

## Urine DNA Isolation Kit

Norgen's Urine DNA Isolation Kit provides a fast and simple procedure for isolating DNA from 2 mL of urine. DNA found in urine can be divided into 2 basic categories. The larger species is generally greater than 1 kb in size, and appears to derive mainly from cells shed into the urine from the urinary tract. The second species is smaller, generally between 150 and 250 bp, and derives at least in part from the circulation. Both types of urine DNA can be isolated using this kit.

With Norgen's Urine DNA Isolation Kit, purification is based on spin column chromatography using Norgen's proprietary resin as the separation matrix. The kit allows for the removal of highly concentrated salts, metabolic wastes and proteins, to allow for the isolation of high quality, concentrated DNA. The purified urine DNA is compatible with PCR and Southern Blot analysis.



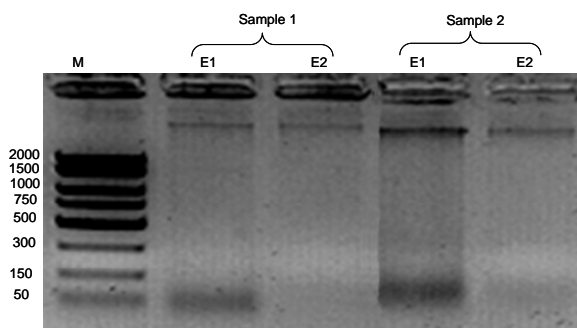
### Kit Specifications

Volume of Urine Processed	2 mL	Size of DNA Purified	Large (>1kb) and small (150-250 bp)
Average Yield	Up to 50 ng	Time to Complete 10 Purifications	40 minutes

### Urine DNA Isolation Kit Benefits

Fast processing	Rapid spin-column format allows for the processing of multiple samples in 40 minutes (including a 30 minute 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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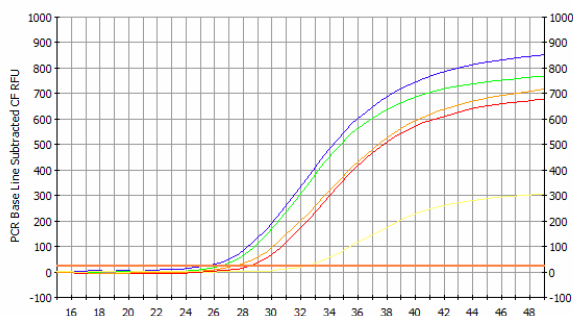
**Figure 1. A Typical Agarose Gel Showing Total Urinary DNA Isolated from 1.5 mL of Urine using Norgen's Urine DNA Isolation Kit.** Total urinary DNA was isolated from two different 1.5 mL urine samples. The proteins were first eluted into 100  $\mu$ L of Elution Buffer (E1), followed by a second elution using 75  $\mu$ L 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  $\mu$ L out of 100  $\mu$ L were loaded on the gel, E2: 7.5  $\mu$ L out of 75  $\mu$ L were loaded on the gel). Lane M is 10  $\mu$ L of Norgen's FastRunner DNA Ladder. Both the large and small urine DNA species can be seen on the gel.

### Urine DNA Isolation Kit Contents

1. Binding Solution I
2. Binding Solution II
3. Pronase in Storage Buffer
4. Proteinase K in Storage Buffer
5. Elution Buffer
6. Wash Solution I
7. Wash Solution II
8. Micro Spin Columns
9. Collection Tubes
10. Elution Tubes
11. Product Insert

### Shipping Conditions

The Urine DNA Isolation Kit is shipped at room temperature.



**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 quantitative PCR using human 5S gene primers to detect the genomic DNA. The DNA could be successfully 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.

### 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