

Urine DNA Isolation 96-Well Kit (Slurry Format)

Norgen's Urine DNA Isolation 96-Well Kit (Slurry Format) provides a fast, reliable and simple procedure for high throughput isolation of DNA from 10 mL urine samples. DNA found in urine can be divided into 2 basic categories. The larger species (genomic-DNA) is generally greater than 1 kb in size, and appears to be derived mainly from cells shed into the urine. 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. Both types of DNA can be isolated reliably using this kit. This kit is designed to process 96 samples of 10 mL of urine each.



With Norgen's Urine DNA Isolation 96-Well Kit (Slurry Format), purification is based on using Norgen's proprietary resin as the separation matrix. Briefly, urine samples are mixed with Binding Buffer containing our separation matrix and are lysed using Proteinase K and Pronase. A Binding Buffer is then added to the lysate, and the slurry is then loaded onto a provided 96-well filter plate. Under these conditions only the DNA will bind while the contaminating salts, metabolic wastes and proteins are removed to allow for the isolation of high quality, concentrated DNA. Typical yields of DNA isolated will vary depending on the input sample, with more concentrated samples tending to yield more DNA. Preparation time for 96 samples is less than 1 hour. The purified urine DNA is compatible with PCR, qPCR and Southern Blot analysis.

Kit Specifications			
Urine Input Volume	10 mL	Time to Complete 96 Purifications	< 1 hour
Elution Volume	1st Elution 150 μ L 2nd Elution 100 μ L	Size of Urine DNA Purified	Large (>1kb) and small (150-250 bp)

Urine DNA Isolation 96-Well Kit (Slurry Format) Benefits

Fast processing	Rapid format allows for the processing of 96 samples in under 1 hour.
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, qPCR, DNA fingerprinting and Southern Blot analysis.

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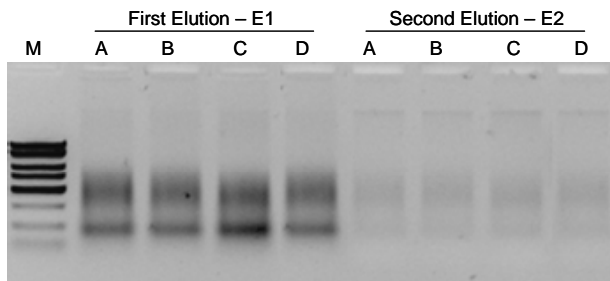


Figure 1. Typical Agarose Gel Showing Total Urinary DNA Isolated from Four Different Urine Samples

Total urinary DNA was isolated from 10 mL of four different urine samples using Norgen’s Urine DNA Isolation 96-Well Kit (Slurry Format), and the DNA was eluted into 2 separate elutions. The purified urine DNA was then loaded onto a 1.2% agarose gel. Each lane shows one tenth from each elution. It can be seen that the first elution contains mostly the free circulating DNA whereas the second elution contains mainly the cellular DNA isolated from the exfoliated cells that may be present in any urine sample. Lane M is 10 µL of Norgen’s FastRunner DNA Ladder.

Urine DNA Isolation 96-Well Kit (Slurry) Contents

1. Binding Solution I
2. Proteinase K
3. Pronase
4. Binding Solution II
5. Wash Solution I
6. Wash Solution II
7. Elution Buffer
8. 96-Well Filter Plate
9. Adhesive Tape
10. 96-Well Collection Plate
11. 96-Well Elution Plates
12. Product Insert

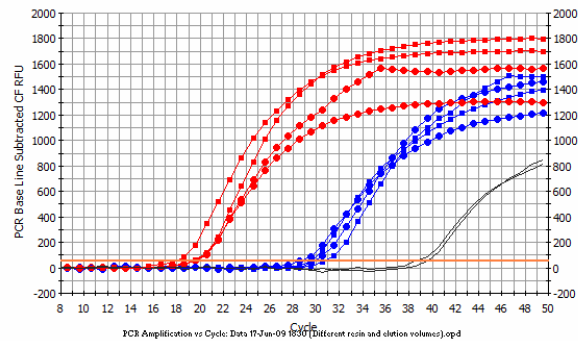


Figure 2. Isolation and Detection of DNA from Different Urine Samples.

Total genomic DNA was isolated from 10 mL urine samples using Norgen’s Urine DNA Isolation 96-Well Kit (Slurry Format), and the DNA was eluted into two separate elutions of 150 µL (E1) and 100 µL (E2). The isolated DNA was then subjected to quantitative PCR using human 5S gene primers to detect the genomic DNA using the iQ SYBR Green Supermix (BioRad, #170-8882). The red lines in the PCR baseline graph above correspond to the DNA isolated in the second elution; the blue lines correspond to the DNA isolated in the first elution whereas the black lines correspond to negative controls. The genomic DNA could be detected in all cases.

Customer-Supplied Reagents and Equipment

- Vacuum manifold or centrifuge
- Centrifuge with a swinging bucket rotor
- Micropipettors
- 96 – 100% ethanol
- 15 mL tubes
- 60°C incubator

Shipping Conditions

The Urine DNA Isolation 96-Well Kit (Slurry Format) is shipped at room temperature.

Cat #	Description	Quantity
27100	Urine DNA Isolation 96-Well Kit (Slurry Format)	96 preps (1 plate)