

Plasma/Serum Circulating and Exosomal RNA Purification Kit (Slurry Format)

Norgen's Plasma/Serum Circulating and Exosomal RNA Purification Kit (Slurry Format) provides a fast, reliable and simple procedure for isolating circulating and exosomal RNA from various amounts of plasma/serum ranging from 0.25 mL to 5 mL. Free-circulating and exosomal RNA in plasma and serum has the potential to provide biomarkers for certain cancers and disease states, and includes tumor-specific extracellular RNA in the blood. Norgen's Plasma/Serum Circulating and Exosomal RNA Purification Kit (Slurry Format) provides an efficient method for the purification of all sizes of these fragmented free-circulating and Exosomal RNAs from human plasma or serum.



Exosomes are 40 - 100 nm membrane vesicles, which are secreted by most cell types. Exosomes can be found in saliva, blood, urine, amniotic fluid and malignant ascitic fluids, among other biological fluids. Evidence has been accumulating recently that these vesicles act as cellular messengers, conveying information to distant cells and tissues within the body. The exosomes contain cell-specific proteins, lipids and RNAs, which are transported to other cells, where they can alter function and/or physiology. These exosomes may play a functional role in mediating adaptive immune responses to infectious agents and tumours, tissue repair, neural communication and transfer of pathogenic proteins. Recent work has demonstrated the presence of distinct subsets of microRNAs within exosomes which depend upon the tumour cell type from which they are secreted. For this reason exosomal RNAs may serve as biomarkers for various diseases including cancer. As the RNA molecules encapsulated within exosomes are protected from degradation by RNases they can be efficiently recovered from biological fluids, such as plasma or serum.

Kit Specifications			
Minimum Plasma/Serum Input	0.25 mL	Maximum Plasma/Serum Input	5 mL
Time to Complete Purification	< 40 minutes	Size of RNA Purified	All sizes, including microRNA

Plasma/Serum Circulating and Exosomal RNA Purification Kit 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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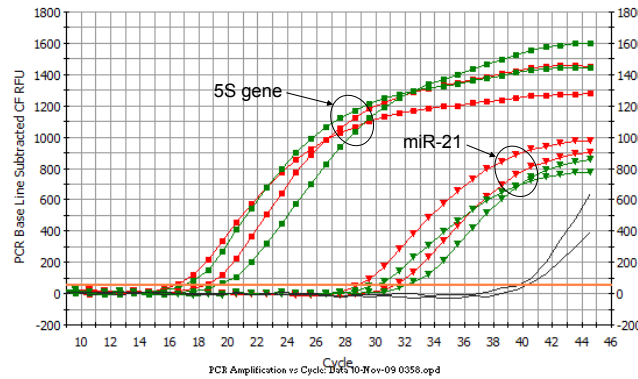


Figure 1. Isolation and Detection of Circulating RNA from 1 mL Samples of Serum and Plasma

Norgen's Plasma/Serum Circulating and Exosomal RNA Purification Kit (Slurry Format) was used to isolate circulating RNA from 1 mL samples of serum and plasma. Five microlitres of the purified RNA was then used as the template in RT-qPCR reactions to detect the human 5S gene and the miR-21 gene. Both the 5S housekeeping gene and the miR-21 gene could be detected from plasma (red) and serum (green), indicating the high quality of the purified RNA. The black line corresponds to the no template control.

Plasma/Serum Circulating and Exosomal RNA Purification Kit (Slurry Format) Contents:

1. Slurry C2
2. Lysis Buffer A
3. Wash Solution A
4. Elution Solution A
5. Mini Filter Spin Columns
6. Collection Tubes
7. Elution tubes (1.7 mL)
8. Product Insert

Customer-Supplied Reagents and Equipment

- Centrifuge with a swinging bucket rotor capable of 2000 RPM
- Benchtop microcentrifuge
- Micropipettors
- 96 – 100% ethanol
- β - Mercaptoethanol
- 50 mL tubes
- 15 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. It is recommended to warm PS Solution A, PS Solution B and PS Solution C for 20 minutes at 60°C if any salt precipitation is observed.

Shipping Conditions

The Plasma/Serum Circulating and Exosomal RNA Purification Kit (Slurry Format) is shipped at room temperature.

Cat #	Description	Quantity
42800	Plasma / Serum Circulating and Exosomal RNA Purification Kit (Slurry Format)	50 preps