

Urine Cell-Free Circulating DNA Purification Mini Kit

This kit provides a fast, reliable and convenient method to purify and concentrate high quality, high purity and inhibitor-free cell-free circulating DNA as well as viral DNA from fresh, preserved or frozen urine samples from volumes ranging from 250 μ L to 2 mL. All components for the purification are provided in one convenient and fast kit for the easy processing of small input volumes of bodily fluids.

The purified urine DNA is fully compatible with all downstream applications including PCR, qPCR, methylation-sensitive PCR and Southern Blot analysis, Microarrays and NGS.



Kit Specifications			
Minimum Urine Input	250 μ L	Maximum Urine Input	2 mL
Time to Complete Purification	15-20 minutes	Size of DNA Purified	All sizes of DNA \geq 50 bp

Urine Cell-Free Circulating DNA Purification Mini Kit Benefits

Fast and easy processing	Rapid spin-column format allows for the processing of multiple samples in less than 20 minutes.
Versatile urine input volumes	Isolate circulating DNA from 250 μ L - 2 mL of urine.
Concentrate cell-free circulating DNA	Cell-free circulating DNA present in input volumes of 250 μ L - 2 mL are concentrated into final elution volumes of 50 μ L - 100 μ L.
Isolate inhibitor-free DNA	Purified DNA can be used in a number of sensitive downstream applications including PCR, qPCR, methylation-sensitive PCR and Southern Blot analysis, microarrays and NGS.
Isolate all sizes of circulating DNA	The kit allows for the isolation of all sizes of fragmented cell-free circulating DNA, ranging from high molecular weight fragments down to fragments as small as 50bps.

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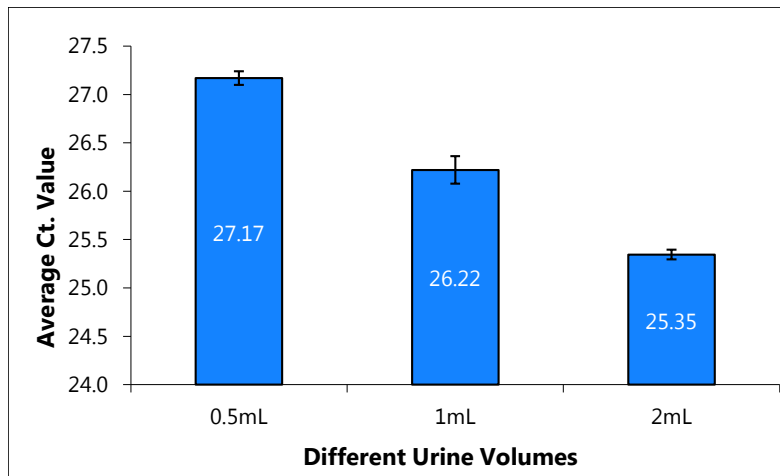


Figure 1. Purification of cell-free circulating DNA from different urine volumes. Norgens Urine Cell-Free Circulating DNA Purification Mini Kit (Cat# 56600) was used to purify circulating DNA from 500 μ L, 1 mL and 3 mL fresh urine. Two microlitres of the purified DNA was then used as the template in qPCR reactions to assess the relative amount of the purified the housekeeping 5S rRNA gene. The relative amount of the 5S rRNA gene is linearly increasing with increasing the sample input volume. Norgen's kit showed the most consistent and the highest recovery of the housekeeping 5S rRNA gene as compared to the other isolation method.

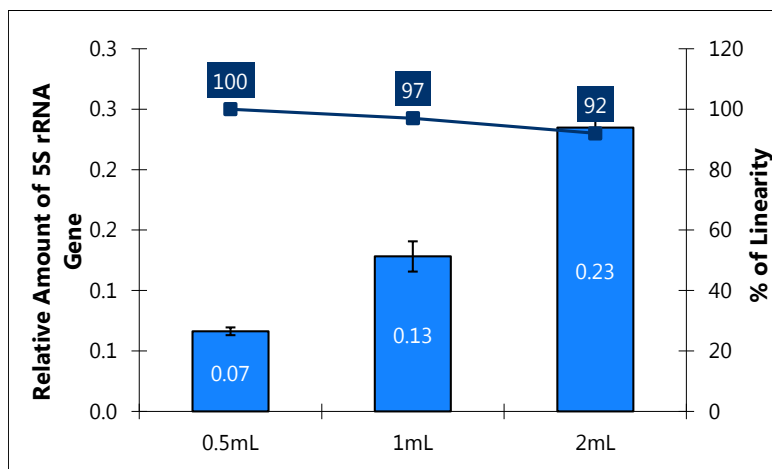


Figure 2. Linearity of DNA purified from increasing urine volumes. Norgens Urine Cell-Free Circulating DNA Purification Mini Kit (Cat# 56600) was used to purify circulating DNA from 500 μ L, 1 mL and 2 mL fresh urine. Two microlitres of the purified DNA was then used as the template in qPCR reactions to assess the linearity of the purified the housekeeping 5S rRNA gene from the different urine volumes. Norgens Urine Cell-Free Circulating DNA Purification Mini Kit was able to recover 97% of the 5S rRNA gene from 1 mL urine relative to the amount that is present in 500 μ L Urine. Moreover, 92% of the 5S rRNA gene was recovered from 2 mL urine relative to the amount that is present in 1 mL urine.

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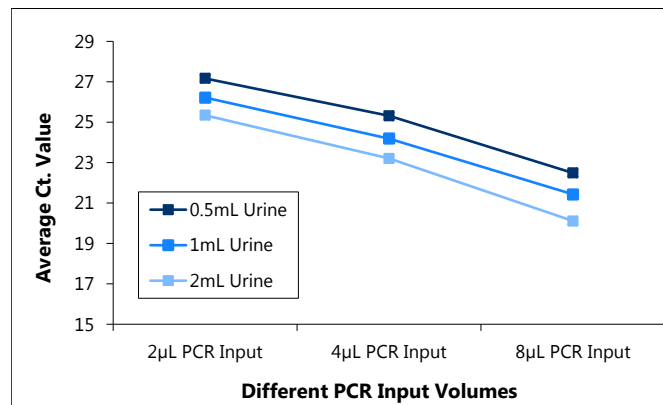


Figure 3. Determination of the amount of inhibition present in urine cell-free circulating DNA samples when detecting the human 5S gene. DNA was isolated from 500 µL, 1 mL and 2 mL urine using Norgens Urine Cell-Free Circulating DNA Purification Mini Kit (Cat# 56600). Increasing volumes of the elution (2, 4 and 8 L) were used in a 20 L qPCR reaction to observe any decrease in Ct. value. An increase in Ct. values with increasing amount of template would be a clear indication of PCR inhibitors present in the sample. An increase in elution volume used as a template in the qPCR did not affect the Ct. value generated from qPCR and in fact the Ct. values tend to decrease with increasing the PCR input volume indicating that DNA purified from urine using Norgens kit is free of the common inhibitors usually present in urine.

Urine Cell-Free Circulating DNA Purification Mini Kit Contents:

1. Binding Solution K
2. Proteinase K
3. Wash Solution A
4. Elution Buffer B
5. Mini Spin Columns
6. Collection Tubes
7. Elution Tubes (1.7 mL)
8. Product Insert

Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- Micropipettors
- 15 mL Conical tube
- 50 mL Conical tube
- 1.5 mL eppendorf tube
- 96 – 100% ethanol

Shipping Conditions

The Urine Cell-Free Circulating DNA Purification Mini Kit is shipped at room temperature.

Storage Conditions

All buffers should be kept tightly sealed and stored at room temperature (15-25°C) for up to 2 years without showing any reduction in performance. It is recommended to warm Lysis Buffer A for 20 minutes at 60°C if any salt precipitation is observed.

Cat #	Description	Quantity
56600	Urine Cell-Free Circulating DNA Purification Mini Kit	50 preps