Urine DNA Isolation Kit

Norgen's Urine DNA Isolation Kit provides a fast, reliable and simple procedure for isolating DNA from as low as 50 µL of urine (See Application Note). DNA found in urine can be divided into 2 basic categories. The larger species, genomic-DNA (gDNA), is generally greater than 1 kb in size, and appears to be derived mainly from exfoliated cells (See Figure on page 6). The second species is smaller, generally between 150 and 250 bp (apoptotic-DNA), and derives, at least in part, from the circulation. The second species is also considered as an RNA/DNA hybrid as reported by Halicka et al. (2000). Both types of DNA can be isolated reliably using this kit. Typical yields of DNA isolated will vary depending on the input sample, with more concentrated samples tending to yield more DNA. Preparation time for a single sample is about 30 minutes. The purified urine DNA is compatible with most molecular biological applications such as PCR, q-PCR, Southern Blot, etc.

Kit Specifications			
Volume of Urine Processed	1.75 mL	Size of DNA Purified	Large (>1kb) and small (150-250 bp)
Average Yield	Up to 50 ng*	Time to Complete 10 Purifications	30 minutes (Plus a 1 hour incubation)

* Urine DNA Yield may vary depending on sample input volume, time of sample collection, age, sex, diet, etc.

Urine DNA Isolation Kit Benefits	
Fast processing	Rapid spin-column format allows for the processing of multiple samples in 30 minutes (plus a 1 hour incubation).
Isolation of both types of urine DNA	Isolate both high molecular weight DNA (greater than 1 kb in size; mostly cell associated) and the smaller DNA (150 - 250 bp; derived from the circulation) (Figure 1).
High quality DNA	Removal of highly concentrated salts, metabolic wastes and proteins provides high quality, concentrated DNA to be used in various downstream applications.
Recovered DNA is suitable for downstream applications	Purified DNA is fully compatible with PCR analysis (Figure 2) and Southern Blot analysis.

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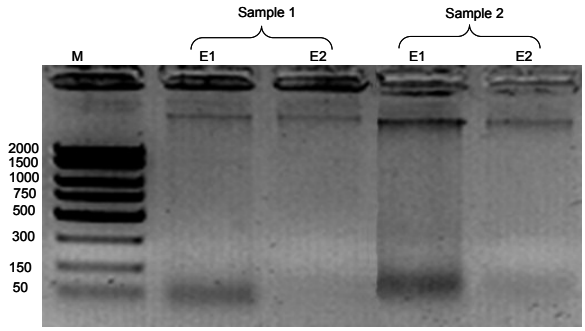

Figure 1. A Typical Agarose Gel Showing Total Urinary DNA Isolated from 1.5 mL of Urine using Norgen's Urine DNA Isolation Kit. Total urinary DNA was isolated from two different 1.5 mL urine samples. The proteins were first eluted into 100 µL of Elution Buffer (E1), followed by a second elution using 75 µL of Elution Buffer (E2). The purified urine DNA was then run on a 1.2% agarose gel, and each lane contains one tenth from each elution (i.e. E1: 10 µL out of 100 µL were loaded on the gel, E2: 7.5 µL out of 75 µL were loaded on the gel). Lane M is 10 µL of Norgen's FastRunner DNA Ladder. Both the large and small urine DNA species can be seen on the gel.

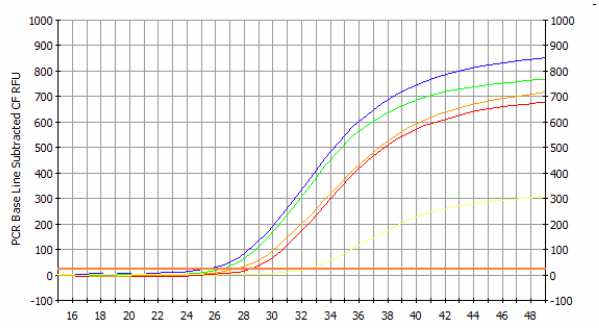

Figure 2. Isolation and Detection of DNA. Total genomic DNA was isolated from two different 1.75 mL urine samples using Norgen's Urine DNA Isolation Kit, and eluted into 2 separate elutions. The isolated DNA was subjected to Real-Time PCR using human 5S gene primers to detect the genomic DNA. The DNA could be success detected and amplified in all cases for urine sample 1 (Elution 1: Red line, Elution 2: Green line) and urine sample 2 (Elution 1: blue line, Elution 2: orange line). The yellow line corresponds to the No Template Control.

Urine DNA Isolation Kit Contents

1. Binding Solution K
2. Proteinase K in Storage Buffer
3. Pronase in Storage Buffer
4. Solution WN
5. Wash Solution D
6. Wash Solution B
7. Elution Buffer B
8. Micro Spin Columns
9. Collection Tubes
10. Elution tubes (1.7 mL)
11. Product Insert

Shipping Conditions

The Urine DNA Isolation Kit is shipped at room temperature.

Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- Micropipettors
- 96 – 100% ethanol
- Molecular biology grade water
- 15 mL tubes
- 65°C incubator

Storage Conditions

All buffers should be kept tightly sealed and stored at room temperature (15-25°C) for up to 1 year without showing any reduction in performance. The kit contains ready-to-use Proteinase K and Pronase solutions, which are dissolved in a specially prepared storage buffer. The Proteinase K and the Pronase are stable for up to 1 year after delivery when stored at room temperature.

Cat #	Description	Quantity
18100	Urine DNA Isolation Kit	50 preps

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