

Plasma/Serum Exosome Purification Kit

The Plasma/Serum Exosome Purification Kits provide a fast, reliable and convenient method to purify and enrich for pure intact exosomes from different plasma/serum sample volumes ranging from 50 μ L to 10 mL. These kits also allow for the purification of intact extracellular vesicles (EVs) from different plasma/serum sample volumes, and these EVs are ready for any downstream application. The purification is based on Norgen's proprietary resin.

These kits provide a clear advantage over other available methods since they do not require any special instrumentation, ultracentrifugation, precipitation reagents or any protease treatments. More importantly, the purified exosomes will not be contaminated with any other RNA-binding proteins that may contaminate your exosomal RNA, which is essential if studying exosomal RNA gene expression.

Exosomal RNA can be isolated using Norgen's Exosomal RNA Isolation Kit from exosomes enriched using Norgen's Plasma/Serum Exosome Purification Kits for gene expression analysis using RT-qPCR, microarray or NGS and for Biomarker discovery. Exosomal RNA isolation is based on Norgen's proprietary resin without the need for phenol extractions or carrier RNA.



Kit Specifications

Plasma/Serum Input (Cat. 57400)	50 μ L - 1 mL	Size of Exosomes Purified	40 nm - 150 nm
Plasma/Serum Input (Cat. 57500)	1 mL - 4 mL	Elution Volume	Variable depending on the plasma/serum input volume
Plasma/Serum Input (Cat. 57600)	4 mL - 10 mL	Time to Complete 10 Purifications	15 - 30 minutes

Features and Benefits

Diverse	Purification and enrichment of intact plasma/serum exosomes for functional studies; compatible with plasma/serum from any species
Versatile	Versatile sample input ranging from 50 μ L to 10 mL
Phenol-Free	No phenol extractions nor carrier RNA
Compatible with various platforms	Purified exosomes can be analyzed using NanoSight® or Electron Microscopy for assessing the approximate exosome size range and concentration
Fast and Accurate	No time-consuming ultracentrifugation, filtration nor special syringes required; Purify high-quality RNA/DNA in 15 - 30 minutes

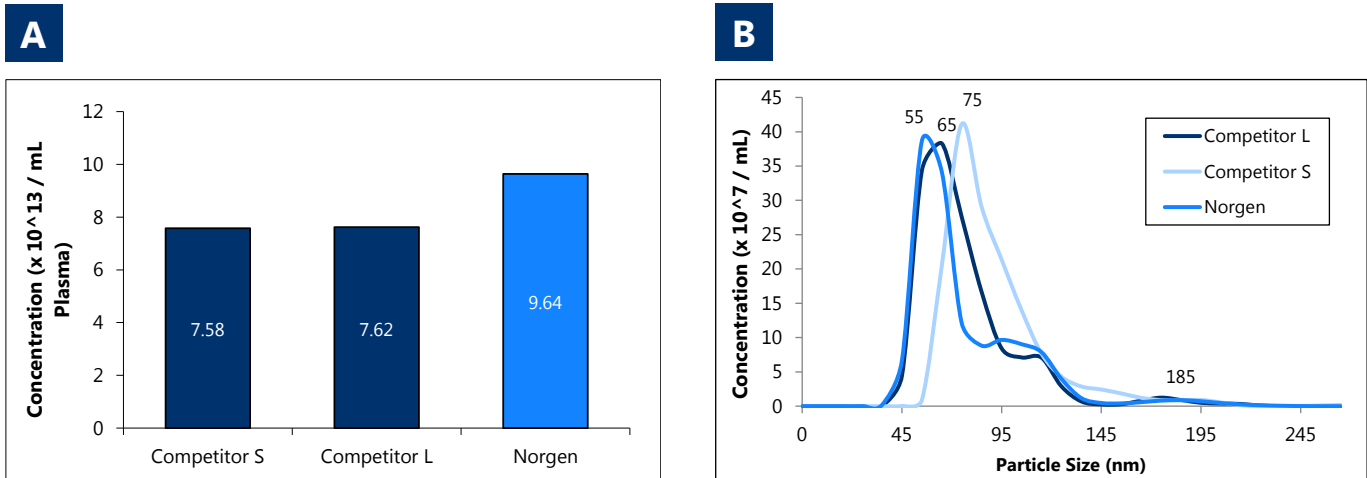


Figure 1. Intact exosomes were purified from 1 mL plasma using different purification methods. Intact exosomes were purified from 1 mL plasma using Norgen's Plasma/Serum Exosome Purification Mini Kit (Cat# 57400), Competitor S's kit and Competitor L's kit (from plasma). Exosomes purified using Norgen's kit were resuspended in 200 μ L of Norgen's ExoR buffer, diluted 1:1,000 and visualized on the NanoSight LM10 instrument. The analysis shows that Norgen's kit isolated 55 nm exosomes with a recovery of 9.64×10^{13} particles/mL plasma. No impurities were found to be contaminating the exosomes purified using Norgen's Plasma/Serum Exosome Purification Mini Kit. Additionally, exosomes with a broader size range covering from 50 nm - 150 nm were purified from 1 mL plasma with a higher concentration compared to the other two methods.

Plasma - 1 mL Input

Plasma - 10 mL Input

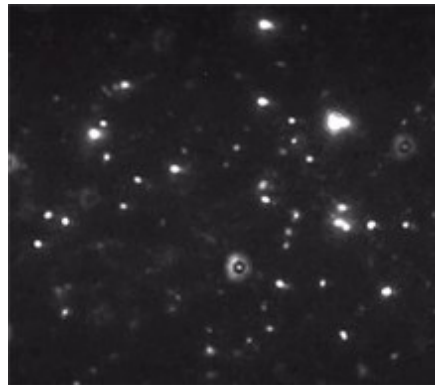
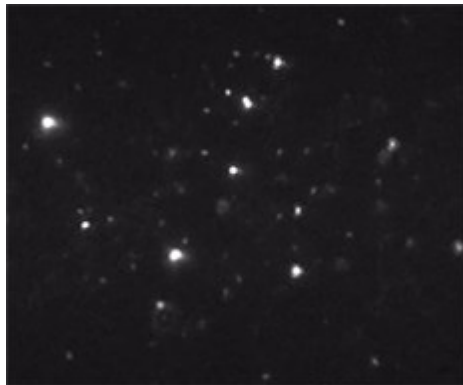


Figure 2. Intact exosomes purified from 1 mL and 10 mL plasma. Intact exosomes were purified from 1 mL plasma using Norgen's Plasma/Serum Exosome Purification Mini Kit (Cat. 57400) and from 10 mL plasma using Norgen's Plasma/Serum Exosome Purification Maxi Kit (Cat. 57600). Exosomes purified using Norgen's Mini kit were resuspended in 200 μ L of Norgen's ExoR buffer whereas exosomes purified using Norgen's Maxi kit were resuspended in 600 μ L Norgen's ExoR buffer, diluted 1:1,000 and visualized on the NanoSight LM10 instrument. The analysis shows that the purification of exosomes is linear as 4.04×10^{10} particles/mL was recovered from 1 mL plasma whereas 2.95×10^{11} particles/mL was recovered from 10 mL plasma.

Kit Components	Cat. 57400	Cat. 57500	Cat. 57600
Slurry E	12.5 mL	12.5 mL	12.5 mL
ExoC Buffer	8 mL	8 mL	2 x 8 mL
ExoR Buffer	12 mL	12 mL	12 mL
Mini Filter Spin Columns	50	25	15
Elution Tubes (1.7 mL)	50	25	15
Product Insert	1	1	1

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.

Important Note

This kit is suitable for the purification of exosomes from fresh or frozen serum or plasma prepared from blood collected on either EDTA or Citrate. Plasma samples prepared from blood collected on heparin should not be used as heparin can significantly interfere with many downstream applications such as RT-PCR.

Customer-Supplied Reagents and Equipment

- Disposable powder-free gloves
- Centrifuge with a swinging bucket rotor capable of 2,000 RPM
- Benchtop microcentrifuge
- Micropipettors
- Sterile pipette tips with filters
- 1.5 mL tubes
- 15 mL conical tubes
- 50 mL conical tubes
- Nuclease-Free Water

Cat #	Description	Size
57400	Plasma/Serum Exosome Purification Mini Kit	50 preps
57500	Plasma/Serum Exosome Purification Midi Kit	25 preps
57600	Plasma/Serum Exosome Purification Maxi Kit	15 preps