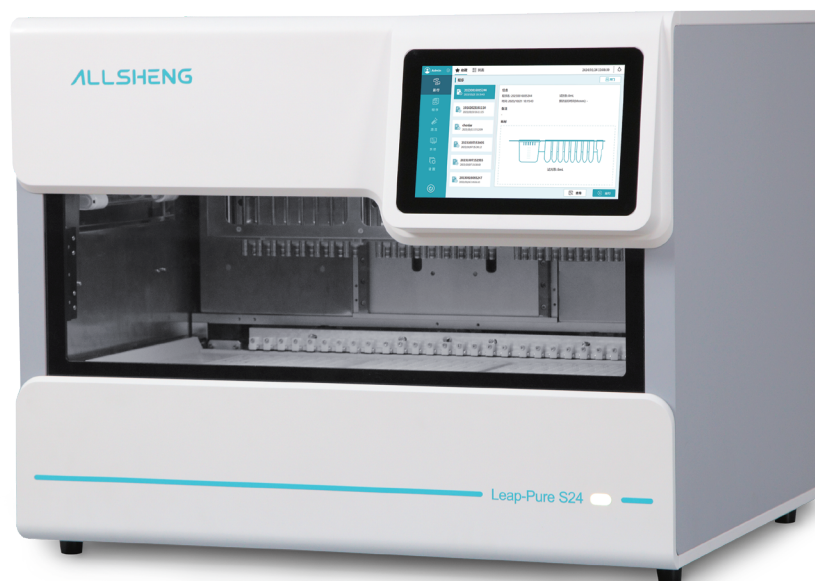


ALLSHENG

Leap-Pure Series

Nucleic Acid Purification System



New Generation

Nucleic Acid Purification System

Allsheng Leap-Pure series nucleic acid purification system is designed for large-volume cfDNA extraction and FFPE block automatic extraction. It adopts the combination of magnetic rod method and pipetting method to solve a series of problems such as difficult to mix large-volume samples, incomplete magnetic absorption, and difficult to stratify and extract FFPE block automatically. The processing capacity is 1~24 at a time and the consumables are designed in strips, so that the number of samples can be freely selected according to the actual needs. The reaction system can be up to 20 mL, and the minimum processing volume of elution well is 20 μ L (FFPE block / 1 mL cfDNA).



FFPE Block
Nucleic Acid Extraction

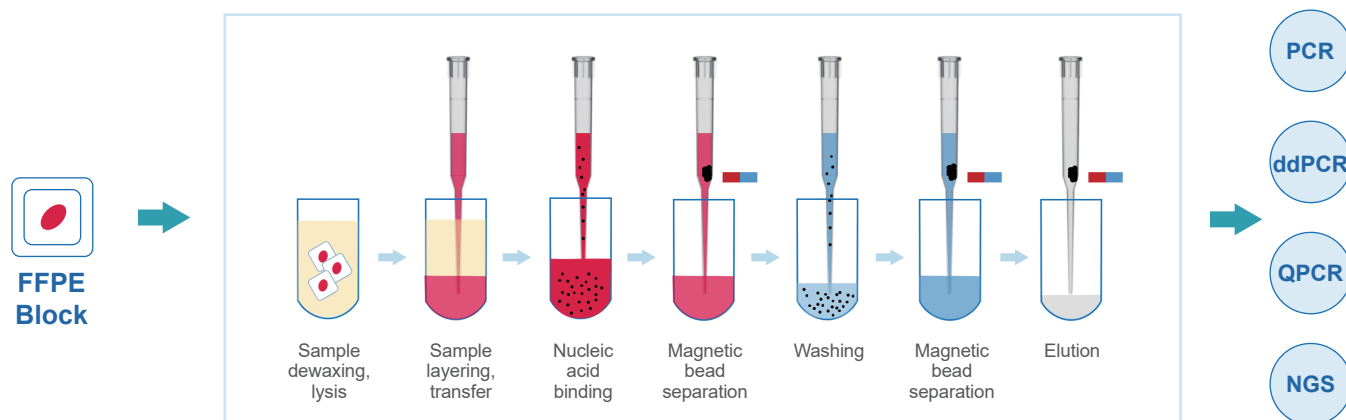
cfDNA Extraction
20 mL Max Reaction System

PCR Set-up
(QPCR & ddPCR)

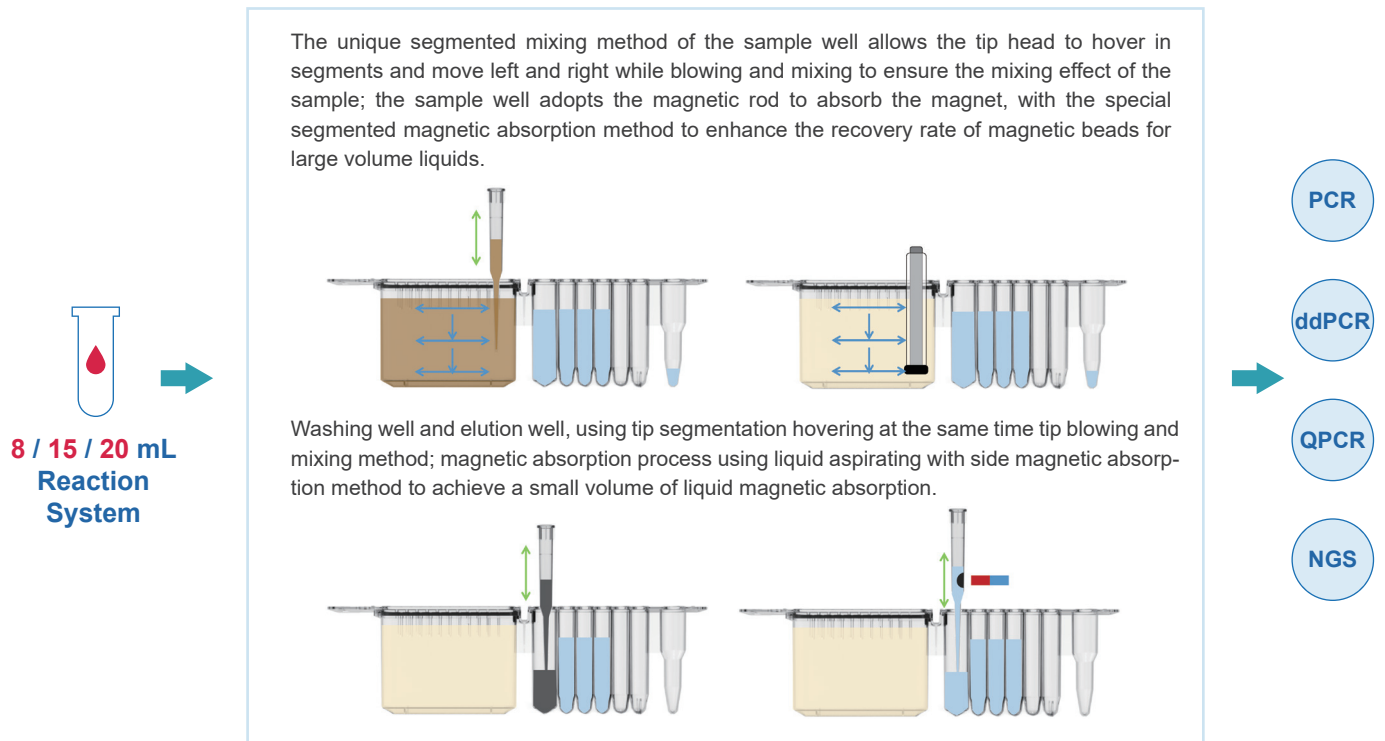
	Leap-Pure S24	Leap-Pure H24	Leap-Pure R16
FFPE Block Nucleic Acid Extraction	✓	—	✓
cfDNA Extraction	2 / 8 / 15 mL	20 mL	2 / 8 / 15 mL
PCR Set-up	—	—	✓
Throughput	1~24	1~24	1~16

FFPE Block Extraction Process

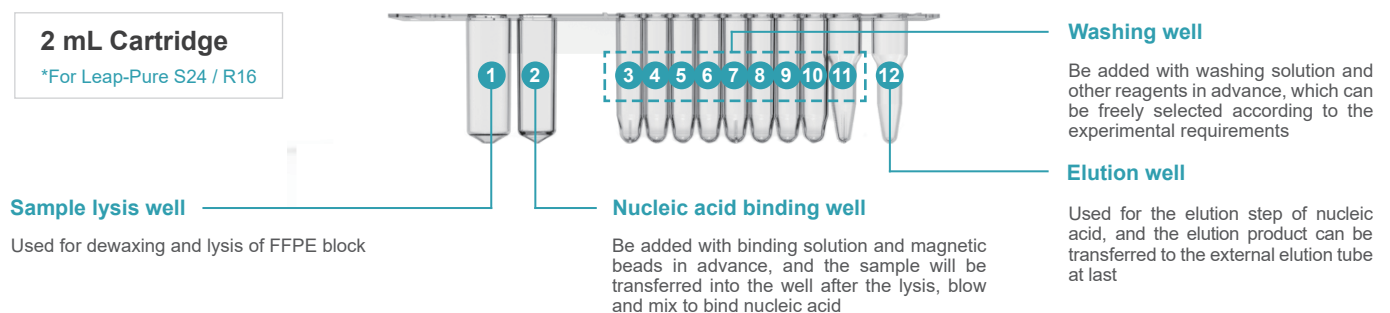
Simply put in FFPE block to get high-quality DNA / RNA



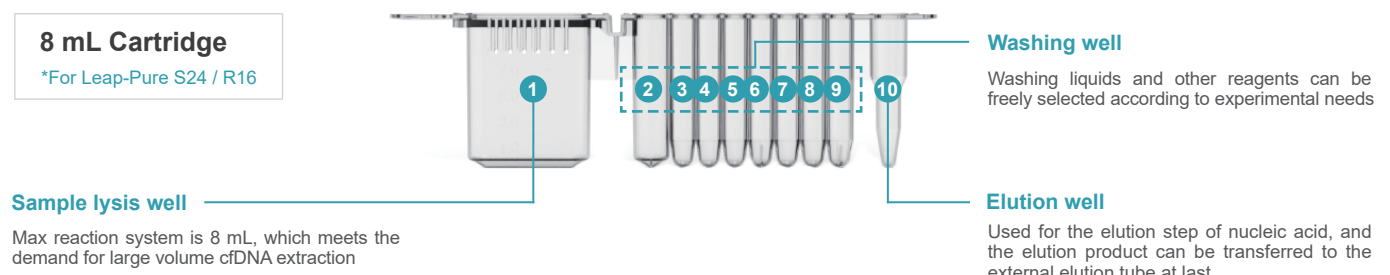
cfDNA Extraction Process



Key Consumables for FFPE Block Extraction



Key Consumables for cfDNA Extraction

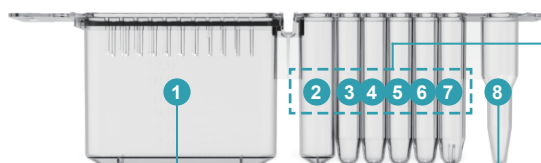


15 mL Cartridge

*For Leap-Pure S24 / R16

Sample lysis well

Max reaction system is 15 mL, which meets the demand for large volume cfDNA extraction

**Washing well**

Washing liquids and other reagents can be freely selected according to experimental needs

Elution well

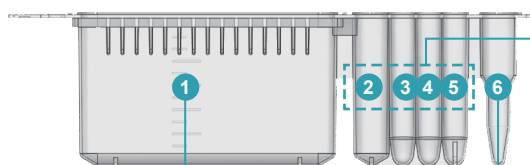
Used for the elution step of nucleic acid, and the elution product can be transferred to the external elution tube at last

20 mL Cartridge

*For Leap-Pure H24

Sample lysis well

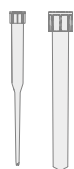
Max reaction system is 20 mL, which meets the demand for large volume cfDNA extraction

**Washing well**

Washing liquids and other reagents can be freely selected according to experimental needs

Elution well

Used for the elution step of nucleic acid, and the elution product can be transferred to the external elution tube at last

General Consumables**1 mL Special Tip + Tip Holder**

Special tips for pipetting, mixing and magnetic absorption

**Magnetic Rod Comb + Comb Holder**

Used for the magnetic absorption process of large volume sample wells, with the magnetic rods to achieve large volume magnetic absorption without residue

**Cap**

Used for sealing to prevent volatilization, such as the dewaxing process of FFPE block

**Cartridge's Holder**

Different consumables correspond to corresponding cartridges, which include 2 mL cartridges (made of metal / plastic), 8 mL, 15 mL and 20 mL cartridges (made of metal / plastic), making it convenient for researchers to add samples / reagents and saving time for placing consumables.

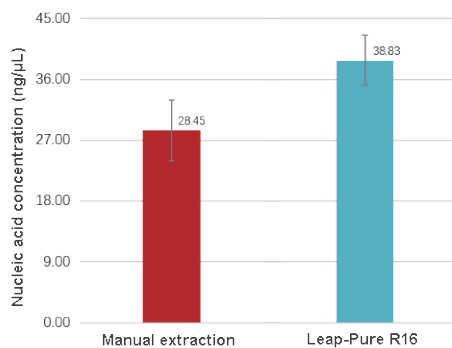
FFPE Kit



FFPE Tissue Sample DNA Extraction Kit

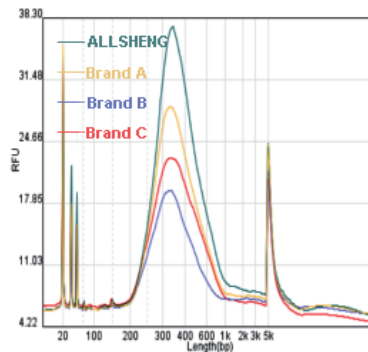
Allsheng® FFPE tissue sample DNA extraction kit uses high-efficiency tissue lysis buffer and non-toxic dewaxing agent for one-step dewaxing and lysis. Using the principle of silanol magnetic beads and nucleic acid separation and purification method, it can quickly and efficiently extract DNA from paraffin embedded tissue sections, paraffin blocks, or fixation fluid tissues such as formalin. The reagents do not contain harmful substances such as xylene. It is easy to operate without the need for multiple centrifugations. With Leap-Pure S24 / R16, sample loading without the need for external lysis, is more suitable for automated extraction requirements.

Leap-Pure S24 / R16 uses tips for better mixing effect, with Allsheng® FFPE tissue sample DNA extraction kit, the extraction effect is significantly higher than manual extraction.



Comparison of Extraction Effects Between Automated and Manual Methods

Comparison between Allsheng® FFPE tissue sample DNA extraction kit and similar kits in terms of extraction effects and library preparation results, and the experimental results showed that it was close to or better than similar products.



Group	Qubit concentration	Library output
Brand A	17.8 ng/μl	445 ng
Brand B	13 ng/μl	325 ng
Brand C	17.1 ng/μl	427.5 ng
ALLSHENG	17.5 ng/μl	437.5 ng

Comparison of Extraction Effects and Library Preparation Results of Similar Kits

Leap-Pure S24 / H24 Nucleic Acid Purification System

Whole Process Automation of FFPE and cfDNA Extraction

Leap-Pure S24 / H24 is a nucleic acid purification system based on magnetic bead method and pipetting method. In addition to the extraction of general samples such as blood, animal and plant tissues, the matching special consumables can also be used for the whole process automatic extraction of FFPE block, and the FFPE block can be directly put into the designated well position.

The instrument can transfer samples through the pipettor, blow to achieve full mixing of samples, and the external magnet will adsorb the magnetic beads on the inner wall of the pipettor to realize the transfer of magnetic beads. The processing capacity is 1~24 at a time and the consumables are designed in strips. The minimum processing volume of elution well is 20 μL (FFPE block / 1 mL cfDNA).

Leap-Pure S24 has a maximum extraction sample reaction system of 15 mL, which can be adapted to 2 mL, 8 mL and 15 mL cartridge. Leap-Pure H24, only suitable for 20 mL cartridge, with the processing capacity of 1~24 at a time, does not support other types of extraction.

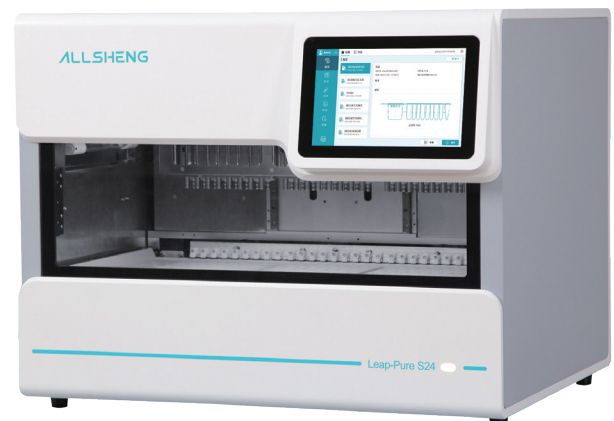
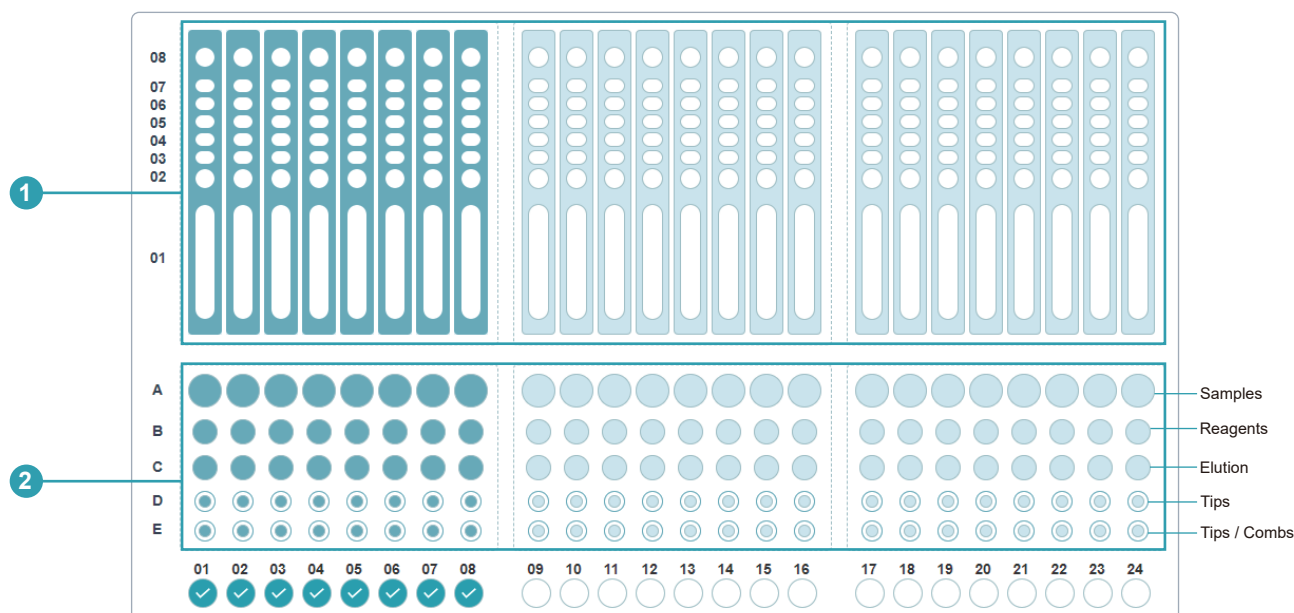


Plate Layout



- 1 Nucleic acid extraction area**, suitable for various types of cartridges, mainly used for loading extraction reagents, can be pre-packaged, and the instrument is equipped with puncture structure
- 2 Sample consumable rack**, used for placing various consumables during the extraction process, such as tips, product recovery tube, etc

Features

01 Automatic Dewaxing

The dewaxing step in FFPE extraction can be completed inside the machine without additional dry bath incubator. After layering, the bottom liquid is automatically transferred without manual intervention, solving the problem of difficulty in FFPE automatic layering and liquid extraction, truly achieving full automatic extraction of FFPE blocks.

02 Large Volume Extraction, Small Volume Elution

The Leap-Pure series supports the automated extraction of FFPE block from dewaxing (except for Leap-Pure H24) and the automated extraction of cfDNA from large volume samples, with the maximum reaction system of 15 mL (Leap-Pure H24 maximum reaction system is 20 mL) and the minimum elution volume of 20 μ L (FFPE block / 1 mL cfDNA).

03 Consumables Anti-Collision Detection

Horizontal motion components are equipped with sensors on both sides. During self-checking or running process, if there are uneven placement of consumables on the cartridge's holders and sample holders, the instrument automatically alarms, effectively avoiding experimental errors and machine damage caused by improper placement of consumables.

04 Reagent Pre-Packaging (Only FFPE)

The reagents can be pre-packaged. Equipped with a prick film structure, no need to tear the film, reducing the manual operation time and effectively avoiding the deviation of experimental results caused by liquid addition errors.

05 Effectively Prevent Pollution

Equipped with one UV lamp and disposable consumables, effectively preventing cross-contamination. With HEPA and fans, it can prevent the leakage of pollutants.

06 Intuitive and Open Software

Visual interface design, user authorization management, the administrator has the highest authority. Open software design, suitable for most magnetic bead nucleic acid extraction reagents on the market.

07 Special Method to Ensure Mixing and Magnetic Absorption Effect

The elution tube is stored separately, with the elution volume ranges of 20~200 μ L, which can be directly taken away and stored without further transfer.

Specification

Basic parameter	Model	Leap-Pure S24 / H24			
	Working principle	Magnetic bead method, magnetic rod type, pipetting type / tip blowing and aspirating mixing			
	Sample	FFPE, whole blood, plasma, stool, sputum, etc			
	Consumable	Leap-Pure S24: 2 mL / 8 mL / 15 mL cartridge Leap-Pure H24: 20 mL cartridge			
	Throughput	1~24			
	Sample processing system	Leap-Pure S24: 1 mL~15 mL Leap-Pure H24: 1 mL~20 mL			
	Elution volume	20~200 μ L [the minimum processing volume of 20 μ L (FFPE block / 1 mL cfDNA)]			
	Stability	CV \leq 5 %			
	Software operation	10-inch color touch screen, windows system			
	Account management	User authorization management, programs and instruments can be customized			
	Instrument port	USB port, LAN port			
	Information management	Support external code scanner			
	Pollution control	Built-in HPEA, UV sterilization			
	Power supply	AC 100~240 V, 50 Hz, rated power 700 W			
	Dimension (W×D×H)	740 mm×640 mm×590 mm			
	Weight	85 kg			
Extraction temp. control	Average heating rate	40 °C~100 °C \geq 0.2 °C/s (at 25 °C)			
	Temp. control range	37 °C~120 °C			
	Temp. accuracy	\pm 1 °C @ 100 °C (at 25 °C)			
	Temp. uniformity	\leq 3 °C @ 100 °C (at 25 °C)			
	Temp. stability	\leq \pm 0.5 °C @ 100 °C (at 25 °C)			
Pipetting block	Pipetting range	20~1000 μ L			
	Pipetting precision	20 μ L: \leq 5 %	100 μ L: \leq 1.5 %	500 μ L: \leq 1 %	1000 μ L: \leq 1 %
	Pipetting accuracy	20 μ L: \pm 8 %	100 μ L: \pm 2 %	500 μ L: \pm 1 %	1000 μ L: \pm 1 %

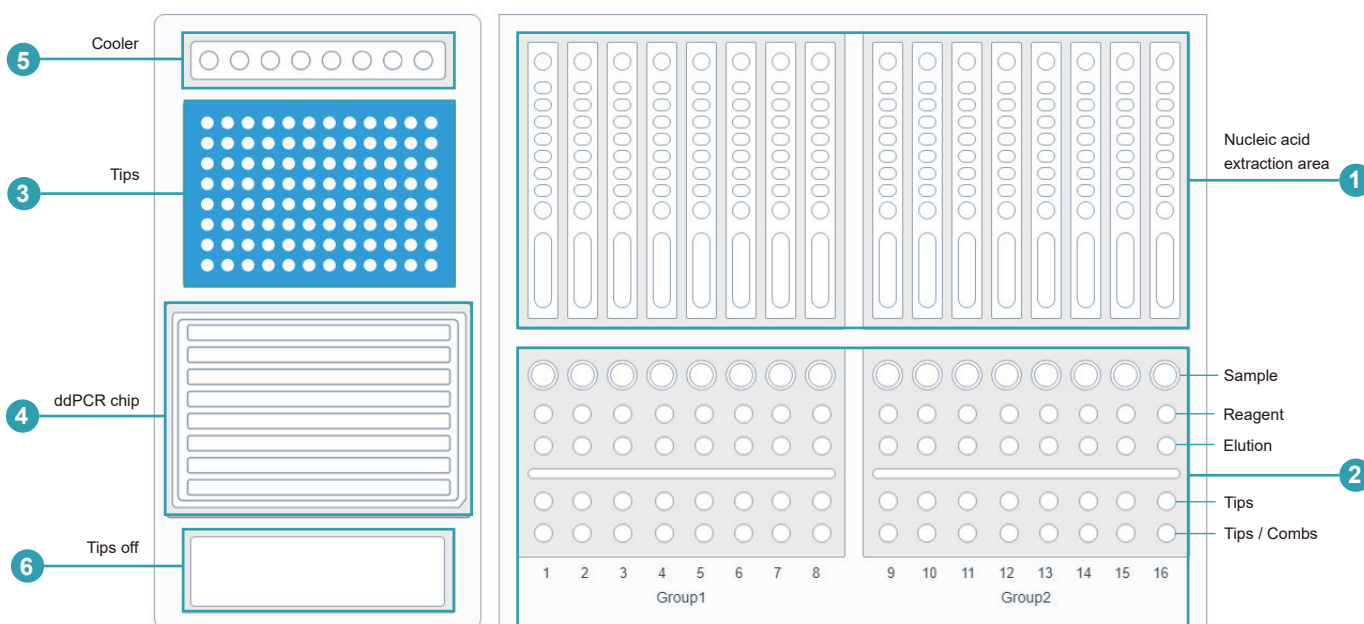
Leap-Pure R16 Nucleic Acid Purification System

Automatic Nucleic Acid Extraction + PCR Set-Up

Leap-Pure R16 uses the same extraction block as Leap-Pure S24, with a sample throughput of 1~16, and supports the extraction of general samples, FFPE block and cfDNA. At the same time, a set of pipetting parts is built in, which is suitable for the set-up of QPCR and digital PCR, and supports the general 96-well PCR plate and various digital PCR chips, which can be freely selected according to the actual situation.



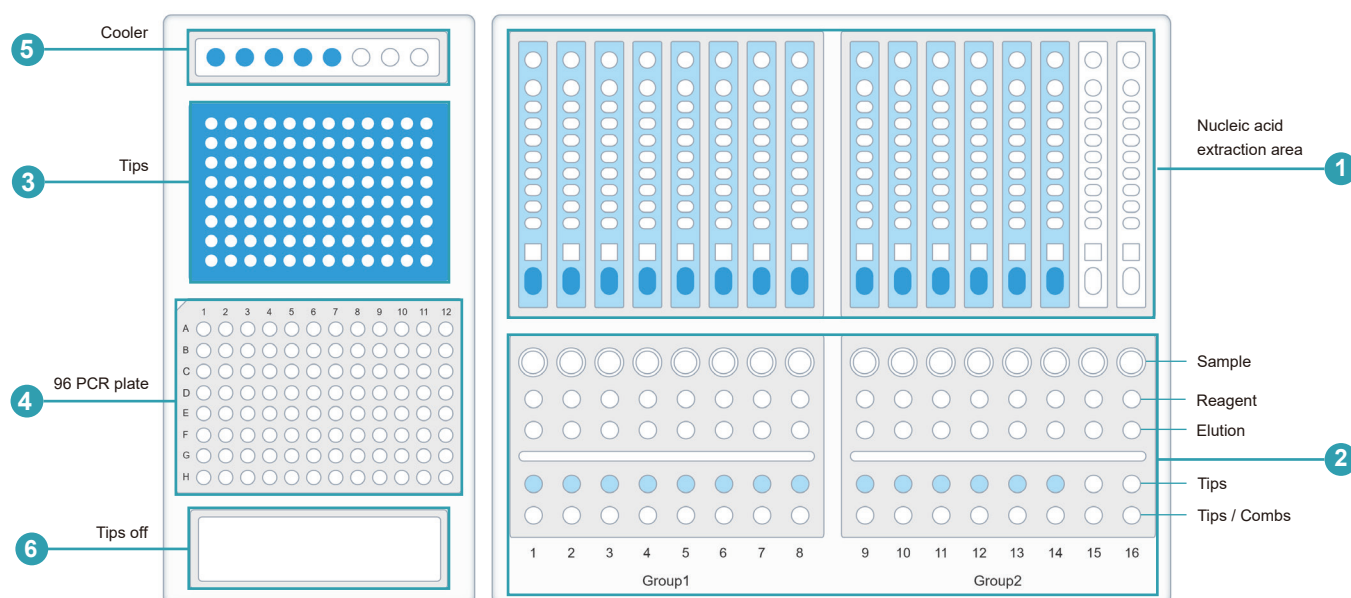
ddPCR Plate Layout



- 1 Nucleic acid extraction area**, mainly used for loading extraction reagents, can be pre-packaged (only FFPE), and the instrument is equipped with puncture structure
- 2 Sample consumable rack**, used for placing various consumables during the extraction process, such as tips, product recovery tube, etc
- 3 Tip area**, used for loading the tips during PCR set-up

- 4 PCR set-up area**, variable structure, supporting 96-well QPCR plate and digital PCR chip loading
- 5 Cooler**, 8×2 / 1.5 mL frozen storage tube is designed for storage of detection reagents in the PCR set-up, and has the function of 4 °C low-temperature storage
- 6 Waste area**, used for storing waste tips during the experiment

QPCR Plate Layout



- 1 Nucleic acid extraction area**, mainly used for loading extraction reagents, can be pre-packaged (only FFPE), and the instrument is equipped with puncture structure
- 2 Sample consumable rack**, used for placing various consumables during the extraction process, such as tips, product recovery tube, etc
- 3 Tip area**, used for loading the tips during PCR set-up
- 4 PCR set-up area**, variable structure, supporting 96-well QPCR plate and digital PCR chip loading, and also suitable for 8-strip PCR tubes and microplates
- 5 Cooler**, 8×2 / 1.5 mL frozen storage tube is designed for storage of detection reagents in the PCR set-up, and has the function of 4 °C low-temperature storage
- 6 Waste area**, used for storing waste tips during the experiment

Features

01 Wide Application Range

Support the nucleic acid extraction of FFPE block, whole blood, plasma, stool, sputum, etc.

02 Pre-Packaged Reagent (Only FFPE)

Support the pre-packaged reagent to be directly on the machine, automatically prick the film, only the sample and magnetic beads need to be added to complete the nucleic acid extraction.

03 Open Software Design

Visual interface design, user authorization management, the administrator has the highest authority. Open software design, suitable for most nucleic acid extraction reagents by magnetic bead method on the market.

04 High Safety

It contains UV lamp sterilization components, and HEPA system can effectively filter to avoid aerosol pollution during the experiment.

05 Support PCR Set-Up

Include the set-up of PCR, QPCR, and ddPCR.

06 Consumables Anti-Collision Detection

Horizontal motion components are equipped with sensors on both sides. During self-checking or running process, if there are uneven placement of consumables on the cartridge's holders and sample holders, the instrument automatically alarms, effectively avoiding experimental errors and machine damage caused by improper placement of consumables.

Specification

Basic parameter	Model	Leap-Pure R16			
	Function	Automatic pipetting and nucleic acid extraction			
	Extraction principle	Extraction method combined with magnetic rods and magnetic combs based on magnetic bead method and pipetting type			
	Throughput	1~16			
	Sample	FFPE, whole blood, plasma, stool, sputum, etc			
	Pre-packaged reagent	Support the pre-packaged reagent to be directly on the machine and automatically prick the film			
	Information management	Support external code scanner			
	Sample processing system	1~15 mL			
	Elution volume	20~200 μ L [the minimum processing volume of 20 μ L (FFPE block / 1 mL cfDNA)]			
	Stability	CV \leq 5 %			
	Software operation	10-inch color touch screen, windows system software			
	Account management	User authorization management, programs and instruments can be customized			
	Instrument port	USB port, LAN port			
	Pollution control	Built-in HPEA, UV sterilization			
	Power supply	AC 220 V, 50 Hz, rated power 450 W			
	Dimension (W×D×H)	740 mm×640 mm×623 mm			
	Weight	105 kg			
Extraction temp. control	Average heating rate	40 °C~100 °C \geq 0.2 °C/s (at 25 °C)			
	Temp. control range	37 °C~120 °C			
	Temp. accuracy	$\leq \pm 1$ °C @ 100 °C (at 25 °C)			
	Temp. uniformity	≤ 3 °C @ 100 °C (at 25 °C)			
	Temp. stability	$\leq \pm 0.5$ °C @ 100 °C (at 25 °C)			
Reagent refrigeration	Temp. control range	4 °C~95 °C			
	Temp. accuracy	$\leq \pm 1$ °C @ 4 °C			
	Temp. uniformity	≤ 1.5 °C @ 4 °C			
Pipetting block 1	Pipetting range	20~1000 μ L			
	Precision	20 μ L: ≤ 5 %	100 μ L: ≤ 1.5 %	500 μ L: ≤ 1 %	1000 μ L: ≤ 1 %
	Accuracy	20 μ L: ± 8 %	100 μ L: ± 2 %	500 μ L: ± 1 %	1000 μ L: ± 1 %

Pipetting block 2	Pipetting range	1~200 μ L			
	Precision	1 μ L \leq 8 %	20 μ L \leq 2 %	100 μ L \leq 1 %	200 μ L \leq 1 %
	Accuracy	1 μ L: \pm 12 %	20 μ L: \pm 2 %	100 μ L: \pm 1 %	200 μ L: \pm 1 %

Ordering Information

Code	Product Description
AS-17250-00	Leap-Pure S24 nucleic acid purification system
AS-17260-00	Leap-Pure R16 nucleic acid purification system
AS-17270-00	Leap-Pure H24 nucleic acid purification system
AS-17251-01	2 mL cartridge
AS-17251-02	8 mL cartridge
AS-17251-03	15 mL cartridge
AS-17271-01	20 mL cartridge
AS-17251-04	Cap
AS-17251-05	1 mL special tip + tip holder
AS-17251-06	Magnetic rod comb + comb holder
AS-17251-07	5 mL sample tube
AS-17251-08	12 mL sample tube
AS-17251-09	1.5 mL storage tube
AS-17251-10	2 mL storage tube
AS-17251-11	2 mL cartridge's holder (made of metal)
AS-17251-12	8 / 15 / 20 mL cartridge's holder (made of metal)
AS-17251-13	2 mL cartridge's holder (made of plastic)
AS-17251-14	8 / 15 / 20 mL cartridge's holder (made of plastic)
	Allsheng® FFPE tissue sample DNA extraction kit
RS-HSCF0101	Nucleic acid extraction or purification reagent (1 mL) 10 T / 24 T / 50 T / 100 T
RS-HSCF0102	Nucleic acid extraction or purification reagent (2 mL) 24 T / 50 T
RS-HSCF0104	Nucleic acid extraction or purification reagent (4 mL) 24 T / 50 T

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