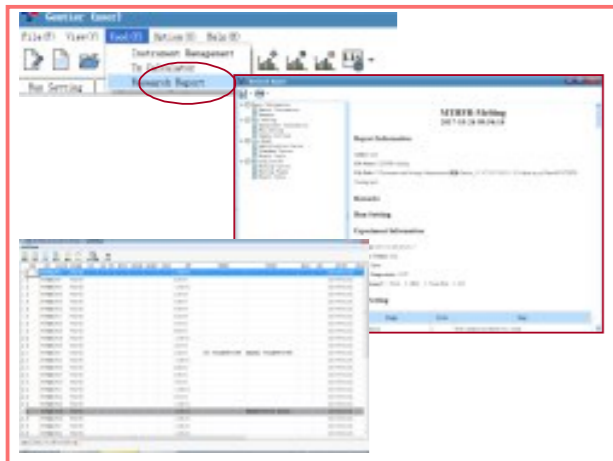
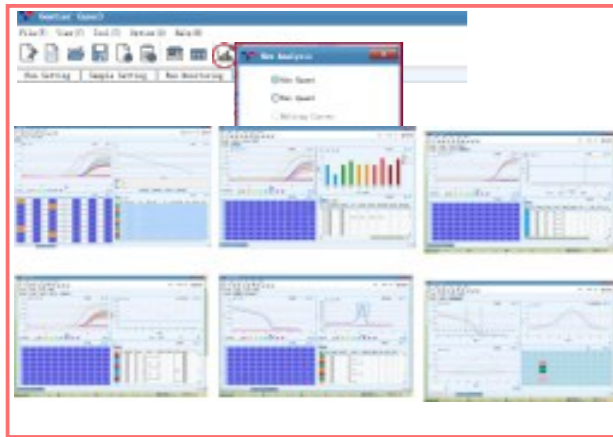
## 6 DATA ANALYSIS

- > Optional baseline setting: Automatic or Manual
- > Multi-option analytical method for different requirements: Automatic or Manual threshold method, normalization method
- > Reference Dye analysis



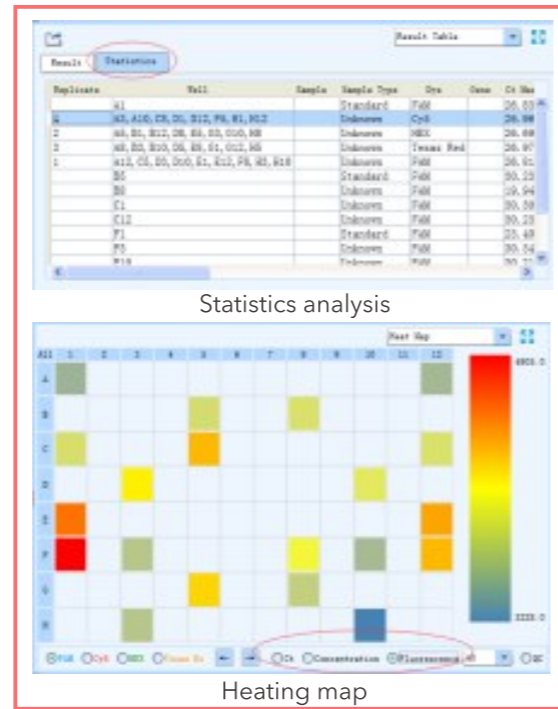
## DATA ANALYSIS-MOST COMPREHENSIVE DATA ANALYSIS

> One data can use different analysis method



## 7 QUALITY DATA

> 300IU HBV DNA absolute quantitative full plate test(with standard curves).  
FAM for HBV DNA  
HEX for internal control



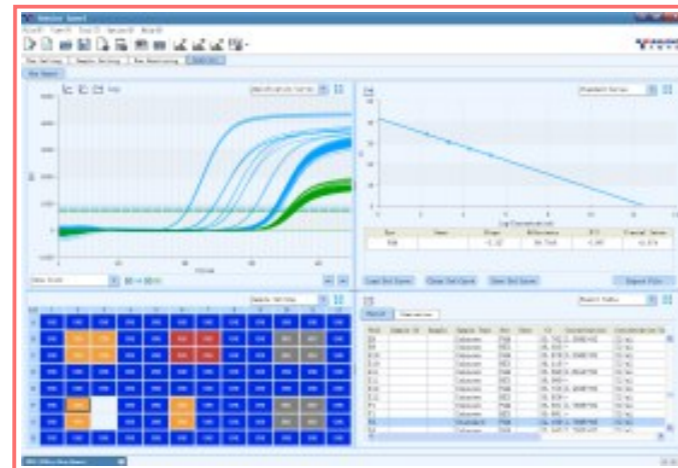
## DATA ANALYSIS-OTHERS

- ▲ Statistics analysis: Replicate, Gene types
- ▲ Heating map options: Ct, Concentration, Fluorescence
- ▲ LIS connectivity, can export csv, Excel and Txt format
- ▲ Row data and results can export in Excel format

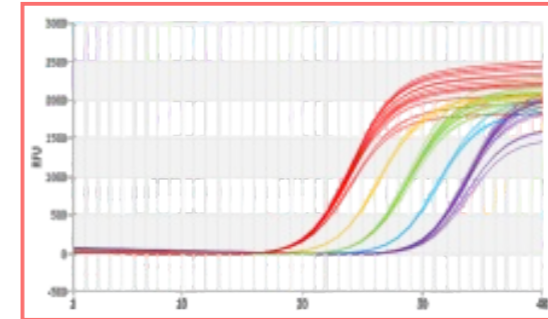
## REPORT

< 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

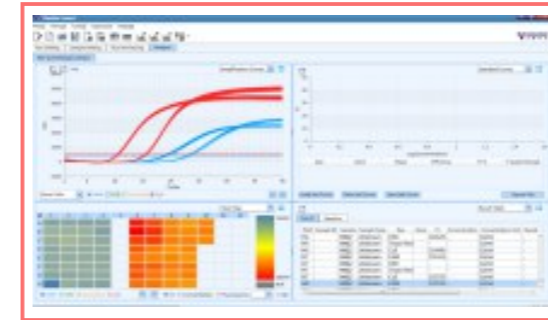


## GRADIENT DILUTED SAMPLES UNIFORMITY



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

## CA16/EV71/EU UNIFORMITY



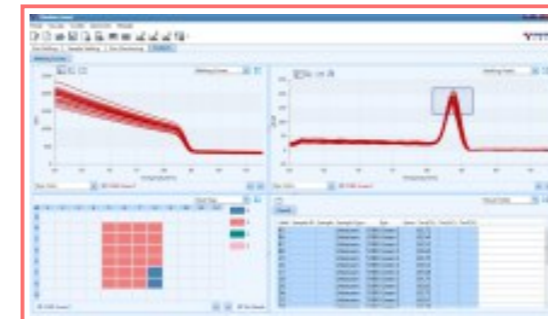
Multiplex PCR uniformity with CA16/EV71/EU assay.  
Left and right half are low/high concentration duplicate samples.  
FAM for CA16, Cy5 for EU.

## MTHFR C677T SNP GENOTYPING



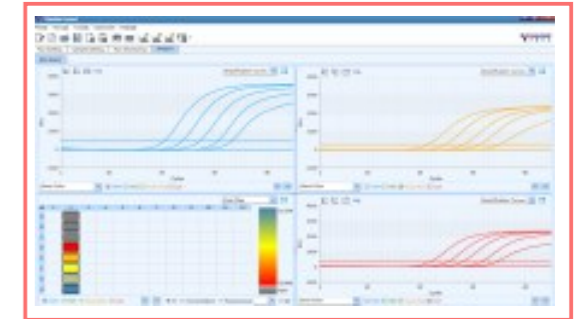
MTHFR C677T SNP genotype test with genotyping analysis function.

## SYBR GREEN I MELTING CURVE UNIFORMITY



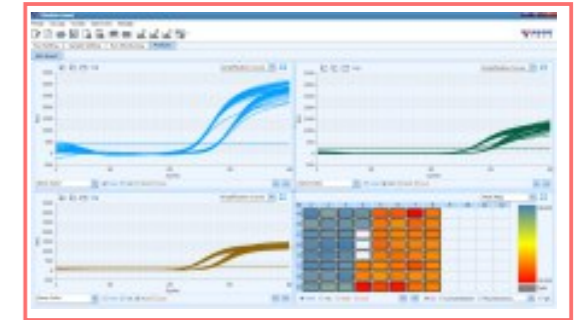
Temperature uniformity of melting curve with SYBR Green I dye.

## 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



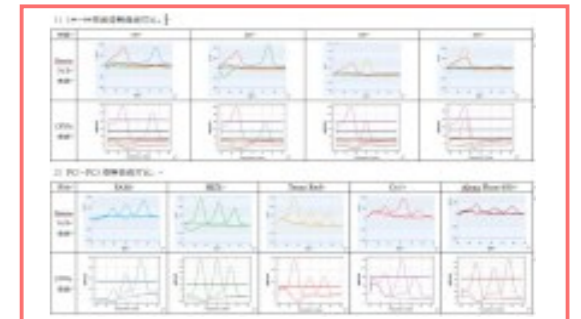
HPV high risk genotyping assay  
Multiplex PCR uniformity performance with HPV 16+2 high risk types assay.  
Left and right half are low/high concentration duplicate samples.  
HEX for HPV 16, ROX for HPV 18, FAM for the rest of 16 high risk types.  
Cy5 channel is for internal control, not shown on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

## SEEGENE HPV HR 14 GENOTYPING



5 colors multiplex melting curves.

# SPECIFICATIONS

	Gentier 48E	Gentier 48R	Gentier 96E	Gentier 96R
<b>Thermal Block</b>				
Sample capacity(wells)	48		96	
Reaction Volume	5-100 $\mu$ L		0-100 $\mu$ L	
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	$\pm$ 0.1°C		$\pm$ 0.1°C	
Temperature uniformity	$\pm$ 0.1°C		$\pm$ 0.1°C	
Gradient Range	1°C-40°C	1°C-40°C	1°C-40°C	1°C-40°C
Gradient block	8 row	8 row	12 row	12 row
Special temperature protocol	Gradient PCR,Long PCR,Touch Down PCR	Gradient PCR,Long PCR,Touch Down PCR	Gradient PCR,Long PCR,Touch Down PCR	Gradient PCR,Long PCR,Touch Down PCR
<b>Heat Lid</b>				
Temperature range	Room Temperature-110°C		Room Temperature-110°C	
<b>Optical System</b>				
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	$r \geq 0.990$		$r \geq 0.990$	
Fluorescence Dynamic Range	Adjustable		Adjustable	
<b>Performance</b>				
Sample Linearity	$r \geq 0.999$		$r \geq 0.999$	
Sample repeatability	Ct value CV $\leq$ 0.5%		Ct value CV $\leq$ 0.5%	
Sample Dynamic Range	1-10 <sup>10</sup> copies		1-10 <sup>10</sup> copies	
<b>Software Functions</b>				
Data Analysis modes	Qualitative analysis,Absolute quantification, Relative quantification,Genotyping analysis,Endpoint analysis, Melt curve analysis		Qualitative analysis,Absolute quantification, Relative quantification,Genotyping analysis,Endpoint analysis, Melt curve analysis	
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		Automatically 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	
<b>Others</b>				
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	P100H
	Hepatitis B Virus(HBV) PCR Kit	Real-time PCR	32	P101H
	Hepatitis B Virus Genotyping PCR Kit	Real-time PCR	32	P119H
Sexually Transmitted Infections	Chlamydia Trachomatis(CT) PCR kit	Real-time PCR	32	P103H
	Neisseria Gonorrhoeae(NG) PCR kit	Real-time PCR	32	P104H
	Ureaplasma Urealyticum(UU) PCR kit	Real-time PCR	32	P105H
	Human Papilloma Virus(HPV) PCR kit	Real-time PCR	32	P120H
Transplantation Infections	CT/NG/UU/UP Multiplex PCR Kit	Real-time PCR	50	P132H
	Herpes Simplex Virus 2(HSV-2) PCR Kit	Real-time PCR	32	P106H
	Human CytomegaloVirus(HCMV) PCR Kit	Real-time PCR	32	P107H
Respiratory Infections	Measles Virus /Rubella Virus(MV/RV) PCR Kit	Real-time PCR	32	P108H
	Mycoplasma pneumonia (MP) PCR Kit	Real-time PCR	32	P109H
	Ebola virus(Zaire) PCR Kit	Real-time PCR	32	P114H
	Mycobacterium tuberculosis PCR Kit	Real-time PCR	32	P121H
	Human Influenza Virus A/B PCR Kit	Real-time PCR	32	P122H
	Group B Streptococcus(GBS) PCR Kit	Real-time PCR	32	P123H
	Respiratory syncytial virus A/B PCR Kit	Real-time PCR	25	P028H
	Human Influenza Virus B genotyping(Yamagata&Victoria) PCR Kit	Real-time PCR	25	P073H
	Human Influenza Virus A/B & respiratory syncytial virus Multiplex PCR Kit	Real-time PCR	24	P259H
	Human Influenza Virus B (Yamagata&Victoria) and A (H1&H3) Multiplex PCR Kit	Real-time PCR	25	P255H
	Respiratory 12 types virus Multiplex PCR Kit	Real-time PCR	10	P260H
	Avian Influenza Virus H7/HPAI-H7/N9 Multiplex PCR Kit	Real-time PCR	25	P262H
	Respiratory 15 types virus Multiplex PCR Kit	Real-time PCR	10	P232H
	MERS-CoV PCR Kit	Real-time PCR	25	P071H
Gastrointestinal Infections	Coxsackie A6/A10 virus PCR Kit	Real-time PCR	32	P115H
	Enterovirus 71/Coxsackievirus A16/enterovirus PCR Kit	Real-time PCR	32	P116H
	Enterovirus PCR Kit	Real-time PCR	32	P117H
	Norovirus GI/GII PCR Kit	Real-time PCR	32	P134H
	Vibrio cholerae O139/O1 PCR Kit	Real-time PCR	25	P049H
	Salmonella enterica/Shigella Multiplex PCR Kit	Real-time PCR	25	P085H
Heredity	Sapovirus/Adenovirus/Astrovirus Multiplex PCR Kit	Real-time PCR	25	P252H
	HLA-B27gene detection Kit	Real-time PCR	32	P118H
	SMN1/SMN2 gene detection Kit	PCR HRM	32	P124H
Oncology	HLA-B*1502 gene detection Kit	Real-time PCR	25	P135H
	Epstein-Barr Virus(EBV) PCR Kit	Real-time PCR	32	P110H
	Human B-raf gene V600E mutation detection Kit	ARMS Probe	20	P111H
	Human k-ras mutation detection Kit	PCR Melting	20	P112H
	Human Her-2 gene detection Kit	PCR HRM	20	P125H
	Human Septin9 gene methylation detection Kit	Real-time PCR	32	P126H
Pharma cogenetics	Human EGFR 29 types mutations detection Kit	PCR Melting	12	P138H
	Human HLA-B*5801 gene detection Kit	Real-time PCR	25	P127H
	Human CYP2C19 Genotyping detection Kit	PCR Melting	24	P128H
	CYP2D6*10\CYP2C9*3\ADRB1(1165G>C)\AGTR1(1166A>C)\ACE(I/D) gene detection Kit	PCR Melting	24	P129H
	Human MTHFR PCR Kit	PCR Melting	24	P130H
	Human CYP2C9\CYP4F2\VKORC1 gene detection Kit	PCR Melting	25	P131H
	Human ALDH gene detection Kit	PCR Melting	25	P133H
Tropical Infections & Zoonoses	Human MTHFMTRR gene detection Kit	Real-time PCR	20	P139H
	Hantavirus/Seoul virus PCR Kit	Real-time PCR	25	P068H
	ZiKa virus PCR Kit	Real-time PCR	25	P074H
	Yellow fever virus PCR Kit	Real-time PCR	25	P075H
	Dengue virus/ZiKa virus/Chikungunya virus Multiplex PCR Kit	Real-time PCR	25	P251H
Dengue virus genotyping(I/II/III/IV) PCR Kit	Real-time PCR	25	P257H	