resDetect™ resDNA Sample Preparation Prefilled Kit (Magnetic Beads)

Catalog Number：OPA-R023

Assay Tests: 32 Preps

For Research Use Only. Not For Use in Diagnostic or Therapeutic Procedures

IMPORTANT: Please carefully read this user guide before performing your experiment.

Product Information

The resDNA Sample Preparation Prefilled Kit is designed for extraction of residual DNA (resDNA) from biopharmaceuticals. At the same time, the ACRO Automated Nucleic Acid Extraction System (Cat. No.: OPE-32S) can be used in combination with this kit for rapid and high-throughput extraction of residual DNA.

Before conducting quantitative resDNA experiments, please extract DNA from samples by using this kit. For product information of resDNA quantitation kits, please refer to the corresponding resDNA Quantitation Kit User Guide (ACROBiosyestems.com).

This kit is isolate DNA from pharmaceutical samples using magnetic beads. The residual DNA can be extracted from complex matrices by using this kit, with its unique buffer system and the affinity adsorption of magnetic beads, it effectively removes impurities such as proteins and salt ions. The purified DNA obtained using this kit has high purity and stable quality, making it suitable for downstream applications such as qPCR testing.

Contents and Storage

The kit can be used for 32 preps of DNA extraction from test samples.

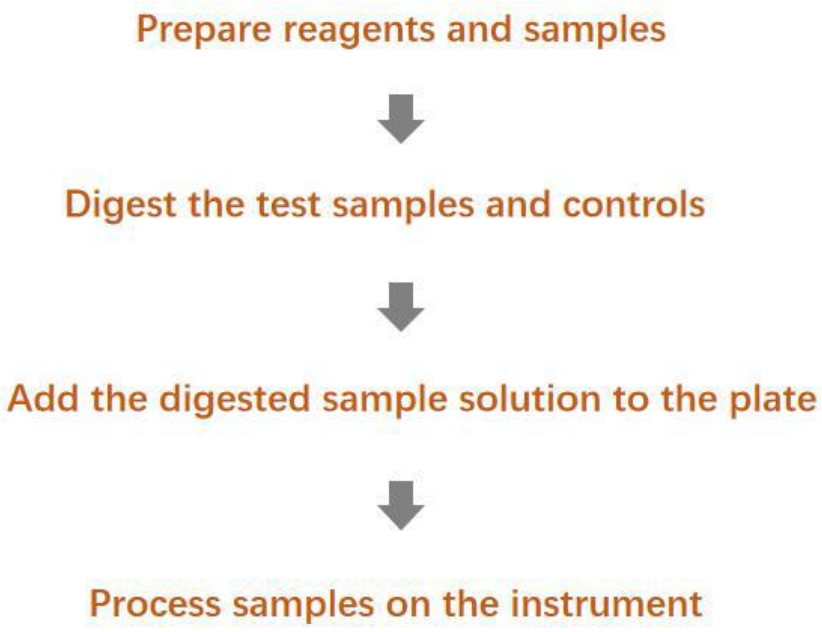
Contents	Amount	Storage
resDNA Sample Preparation Prefilled Plate	16 preps×2	10℃ to 30℃ **Note**: The Proteinase K can be stored in ambient temperature (10 to 30℃). For optimal long-term stability, it is recommended to be stored in 2-8℃.
Buffer NT	0.8 mL	
Buffer LA	0.8 mL	
Proteinase K	2.3 mL	
CR Powder	310 μg	
1×PBS	8 mL	
8-Strip V-Bottom Tip Comb	2 pcs×2	

The unopened kit is stable for 18 months from the date of manufacture if stored at 10°C to 30°C.

Required materials not supplied.

Equipments	Magnetic stand
	Block heater
	Mini centrifuge
	Vortex
	Pipettors: P1000, P200, P100, P10
Reagents	1×PBS (free of Mg^{2+} and Ca^{2+}) or 1×TE (pH7.0~pH8.0) as sample dilution buffer
	DNase/RNase-free ddH_2O
Consumables	Disposable gloves
	Nuclease-free, DNA-free aerosol-resistant pipet tips
	Low DNA-Binding Microcentrifuge Tubes (Nuclease-free, DNA-free)

Workflow



Prepare the reagents and samples.

Prepare the reagents:

1. Preparation of CR Solution: Briefly centrifuge the CR Powder tube, then add 310 µL DNase/RNase-free ddH_2O to the tube, and vortex thoroughly.

   ***NOTE**: The CR Solution should be stored at -20℃, it can be divided into small portions to avoid freeze-thaw cycles.*

Prepare the samples.

Sample dilution (if necessary)

Test samples from the early purification process often contain levels of DNA that are above the highest point of the assay standard curve. You must dilute these samples (from 1:10 up to 1:1,000) before sample preparation.

1. Dilute test samples before DNA extraction with sample dilution buffer. 1×PBS (free of Mg^{2+} and Ca^{2+}) or 1×TE (pH7.0~pH8.0) can also as sample dilution buffer.
2. For the powder testing samples, please resolve the samples with sample dilution buffer.

Sample Pretreatment

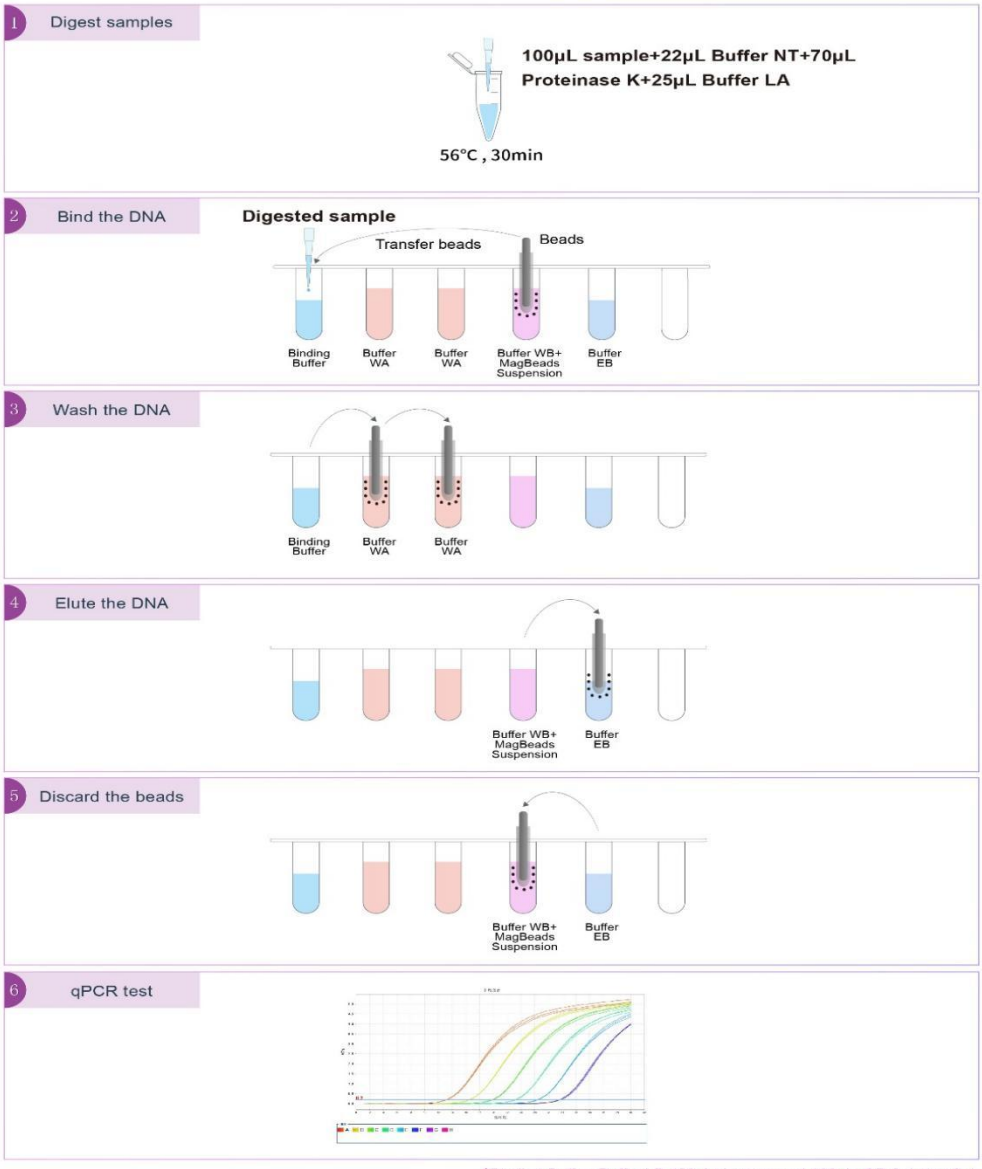
1. Add 100 µL of samples to a low DNA-binding 1.5 mL or 2.0 mL microcentrifuge tube, add **22 µL of Buffer NT**, **70 µL of Proteinase K** and **25 µL of Buffer LA** to each tube, briefly vortex and centrifuge
2. Incubate at 56°C for 30 mins on a block heater, with vortexing at 1000 rpm. If available, set heater lid to 70°C.
3. Briefly centrifuge, and cool samples to room temperature.

Prepare the reagent plate

1. Take out the prefilled plate from the resDNA sample preparation Kit, briefly centrifuge, remove the sealing film.
2. Add **3 μL CR Solution** into the wells of columns 1 and 7.

Automated Extraction Process

The following steps applies for ACRO Automated Nucleic Acid Extraction System (Cat. No. OPE-32S)



Automated Extraction Workflow

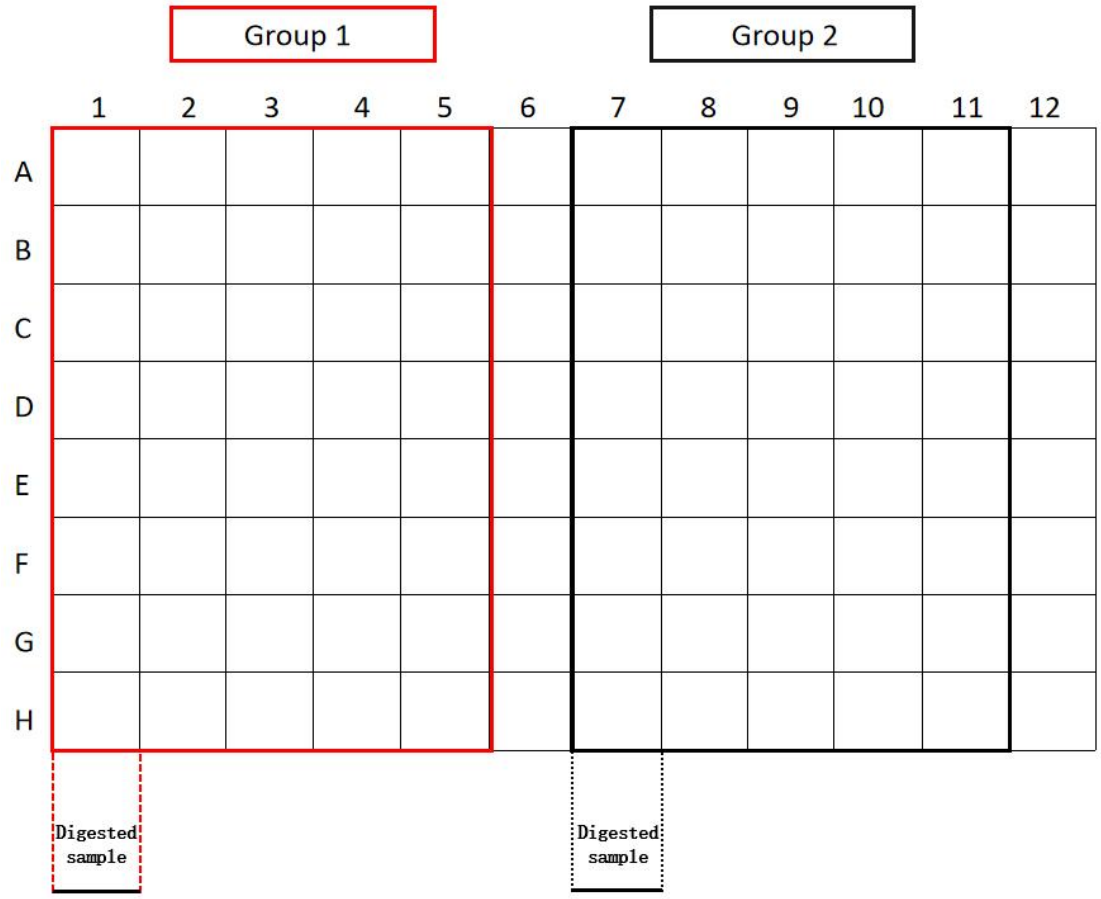
Prepare the automated nucleic acid extraction system:

1. Clean the working chamber with 75% ethanol before use.
2. Close the door, set the UV lamp turn-on time for 15 minutes.

Add Samples and Run the Procedure

1. After the sample digestion is finished, transfer all the digested samples in the tubes to the wells in columns 1 and 7 of the prefilled plate (**The CR Solution should be added in columns 1 and 7 before use.**).

Note: Please pay attention to use the plate in the correct direction and add reagents in the right columns of the prefilled plate.



Sample layout in prefilled plate

2. Put the plate on a limited position, insert the 8-Strip V-Bottom Tip Combs, close the door and run the procedure **OPA_R005** (The procedure is saved in the **ACRO automated nucleic acid extraction system OPE-32S.**).

Note: Please check the plate is placed correctly and the 8-Strip V-Bottom Tip Combs

are inserted in before running.

3. After the extraction procedure running is finished, the instrument will make a tick-tick sound, click “finish” on the screen. Take out the 8-Strip V-Bottom Tip Combs firstly, and then take out the plates, transfer the eluted DNA in columns 5 and 11 to new 1.5 mL low DNA-binding microcentrifuge tubes or PCR tubes.

Note: Store the eluted DNA for up to 24 hours at 2°C to 8°C or for long time at -20°C. Multichannel pipettes are recommended for transferring the eluted DNA quickly.

4. Clean the working chamber with 75% ethanol, close the door and set the UV lamp turn-on time for 30 minutes.

Note: The interval between extraction experiments is recommended above 30 minutes to avoid cross contamination.