TGuide S32 Magnetic Blood Spots DNA Kit

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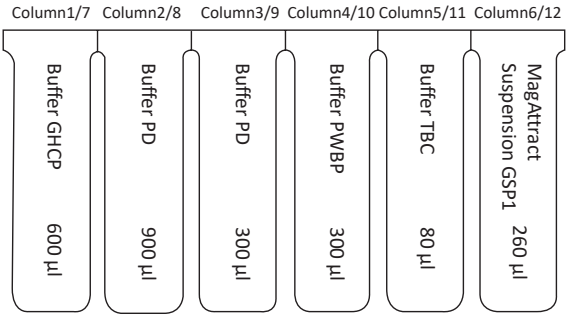
Cat.no. 4992990

Kit Contents

Contents	4992990 (96 preps)
Buffer GAS	50 ml
Blood Spots DNA Reagents	6 plates
S32 Tip Comb	12 sets
Proteinase K	1.5 ml
Handbook	1

Blood Spots DNA reagent components



Storage

This kit can be stored at room temperature (15-25°C) under dry condition for 12 months. For longer storage, we suggest storing the kit at 2-8°C. If a precipitate has formed in Buffer under 2-8°C, please place the buffer at room temperature or warm at 37°C for 10 min to dissolve the precipitate.

Introduction

The kit adopts magnetic beads with unique separation function and a unique buffer system to separate and purify high-quality genomic DNA from blood spots. The unique embedded magnetic beads have strong affinity for nucleic acid under certain conditions, and when the conditions change, the magnetic beads will release adsorbed nucleic acid, thus achieving the purpose of fast separation and purification of nucleic acid.

The product is perfectly matched with TGuide S32 Automated Nucleic Acid Extractor. Magnetic beads are adsorbed, transferred and released by special magnetic rods, thus realizing the transfer of magnetic beads and nucleic acids. The whole experimental process is safe and convenient. The extracted genomic DNA fragments are large in size, with high purity and stable and reliable quality.

The DNA purified by the kit is suitable for various conventional operations, including enzyme digestion, PCR, library construction, Southern blot and other experiments.

Features

Easy and fast: Ultrapure genomic DNA can be obtained within 37 min.

Ultrapure: The obtained DNA has high purity and can be directly used in molecular biological experiments such as PCR, enzyme digestion, hybridization, etc.

Protocol

1. Preparation of blood spot DNA extraction reagents

Take out the vacuum package prepackaged 96-deep-well plate from the kit, mix it upside down for several times to resuspend the magnetic beads, remove the vacuum package. Gently shake the 96-deep-well plate to concentrate the reagent and magnetic beads to the bottom of the 96-deep-well plate (or centrifuge at 500 rpm for 1 min by the plate centrifuge). Carefully tear off the aluminum foil sealing film before use to avoid vibration of the 96-deep-well plate and prevent liquid spillage.

2. Sample treatment

2.1 Add 3-10 blood spot samples with a diameter of 3 mm into a 1.5 ml centrifuge tube, and add 200-400 µl Buffer GAS and 15 µl Proteinase K.

Blood spots slide number	Volume of Buffer GAS
3	200 µl
5	300 µl
10	400 µl

Note: When the number of samples is relatively large, the mixture of Buffer GAS and Proteinase K can be prepared in proportion. It's better to prepare the mixture when using.

2.2 After vortex for 10 sec, put the tube in a thermostatic oscillator preheated to 75°C and lyse at 900 rpm for 45 min.

3. TGuide S32 Automated Nucleic Acid Extractor operation steps

3.1 Add 200-300 µl of the above treated sample solution to the 1st and 7th columns of 96-deep-well plate, and place the 96-deep-well plate on the 96-deep-well plate base of TGuide S32 Automated Nucleic Acid Extractor.

3.2 Insert the S32 Tip Comb into the magnetic rod comb slot of the TGuide S32.

3.3 Run the automatic tissue extraction program of TGuide S32 Automated Nucleic Acid Extractor

Turn on the supporting Windows Pad, double-click the "Purification" icon to enter the TGuide S32 control program, click "Run", select the "* DP608-Blood Spot" experimental program file and click the "Run" button in the lower right corner to start the experiment. The specific experimental procedures are shown in the following table.

Step	Slot	Name	Waiting time (min)	Mixing time (min)	Adsoption time (sec)	Mixing speed	Volume (µl)	Temper-ature (°C)	Strong adsorption mode
1	1	Lysis	0	2	0	Fast	900	--	--
2	6	Beads transfer	0	0.5	60	Fast	300	--	Yes
3	1	Beads adsorption	0	10	20	Fast	900	--	Yes
4	2	Washing 1	0	3	20	Fast	900	--	Yes
5	3	Washing 2	0	3	20	Fast	300	--	Yes
6	4	Washing 3	0	3	20	Fast	300	--	Yes
7	5	Elution	5	5	120	Fast	80	75	Yes
8	6	Beads disposal	0	0.5	0	Fast	300	--	--

3.4 Upon the completion of the automatic program, pipette out DNA sample in the 5th and 11th columns of the 96-deep-well plate and store under appropriate conditions.

Determination of DNA Concentration and Purity

The size of the obtained genomic DNA fragment is related to factors such as sample storage time and shearing force during operation. The concentration and purity of the obtained DNA fragments can be detected by agarose gel electrophoresis and ultraviolet spectrophotometer.

DNA should have a significant absorption peak at OD_{260}, with OD_{260} value of 1 equivalent to about 50 μg/ml double stranded DNA and 40 μg/ml single stranded DNA.

The ratio of OD_{260}/OD_{280} should be 1.7-1.9. If deionized water is used instead of elution buffer, the ratio will be low, because the pH value and the presence of ions will affect the light absorption value, but it does not mean the purity is low.