

## Plasma/Serum Circulating Nucleic Acid Purification Maxi Kit (Slurry Format)

Norgen's Plasma/Serum Circulating Nucleic Acid Purification Maxi Kit (Slurry Format) provides a fast, reliable and simple procedure for isolating circulating nucleic acid (mRNA, miRNA, exosomal RNA, viral RNA, DNA and viral DNA) from various amounts of plasma/serum ranging from 2 mL to 5 mL. 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 nucleic acid fragments and fetal DNA in maternal blood. Free-circulating DNA is usually present as short fragments of less than 1000 bp, and free-circulating RNA and exosomal RNA in plasma and serum are usually present as



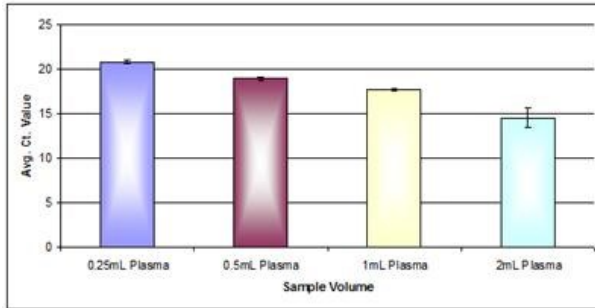
short fragments of less than 1000 nt. In addition, plasma or serum also contains free-circulating miRNA that are as small as 21 nt. Furthermore, circulating viral DNA or viral RNA may be present in the plasma or the serum of viral-infected patients. Norgen's Plasma/Serum Circulating Nucleic Acid Purification Maxi Kit (Slurry Format) provides an efficient method for the purification of all sizes of these fragmented free-circulating nucleic acids 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 RNA, including microRNA, as well as all sizes of exosomal RNA and circulating DNA. Norgen's Plasma/Serum Circulating Nucleic Acid Purification Maxi Kit (Slurry Format) provides an advantage over other available kits in that it does not require extension tubes for the purification of free-circulating NA from large sample volumes.

| Kit Specifications            |              |                            |                               |
|-------------------------------|--------------|----------------------------|-------------------------------|
| Minimum Plasma/Serum Input    | 2 mL         | Maximum Plasma/Serum Input | 5 mL                          |
| Time to Complete Purification | < 40 minutes | Size of RNA Purified       | All sizes, including microRNA |

### Plasma/Serum Circulating Nucleic Acid Purification Maxi Kit (Slurry Format) Benefits

|   |  |
|---|--|
| Isolate all sizes of circulating and exosomal RNA | The kit allows for the isolation of all sizes of fragmented circulating RNA and exosomal RNA, including microRNA.  |
| Fast and easy processing                          | Rapid format allows for the processing of multiple samples in 30 minutes.  |
| Concentrate circulating and exosomal RNA          | Circulating RNA and exosomal RNA present in input volumes of 0.25 - 5 mL are concentrated into a final elution volume of 100 µL.   |
| Isolate inhibitor-free RNA                        | Purified RNA can be used in a number of sensitive downstream applications including real time PCR, reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array assays. |

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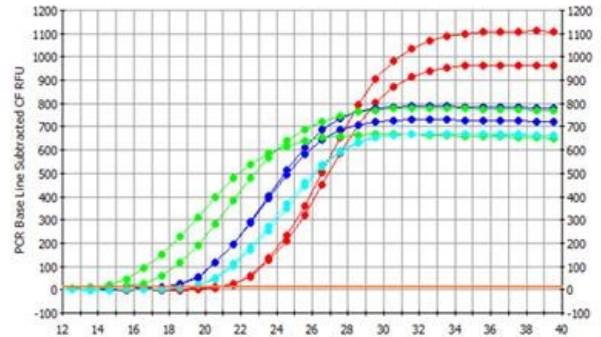
**Figure 2. Effective Isolation of Plasma Circulating RNA from Different Volumes.** Norgen's Plasma/Serum Circulating Nucleic Acid Purification Maxi Kit (Slurry Format) was used to isolate circulating RNA from 0.25mL, 0.5mL, 1mL and 2mL plasma. Three microlitres of the purified RNA was then used as the template in RT-qPCR reactions to detect the human 5S gene. The 5S housekeeping gene was detected from all plasma sample volumes used. The amplification of the 5S rRNA showed an increasing amount of RNA with increasing the sample input volume. This is represented by the decrease of the Ct value with increasing the sample input volume.

### Plasma/Serum Circulating Nucleic Acid Purification Maxi Kit (Slurry Format) Contents:

- Lysis Buffer A
- Slurry C1
- Wash Solution A
- Elution Solution A
- Mini Filter Spin Columns
- Collection Tubes
- Elution tubes (1.7 mL)
- Product Insert

### 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. It is recommended to warm Slurry C2 and Lysis Buffer A for 20 minutes at 60°C if any salt precipitation is observed. Slurry C1 contains a grey resin that will not disappear after warming up.



**Figure 1. Isolation and Detection of Circulating RNA from Different Plasma Volumes.** Norgen's Plasma/Serum Circulating Nucleic Acid Purification Maxi Kit (Slurry Format) was used to isolate circulating RNA from 0.25mL, 0.5mL, 1mL and 2mL plasma. Three microlitres of the purified RNA was then used as the template in RT-qPCR reactions to detect the human 5S gene. The 5S housekeeping gene was detected from all plasma sample volumes used. The amplification of the 5S rRNA showed an increasing amount of RNA with increasing the sample input volume. This is represented by the decrease of the Ct value with increasing the sample input volume.

### Customer-Supplied Reagents and Equipment

- Centrifuge with a swinging bucket rotor capable of 2,000 RPM
- Benchtop microcentrifuge
- Micropipettors
- 96 – 100% ethanol
- β - Mercaptoethanol
- 50 mL tubes
- 15 mL tubes

### Shipping Conditions

The Plasma/Serum Circulating Nucleic Acid Purification Maxi Kit (Slurry Format) is shipped at room temperature.

| Cat # | Description   | Quantity |
|-------|---|----------|
| 53400 | Plasma/Serum Circulating Nucleic Acid Purification Maxi Kit (Slurry Format) | 50 preps |