Mag Beads PCR Product Purification Kit

【Product Name】

Mag Beads PCR Product Purification Kit

【Package Specifications】

10ml/box（Art.No.SP401-10）；50ml/box（Art.No.SP401-100），

100ml/box（Art.No.SP401-100）；150ml/box（Art.No.SP401-150）

【Intended Use】

This product is suitable for the purification of PCR products, enabling the simple and rapid recovery of PCR products greater than 200bp. It is also effective in removing impurities such as primer dimers, dNTPs, inorganic salts, and proteins. The purified products obtained with this reagent kit can be directly used in downstream molecular experiments such as sequencing, PCR templates, enzyme digestion, and more.

【Main Components】

Components	SP401-10	SP401-50	SP401-100	SP401-150
Binding buffer	10mL	50mL	100mL	150mL
Bead suspension	1.25mL	6.25mL	12.5mL	18.75mL

【Storage Conditions and Shelf Life】

The magnetic bead suspension should be stored at 2-8℃.The shelf life is 12 months.

【Additional Reagents and Equipment】

User-provided Reagents：80% ethanol

User-provided equipment：Nucleic acid extractor 、Centrifuge tubes or deep-well plates、Vortex mixer、Pipette、Constant temperature shaker

【Precautions】

1．For the magnetic bead suspension, avoid freezing and centrifugation. Thoroughly vortex before use.

2．Before use, check for any salt precipitation in the binding solution. If present, redissolve at 37°C.

【Single-tube Operating Steps】

1．Reagent Preparation: Thoroughly mix the magnetic bead suspension, add it all to the binding solution, shake well, and store at 2-8°C. The mixture is stable for 7 days. Alternatively, prepare a fresh mixture by combining binding solution and magnetic bead suspension at an 8:1 (V/V) ratio, according to usage needs.

2．Binding: Add three times the volume of the prepared reagent mixture to the PCR product sample to be purified. Vortex for 10s, shake at room temperature for 1min.

3．Magnetic Separation: Place the sample on a magnetic stand, perform magnetic capture, wait for the supernatant to clear, and discard the supernatant.

4．Wash 1: Add 400μL 80% ethanol, vortex for 40s, and perform magnetic separation.

5．Wash 2: Repeat step 4 once.

6．Ethanol Removal: Keep the sample on the magnetic stand, let it stand for about 5min for ethanol evaporation. Note: Avoid excessive drying during ethanol removal to prevent a decrease in purification efficiency.

7．Elution: Add 40-100μL pure water to the sample, vortex to evenly disperse the magnetic beads in the elution solution, shake at room temperature for 5min (or heat at 55°C with constant shaking for 5min).

Note: Heating and shaking can improve elution efficiency.

8．Transfer of Product: Place the centrifuge tube on the magnetic stand for 1min, transfer the cleared supernatant to a new centrifuge tube after complete bead adsorption, and store at -20°C for future use.

【Automated Extraction - 16/32 Channel Nucleic Acid Extractor Operation Steps】

1. On-machine preparation

In a 96-well plate, add the specified amounts into each corresponding well according to the table below. Process 16/32 samples simultaneously.

Position	1、7	2、8	3、9	6、12
Reagent	The bead and reagent mixture (three times the sample volume)	80% Ethanol（500μL）	80% Ethanol（400μL）	eluant（40-100μL）

Note: Magnetic Bead Reagent Mixture: Refer to step 1 in the [Single-tube Operating Steps] for reagent preparation, and mix to prepare the magnetic bead reagent mixture.

2. On-machine preparation

Sequentially add the purified PCR product samples to the wells of the first and seventh columns of the 96-well plate.

3. On-Machine Extraction

Place the prepared 96-well sample plate into the nucleic acid extractor (QP-AUT-32) or a similar type of nucleic acid extractor, insert the magnetic rod sleeve, open the instrument's operating program, select the corresponding procedure, click "Run" to initiate the extraction.

4. Elution Transfer

After the instrument operation is complete, transfer the elution from the wells in the 6th and 12th columns of the deep well plate to new centrifuge tubes free of nucleases.

The parameters for the 32-channel nucleic acid extractor (QP-AUT-32) program are set as follows

Step	Site	Name	Waiting time(min)	Mixing time（min）	Suction time(s)	Volume (μL)	Mixing velocity	Ttemperature
1	1	Combine	0	2	50	100	2	OFF
2	2	80% ethanol	0	1	50	400	3	OFF
3	3	80% ethanol	0	1	50	400	3	OFF
4	6	Elution	2	5	60	100	2	OFF
5	3	Abandon beads	0	1	0	400	2	OFF

【Automated Extraction - 96 Channel Nucleic Acid Extractor Operation Steps】

1. On-machine preparation

In a 96-well plate, add the specified amounts into each corresponding well according to the table below. Process 96 samples simultaneously.

Position	1	2	3	6
Reagent	The bead and reagent mixture (three times the sample volume)	80% Ethanol（500μL）	80% Ethanol（400μL）	eluant（40-100μL）

Note: Magnetic Bead Reagent Mixture: Refer to step 1 in the [Single-tube Operating Steps] for reagent preparation, and mix to prepare the magnetic bead reagent mixture.

2. Filling

Add the PCR product sample to be purified to the 96-well plate at position 1 (or position 7) in turn.

3. On-Machine Extraction

Place the prepared 96-well sample plate into the nucleic acid extractor (QP-AUT-96) or a similar type of nucleic acid extractor, insert the magnetic rod sleeve, open the instrument's operating program, select the corresponding procedure, click "Run" to initiate the extraction.

4. Elution Transfer

After the completion of the automated program, seal and store the elution product, or transfer it to a clean PCR plate free of nucleases, and store at -20°C, or use directly for downstream experiments.

The parameters for the 96-channel nucleic acid extractor (QN-AUT-96) program are set as follows

Procedure	Step 1	Step 2	Step 3	Step 4	Step 5
Station	1	2	3	6	3
Waiting time	00:00:00	00:00:00	00:00:00	00:02:00	00:00:00
Mixed model	2	3	3	2	2
Mixing time	00:02:00	00:01:00	00:01:00	00:05:00	00:00:30
Suspend	No	No	No	No	No
Magnetic suction time	00:01:00	00:01:00	00:01:00	00:01:00	00:00:00
Volume	100μL	400 μL	400 μL	100μL	400 μL
Temperature	/	/	/	/	/

【Basic Information】

Version Number: 1.1

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