

Plasma/Serum Circulating DNA Purification Mini Kit (Slurry Format)

Norgen's Plasma/Serum Circulating DNA Purification Mini Kit (Slurry Format) provides a fast, reliable and simple procedure for isolating circulating DNA from various amounts of plasma/serum ranging from 50 μ L to 400 μ L. Free-circulating nucleic acids in plasma and serum have the potential to provide biomarkers for certain cancers and disease states, and include tumor-specific extracellular DNA fragments and fetal DNA in maternal blood. This free-circulating DNA is usually present as short fragments of less than 1000 bp. This kit can also be used to isolate viral and bacterial DNA from plasma and serum samples, as well as milk samples.



Norgen's Plasma/Serum Circulating DNA Purification Mini Kit (Slurry Format) provides an efficient method for the purification of fragmented free-circulating DNA from human plasma or serum. Purification is based on the use of Norgen's proprietary resin as the separation matrix. The kit is able to isolate all sizes of circulating DNA. The slurry format provides an advantage over other available kits in that it does not require extension tubes for the purification of free-circulating DNA from large sample volumes. DNA can be isolated from either fresh or frozen samples using this kit. Typical yields of free-circulating DNA purified will vary depending on the input sample (1-100ng/mL circulating DNA in human plasma), with more concentrated samples tending to yield more free-circulating nucleic acids. Preparation time for a single sample is less than 30 minutes. The purified plasma/serum free-circulating DNA are eluted in an elution solution that is compatible with PCR, qPCR, methylation-sensitive PCR and Southern Blot analysis.

Kit Specifications			
Minimum Plasma/Serum Input	50 μ L	Elution Volume	100 μ L
Maximum Plasma/Serum Input	400 μ L	Time to Complete Purification	< 30 minutes

Plasma/Serum Circulating DNA Purification Mini Kit (Slurry Format) Benefits

Fast and easy processing	Rapid format allows for the processing of multiple samples in less than 30 minutes.
Versatile plasma and serum input volume	Isolate circulating DNA from 50 μ L - 400 μ L of plasma and serum samples. No requirement for extension tubes when processing larger sample volumes.
Concentrate circulating DNA	Circulating DNA present in input volumes of 50 μ L - 400 μ L are concentrated into a final elution volume of 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.
Different elution strategies are provided	The protocol outlines two different elution strategies that can be used based on the downstream application of the DNA.

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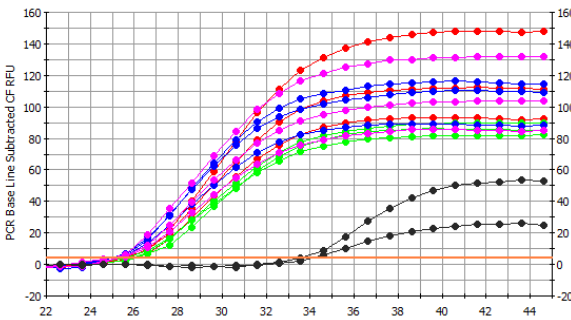


Figure 1. Isolation and Detection of Circulating DNA Isolated from Different Plasma Volumes. Circulating DNA was isolated from 0.2 mL and 0.4 mL of plasma using Norgen's kit and a leading competitor's kit. Three microlitres of the purified DNA was then used as the template in a qPCR reaction to detect the human 5S gene. Red and blue lines correspond to DNA isolated from 0.2mL and 0.4mL plasma using Norgen's Kit whereas the green and pink lines corresponds to DNA isolated from 0.2mL and 0.4mL plasma using the competitor's kit. As it can be seen, the qPCR was able to successfully detect and amplify the 5S gene from DNA isolated from different plasma volumes, indicating the high quality of the isolated plasma DNA. Furthermore, Norgen's kits showed better or similar Ct. values compared to the competitor's kit.

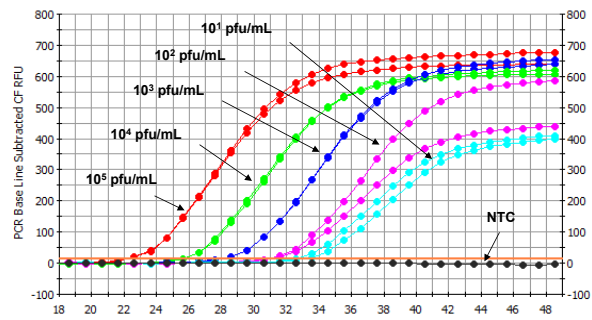


Figure 2. Highly Sensitive Isolation of Viral DNA from 0.4 mL of Plasma. A serial dilution of Adenovirus 5 (10^5 , 10^4 , 10^3 , 10^2 and 10^1) was spiked into 0.4 mL Plasma and the adenoviral DNA was then isolated using Norgen's Plasma/Serum Circulating DNA Purification Mini Kit (Slurry Format). Three microlitres of each 100 μ L elution was then used as the template in a 20 μ L PCR reaction using Ad5-specific primers, Ad5-specific probe and Norgen's 2X PCR Master Mix (Cat #28007). The results were quantified using a standard curve that was plotted using a standard adenoviral DNA. As few as 80 pfu/mL could be isolated and detected from 0.4 mL of Plasma

Plasma/Serum Circulating DNA Purification Mini Kit (Slurry Format) Contents:

1. Lysis Buffer D
2. Slurry A2
3. Binding Buffer B
4. Wash Solution A
5. Elution Buffer B
6. Mini Filter Spin Columns
7. Collection Tubes
8. Elution tubes (1.7 mL)
9. Product Insert

Shipping Conditions

The Plasma/Serum Circulating DNA Purification Mini Kit (Slurry Format) is shipped at room temperature.

Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- Micropipettors
- 96 – 100% ethanol
- 60°C incubator
- 2 mL tubes

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.

Cat #	Description	Quantity
50600	Plasma / Serum Circulating DNA Purification Mini Kit (Slurry Format)	50 preps