

## Urine DNA Isolation Kit for Exfoliated Cells or Bacteria

Norgen's Urine DNA Isolation Kit for Exfoliated Cells or Bacteria is designed for the rapid isolation of either: 1) human genomic DNA from exfoliated cells that have been shed into the urine from the urinary tract; or 2) bacterial genomic DNA from urine samples. The kit allows for the isolation of DNA from 1 to 50 mL of urine. The genomic DNA isolated from exfoliated cells can be used in a number of diagnostic and research applications including the diagnosis and monitoring of bladder, kidney, or other urinary-tract cancers. Bacterial genomic DNA from both human urine samples and urine samples from animals can be isolated with this kit in order to study the levels and types of bacteria that are present. The kit allows for the isolation of genomic DNA from both Gram negative and Gram positive bacteria, including *E. coli*, *Proteus spp.*, *Klebsiella spp.*, *Enterobacter spp.*, *Serratia spp.*, *Pseudomonas spp.*, *Clostridial ssp.* and *Leptospirosis spp.*, as well as *Chlamydia trachomatis* and *Neisseria gonorrhoeae*.



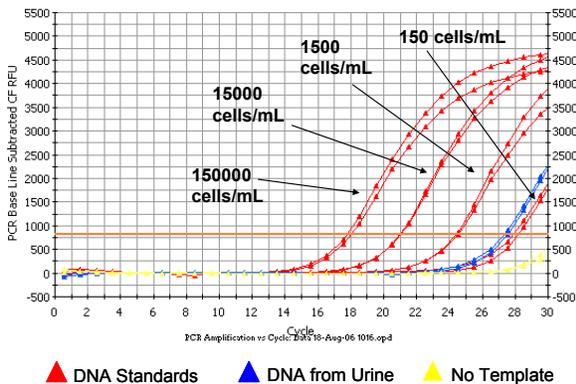
Purification is based on spin column chromatography. Typical yields of human genomic DNA from exfoliated cells will vary depending on the cell density of the urine sample, which is affected by a number of factors including health, diet and sex of the individual donating the urine. Typical yields of bacterial genomic DNA will vary depending on the urine sample and the bacterial species, if any, present in the urine. Healthy humans generally have < 10,000 CFU of bacteria per mL of urine, and this kit is sufficiently sensitive to isolate and detect DNA from even this minimal amount of bacteria. The genomic DNA purified with this kit is fully digestible with all restriction enzymes tested, and is completely compatible with downstream applications such as PCR, qPCR and Southern Blot analysis.

Kit Specifications			
Maximum Urine Input	50 mL	Time to Complete 10 Purifications	10 minutes (plus a 30 minute incubation - Bacteria) (plus a 15 minute incubation - Exfoliated)
Minimum Urine Input	1 mL		

### Urine DNA Isolation Kit for Exfoliated Cells or Bacteria Benefits

Fast and easy processing	Rapid spin-column format allows for the processing of multiple samples in 10 minutes (plus incubation).
Isolate genomic DNA from small volumes of urine	DNA can be isolated and detected from the exfoliated cells found in as little as 1 mL of urine.
Isolate genomic DNA from all types of bacteria found in urine	Bacterial genomic DNA can be isolated from both Gram negative and Gram positive bacteria using the kit (Figure 1).
Isolate high quality DNA from urine	Isolate DNA which is free from salts, metabolic wastes and proteins found in urine
Recovered genomic DNA is suitable for downstream applications	Purified genomic DNA is fully compatible with restriction enzyme digestions, PCR amplifications, quantitative PCR and Southern Blot analysis.

## Urine DNA Isolation Kit for Exfoliated Cells or Bacteria



**Figure 1. Isolation and Detection of Biologically Active Genomic DNA from 1 mL of Urine**

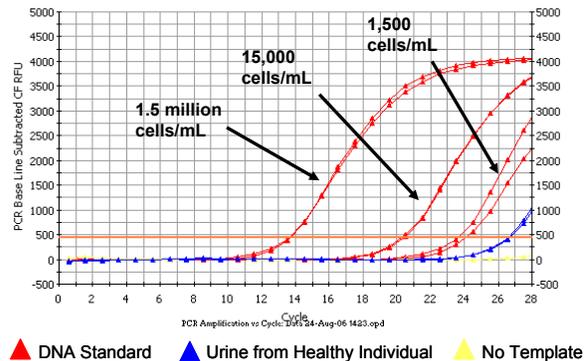
Genomic DNA was isolated from the exfoliated cells found in a 1 mL urine sample using Norgen's Urine DNA Isolation Kit for Exfoliated Cells or Bacteria. The isolated DNA was then subjected to quantitative PCR using human beta actin gene primers to detect the genomic DNA. The red lines in the PCR baseline graph above correspond to DNA standards, while the blue line corresponds to the successful PCR results when DNA isolated from the exfoliated cells in 1 mL of urine were used as the template.

### Urine DNA Isolation Kit for Exfoliated Cells or Bacteria Contents

1. Resuspension Solution A
2. Lysis Buffer B
3. Wash Solution A
4. Elution Buffer B
5. Proteinase K in Storage Buffer
6. Micro Spin Column
7. Elution tubes (1.7 mL)
8. Product Insert

### Shipping Conditions

The Urine DNA Isolation Kit for Exfoliated Cells or Bacteria is shipped at room temperature.



**Figure 2. Isolation and Detection of Bacterial Genomic DNA from 1 mL of Urine**

Bacterial genomic DNA was isolated from a 1 mL sample of healthy human urine using the Urine DNA Isolation Kit for Exfoliated Cells or Bacteria, and was subsequently detected using quantitative PCR. Healthy humans generally have < 10,000 CFU per mL of urine, and this kit is sensitive enough to isolate genomic DNA from this small amount of bacteria (blue line in graph above).

### Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- 1.5 mL microcentrifuge tubes
- 55°C water bath or heating block
- 96 - 100% ethanol
- 100% Isopropanol
- Lysozyme (for Bacterial DNA Isolation)
- RNase A (optional)

### Storage Conditions

All solutions should be kept tightly sealed and stored at room temperature. These reagents should remain stable for at least 1 year in their unopened containers. This kit contains a ready-to-use Proteinase K solution which is dissolved in a specially prepared storage buffer. The Proteinase K is stable for up to 1 year after delivery when stored at room temperature. To prolong the lifetime of Proteinase K, storage at 2–8°C is recommended.

Cat #	Description	Quantity
47050	Urine DNA Isolation Kit for Exfoliated Cells or Bacteria	50 preps