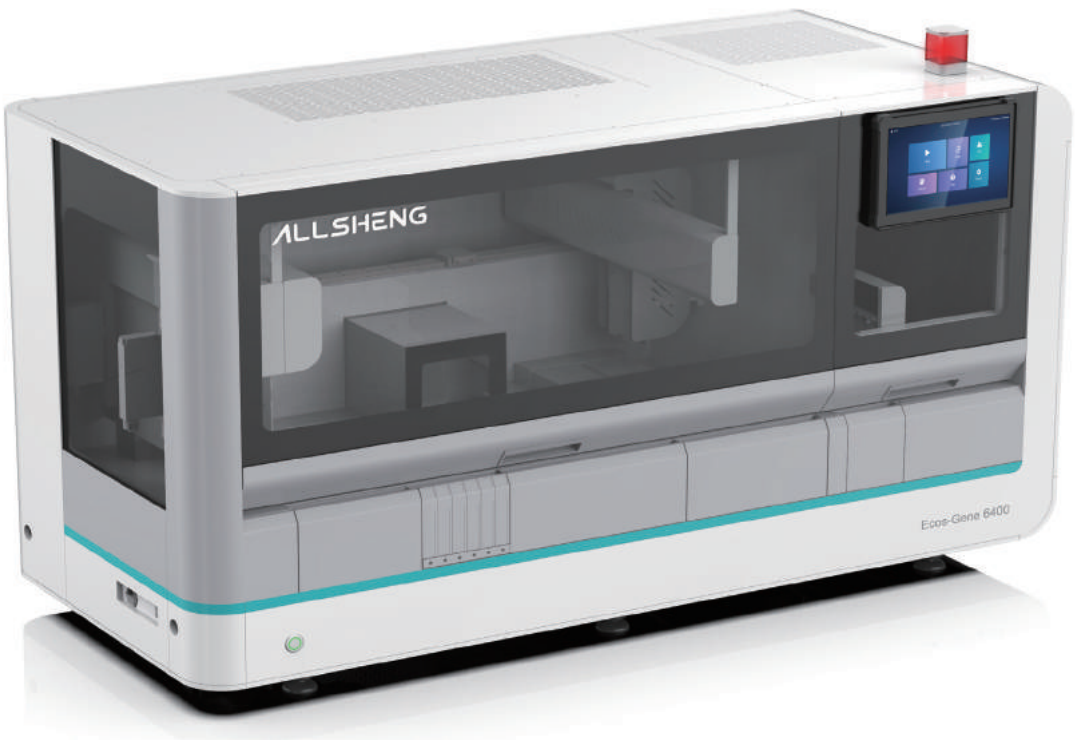
ALLSHENG

Ecos-Gene 6400

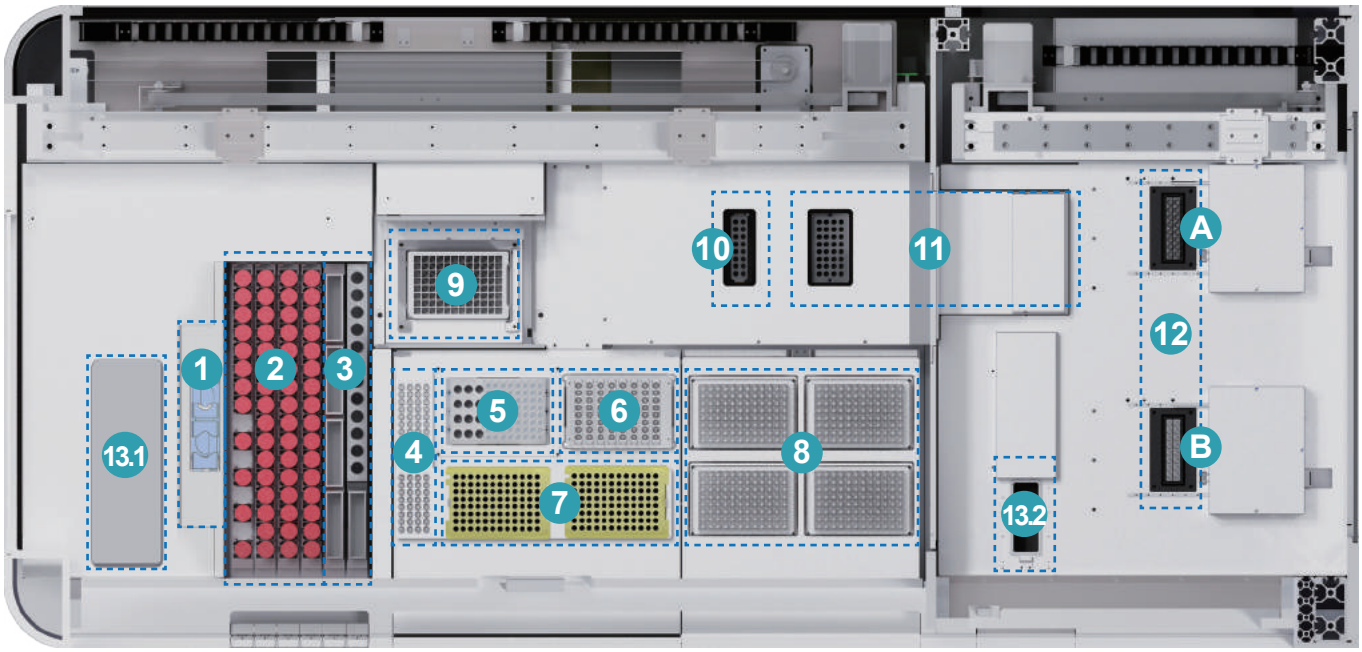
Automated Nucleic Acid Extraction and PCR System



Ecos-Gene 6400

Automated Nucleic Acid Extraction and PCR System

Ecos-Gene 6400 automated nucleic acid extraction and PCR system integrates all functional divisions of PCR detection laboratory. It is a one-stop workstation that integrates the functions of information input, reagent dispensing, sample preparation, nucleic acid extraction based on magnetic bead method, system construction, cover centrifuge, qPCR detection, result analysis, and etc. The whole process from sample loading to report output does not require manual intervention. It can realize sample in and result out and provide you with a new solution for molecular diagnosis.



1 Sample opening area

With the cap opening electric claw, achieve automatic cap opening of samples

2 Sampling area

Used for loading samples, up to 64 samples in one run

3 Reagent area

Used for placing unspackaged nucleic acid extraction reagents, 60/100 mL×5+2/5/10 mL×12

4 PCR tube caps

Used for placing the PCR tube caps, which can be automatically took with the moving robot arm

5 PCR reagent area

Refrigeration unit for storing and configuring PCR reagents and Mix, 2 mL×12+0.2 mL 8-strip×8

6 Magnetic rod sleeve holder area

Used for placing a magnetic rod sleeve holder, the magnetic rod sleeves are automatically loaded during the operation

7 Tip area

Used for loading tips, support 1 box of 100 μL tips and 1 box of 200 μL tips

8 Nucleic acid extraction kit area

Used for loading deepwell plates for nucleic acid extraction, support up to 4×96 deepwell plates

9 Nucleic acid extraction area

Up to 16 samples can be extracted in one run

10 Centrifuge area

Used for PCR Mix and centrifugation after sample mixing to reduce liquid hanging walls and fully mix

11 Sample buffer area

Used for transferring the configured PCR reaction system, sealed design to avoid regional contamination (similar to the PCR laboratory transfer window)

12 PCR detection area

Two independent PCR detection units (A and B), each unit can detect 16 samples

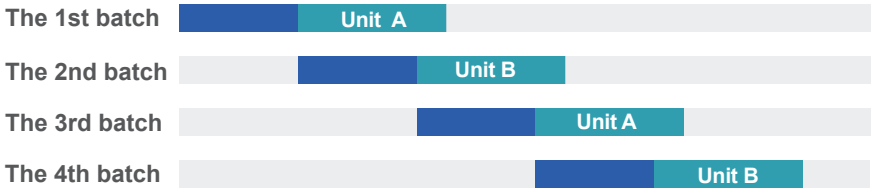
13 13.1 Tip off box

Used for storing waste tips

13.2 Waste area

Can place testing completed PCR strip tubes

Work Efficiency



Nucleic acid extraction 40 min

PCR detection 50 min

Take single item test as an example, the results of the first batch can be output in 90 min. Subsequent every 40 min will output a batch of results, and 544 samples can be detected in 24 hours.

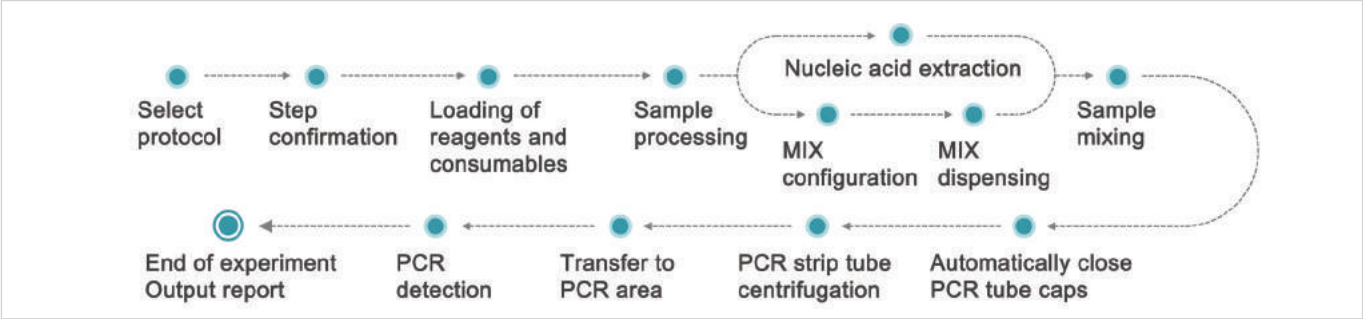
Product Features

Original Tube Loading with Scanning Function to Quickly Input Sample Information

The instrument has a built-in automatic opening and closing structure, which supports original tube loading and dispensing, reducing the manual pre-processing time. In addition, the instrument has a built-in scanning structure, which can directly record the sample number to ensure the integrity of information.

Whole Process Automation, Sample In and Result Out

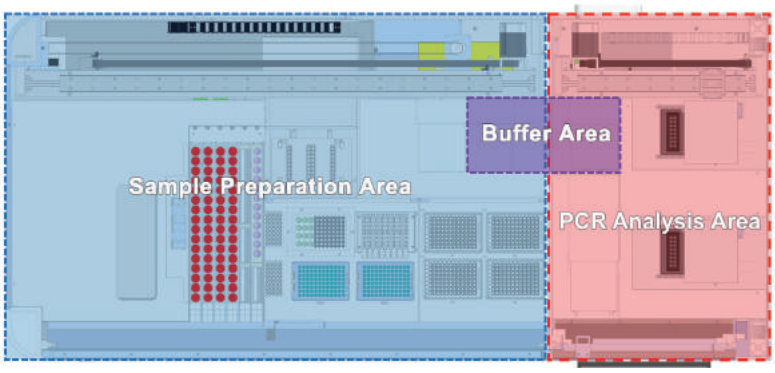
The operator only needs to prepare consumables and place sample in advance. Select the corresponding protocol to achieve the whole process automation from sample preparation, nucleic acid extraction to PCR detection.



Multiple Designs to Effectively Avoid Cross-contamination

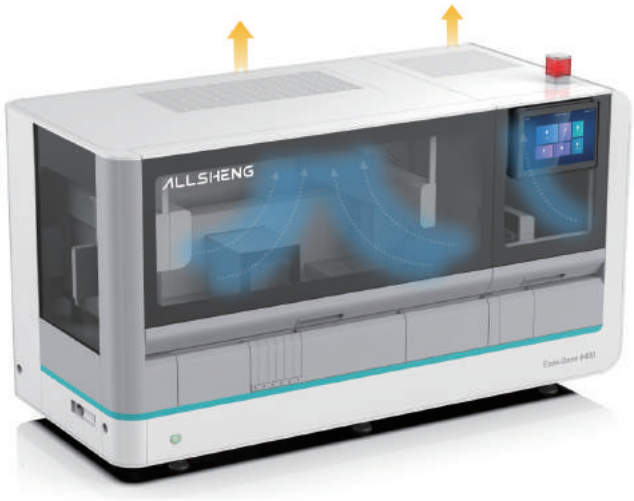
01 Partition Design, Physical Isolation

Based on the design requirements of the PCR laboratory, this instrument is divided into three independent areas: sample preparation area, buffer area and PCR analysis area. Each area is separated by a sealing division plate and a sealing door, achieving physical isolation of each area.



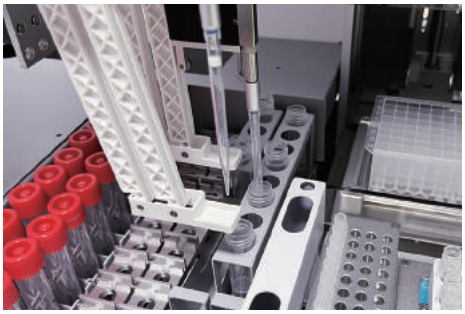
02 Air Pressure Control, Unidirectional Airflow

Built-in air pressure sensor, real-time monitoring of air pressure in the three zones; software automatically controls the negative pressure filter system to achieve decreasing air pressure from the sample preparation area, buffer area, PCR analysis area in order to avoid cross-contamination by convection. In addition, the sample preparation area and PCR analysis area are equipped with HEPA on the top, and the frequency conversion filter fan is selected to achieve internal air pressure control by flexibly adjusting the air speed. The external exhaust gas is treated by liquid filter station (optional) to prevent pollution of the external environment.



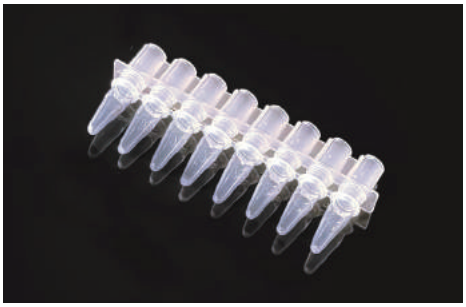
03 Anti-dropping Design of Pipettor

The lower part of the pipettor is equipped with a liquid tray, which can effectively prevent the contamination of samples and reagents caused by liquid dripping.



04 Disposable PCR Tube Caps

Special PCR tube cap design, combined with the manipulator, can cover the PCR tube caps in time to prevent problems such as liquid leakage and aerosol pollution in the process of centrifugation, transfer and PCR detection.



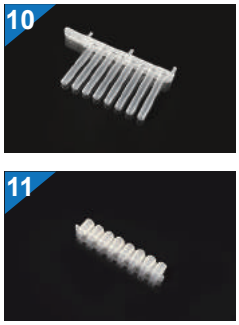
Open Consumable Design to Reduce The Cost of Use

Except for the magnetic rod sleeves and PCR tube caps, Ecos-Gene 6400 supports standard consumables, maximizing the openness of consumables.

Standard Consumables

1. 5 mL sampling tube
2. 10 mL sampling tube
3. 5 mL blood sampling tube
4. 96 deepwell plate
5. 0.2 mL 8-strip PCR tube
6. 2 mL storage tube
7. 50 µL tip
8. 200 µL tip
9. 1000 µL tip

Special Consumables



10. Magnetic rod sleeve
11. PCR tube caps

Specification

Model		Ecos-Gene 6400
Throughput		1~64
Sample tube		Support the original tube loading of sampling tube / blood sampling tube
Extraction temperature performance	Heating range	37 °C~120 °C
	Temperature accuracy	±0.5 °C
Extraction performance	Extraction time	According to the reagent solution, generally 25~30 min / time
	Extraction uniformity	CV≤5%
PCR amplification	Average heating rate	Block 50 °C~95 °C: ≥5 °C/s
	Maximum heating rate	Block 50 °C~95 °C: ≥10 °C/s
	Average cooling rate	Block 95 °C~50 °C: ≥5 °C/s
	Maximum cooling rate	Block 95 °C~50 °C: ≥8 °C/s
	Temperature accuracy	≤±0.2 °C
	Block temperature control accuracy	≤±0.2 °C 55 °C
PCR thermo lid	Temperature range	RT. +5 °C~105 °C
	Temperature control accuracy	±0.5 °C
Detection block	PCR reaction system	15~100 μL
	Fluorescence detection channel	5 channel
	Applicable fluorescent dyes	FAM / HEX / ROX / CY5 / CY5.5, etc.
	PCR kinetic range	$1\sim10^{10}$ Copies/μL
	Detection time	According to the reagent solution, generally 35~50 min / time
UV sterilization		One UV sterilization lamp is set in the sample preparation area, buffer area and analysis area respectively, which can be controlled independently
HEPA		An independent HEPA component is set in the sample preparation area and analysis area respectively
Software operation		Windows system software, supporting personalized function customization
Instrument port		1×B-USB port and 1×Ethernet port
Information management		Support external code scanner, which can input sample / reagent information Expandable LIS system connection Expandable cloud database connection

Ordering Information

Code	Product Description
AS-29010-00	Ecos-Gene 6400 automated nucleic acid extraction and PCR system
AS-29011-01	Magnetic rod sleeve
AS-29011-02	PCR tube caps
AS-29011-03	96 deepwell plate
AS-TT-200-N	200 μL, Allsheng tip, transparent, boxed
AS-TT-200-NL	200 μL, Allsheng tip, transparent, boxed, low adsorption
AS-TT-200-NS	200 μL, Allsheng tip, transparent, boxed, sterile
AS-TT-200-NSL	200 μL, Allsheng tip, transparent, boxed, sterile, low adsorption
AS-TTF-200-NS	200 μL, Allsheng tip, transparent, boxed, sterile, filter element
AS-TTF-200-NSL	200 μL, Allsheng tip, transparent, boxed, sterile, filter element, low adsorption
AS-TT-1000-N	1000 μL, Allsheng tip, transparent, boxed
AS-TT-1000-NL	1000 μL, Allsheng tip, transparent, boxed, low adsorption
AS-TT-1000-NS	1000 μL, Allsheng tip, transparent, boxed, sterile
AS-TT-1000-NSL	1000 μL, Allsheng tip, transparent, boxed, sterile, low adsorption
AS-TTF-1000-NS	1000 μL, Allsheng tip, transparent, boxed, sterile, filter element
AS-TTF-1000-NSL	1000 μL, Allsheng tip, transparent, boxed, sterile, filter element, low adsorption

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