TIANGEN®

TGuide Smart DNA Purification Kit

For recovery of DNA from PCR product or agarose gels.

TECHNICAL MANUAL

Cat. no. GDP642-DE

Note: To use the TGuide Smart DNA purification Kit, you must have the TGuide Smart DNA purification Kit (program no. DP642) installed on the TGuide S16/S32 pro Nucleic Acid Extractor.

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This product is for scientific research use only. Do not use in medicine, clinical treatment, food or cosmetic

Table Contents

TGuide Smart DNA Purification Kit

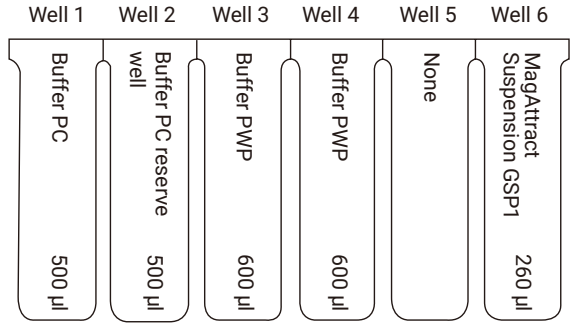
Cat. no. GDP642-DE

Kit Contents

	Contents	GDP642-DE (48 preps)
GDP642-DH	DNA Purification Reagents	48
	Buffer TB	15 ml
OSE-TGA-S36	TGuide Smart Tip Comb	12 pcs

Note: OSE-TGA-S36 is shipped and packaged separately

DNA purification reagent composition



Storage condition

The kit can be stored under dry conditions at room temperature (15~30°C) for 12 months.

Product

This product adopts magnetic beads and a unique buffer system to recover DNA quickly and efficiently from TAE/TBE gel. The uniquely embedded magnetic beads have a strong affinity for nucleic acid under certain conditions. When the conditions are changed, the magnetic beads can release the absorbed nucleic acid to rapidly separate and purify it. The kit can be used to remove impurities such as protein, other organic compounds, inorganic ions and oligonucleotide primers. It can recover 100 bp~15 kb DNA fragments, with a recovery rate of more than 80%.

The DNA recovered by this kit can be used for a series of common downstream applications, including digestion, PCR, sequencing, library screening, ligating, transformations and other experiments.

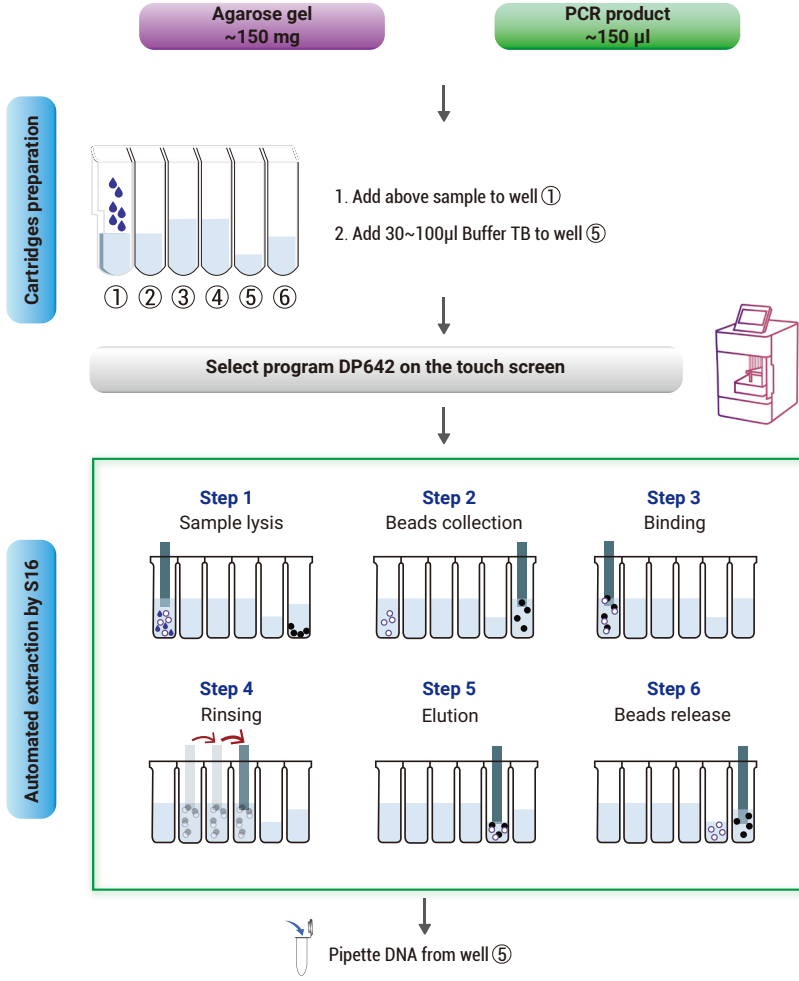
Features

- **Fast:** Ultra-pure DNA can be obtained by running TGuide S16 for 40 minutes.
- **Diversity:** Single and double strand DNA fragments and circular plasmid DNA.
- **Efficiency:** Unique magnetic beads and specialized buffer make it possible to recover the largest amount of the target DNA of high purity.

Notes

1. When cutting the gel, UV illumination time should be controlled to avoid damage to DNA.
2. TAE electrophoresis buffer is optimal if the next step is more demanding.
3. The recovery rate is affected by the initial DNA input amount and elution volume. Lower initial DNA input amount and elution volume will lead to lower recovery rate.

Operational steps



1. Prefilled single sample cartridge

1.1 Take out a prefilled single sample cartridge and invert it to re-suspend the magnetic beads; Gently shake to concentrate the reagent and magnetic beads to the bottom of the cartridge. Before use, remove sealing film carefully to avoid liquid spatter or spills.

1.2 Add proper volume (30~100 μl) of elution buffer TB to the 5th well of the cartridge.

Note: That the less elution volume is used, the higher nucleic acid concentration can be obtained, but the lower total yield will be. So we recommend 60 μl as the optimal elution volume. The volume could be adjusted if there is any special requirement.

2. Sample preparation

2.1 Gel recovery

Cut about 150 mg single target DNA band from the agarose gel with a clean blade (remove extra gel as much as possible). Proceed to 3.1.

2.2 Purification of PCR product

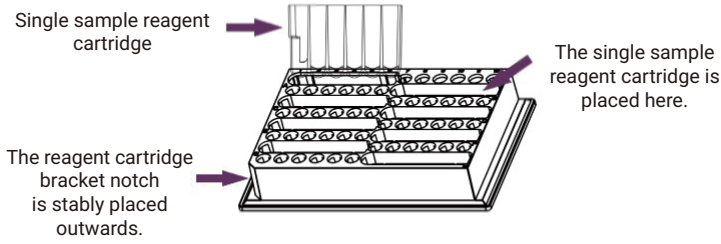
Dilute the PCR product with ddH_2O(not provided) to 150 μl. Proceed to 3.1.

Note: If the gel slice is more than 150 mg or the volume of PCR product is more than 150 μl, add 3 times volume of Buffer PC (from the 2nd well), and the total volume of the solution in the 1st well should not exceed 900 μl.

3. Operation steps of TGuide S16 Nucleic Acid Extractor

3.1 Add the above sample to the 1st well of the cartridge. Put cartridges on the reagent tank bracket of TGuide S16 Nucleic Acid Extractor.

3.2 Place the reagent tank bracket on the plate base in the TGuide S16 Nucleic Acid Extractor. Insert the Tip Combs into the slots to ensure that they are well connected and firmed.



3.3 If you use the TGuide S16 Nucleic Acid Extractor, select the corresponding program DP642 file on the touch screen, click the icon in the lower right corner of the screen, or click the "RUN" button at the bottom of the screen to start the experiment.

3.4 At the end of the automated extraction process, take the DNA out of the 5 th well of the cartridge and store it under appropriate conditions. Sample reagent cartridge and tip comb are for single use only.

Appendix

1. Program

The extraction process of S16 provided for DP642 is shown in the following table:

Step	Hole site	Step name	Mix time (min)	Mix speed	Dry time (min)	Volume (μl)	Temp. (°C)	Segments	Every time (sec)	Magneti-zation time(sec)	Cycle	Magnet speed (mm/s)
1	1	Lysis	15	3	0	650	60	1	0	0	0	--
2	6	Collect beads	0.5	8	0	260	--	5	3	0	2	2.5
3	1	Bind	5	8	0	650	--	5	3	0	2	2.5
4	3	Wash 1	2	7	0	600	--	5	3	0	2	2.5
5	4	Wash 2	2	7	6	600	--	5	3	0	2	2.5
6	5	Elution	5	8	0	50	56	5	5	0	2	2.5
7	6	Discard	0.5	5	0	260	--	1	0	0	0	--

2. Related Products

Instrument and Accessories

Product name	Packing Size	Cat.No
TGuide S16 Nucleic Acid Extractor	1 set	OSE-S16-AM
TGuide Smart Magnetic Tip Comb	200 pieces/box	OSE-TGA-S03
TGuide Single Sample Tank Bracket	5 pieces/box	OSE-TGA-S32

TGuide Smart Reagent Kits

Product name	Packing Size	Cat.No
TGuide Smart Magnetic Plant DNA Kit	48 preps	GDP607-DE
TGuide Smart Soil /Stool DNA Kit	48 preps	GDP612-DE
TGuide Smart Magnetic Tissue DNA Kit	48 preps	GDP602-DE
TGuide Smart Magnetic Plant RNA Kit	48 preps	GDP662-DE
TGuide Smart Blood/Cell/Tissue RNA Kit	48 preps	GDP661-DE
TGuide Smart Blood Genomic DNA Kit	48 preps	GDP601-DE
TGuide Smart Viral DNA/RNA Kit	48 preps	GDP604-DE
TGuide Smart Universal DNA Kit	48 preps	GDP605-DE