

Urine Exosome Purification Kit

The Urine Exosome Purification Kits provide a fast, reliable and convenient method to purify and enrich for pure intact exosomes from different urine sample volumes ranging from 250 μ L to 30 mL. These kits also allow for the purification of intact extracellular vesicles (EVs) from different urine 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 Urine Exosome Purification Kits for gene expression analysis using RT-qPCR, microarray or NGS and for Biomarker discovery.



Kit Specifications

| | | | |
|--------------------------|--------------------|-----------------------------------|--|
| Urine Input (Cat. 57700) | 250 μ L - 1 mL | Size of Exosomes Purified | 40 nm - 150 nm |
| Urine Input (Cat. 57800) | 2 mL - 10 mL | Elution Volume | Variable depending on the urine input volume |
| Urine Input (Cat. 57900) | 11 mL - 30 mL | Time to Complete 10 Purifications | 15 - 30 minutes |

Features and Benefits

| | |
|-----------------------------------|--|
| Diverse | Purification and enrichment of intact urinary exosomes for functional studies; compatible with urine from any species |
| Versatile | Versatile sample input ranging from 250 μ L to 30 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 |

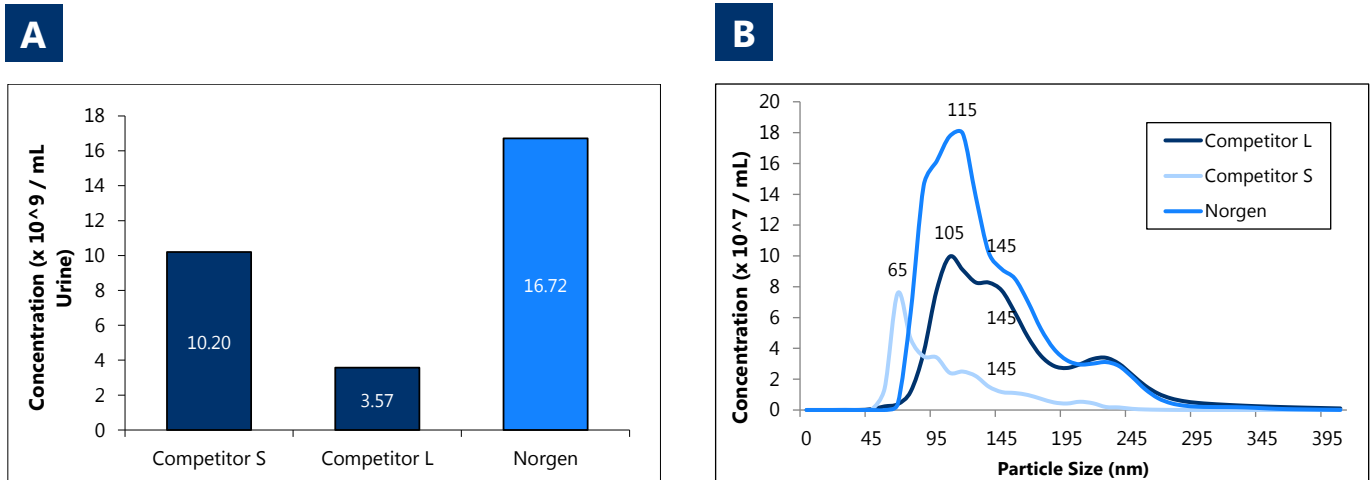


Figure 1. Intact exosomes purified from 5 mL using different purification methods. Intact exosomes were purified from 5 mL urine using Norgen's Urine Exosome Purification Midi Kit (Cat# 57800), Competitor S's kit, and Competitor L's kit. Exosomes purified using Norgen's kit were resuspended in 400 μ L Norgen's ExoR buffer, diluted 1:1,000 and visualized on the NanoSight LM10 instrument. The analysis shows that Norgen's kit isolated 115 nm exosomes with a recovery of 8.36×10^9 particles/mL urine samples. No impurities were found to be contaminating the exosomes purified using Norgen's Urine Exosome Purification Midi Kit. Additionally, Exosomes with a broader size range covering from 75nm - 250nm were purified from 5 mL urine with a higher concentration as compared to the other two methods.

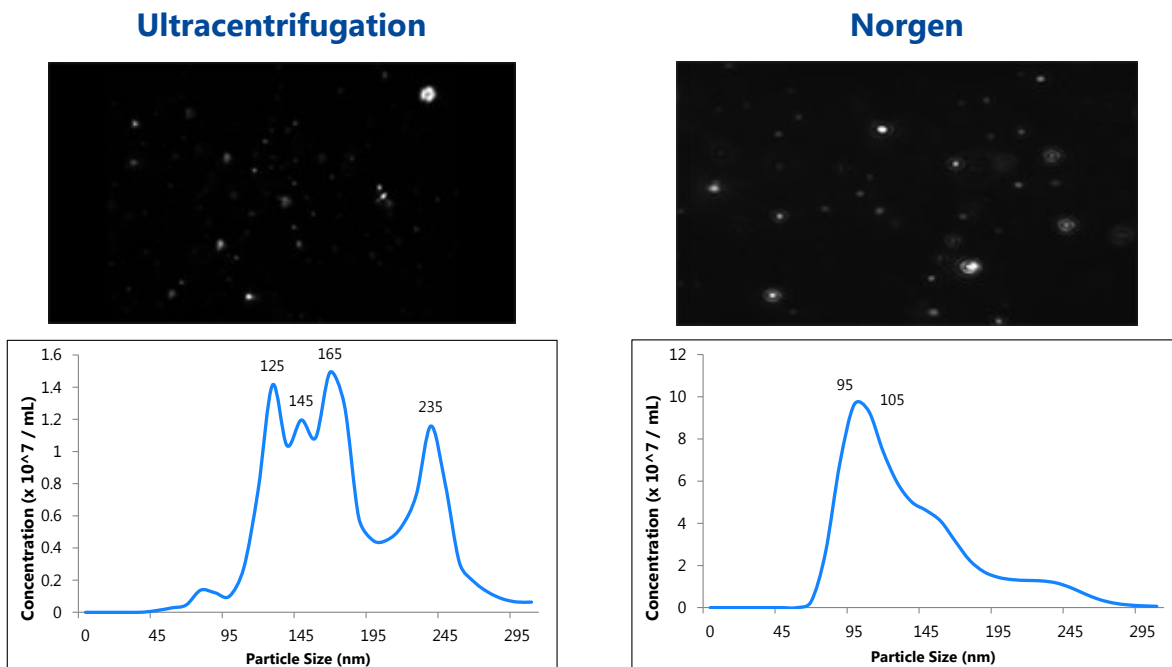


Figure 2. Intact Exosomes were purified from 10 mL urine using Norgen's Urine Exosome Purification Midi Kit (Cat# 57800) and Ultracentrifugation. Exosomes purified using Norgen's kit and ultracentrifugation were resuspended in 400 μ L of Norgen's ExoR buffer, diluted 1:1,000 and visualized on the NanoSight LM10 instrument. The analysis shows that Norgen's kit purified exosomes with sizes ranging from 65 nm to 195 nm, with a total recovery of 7.63×10^8 particles/mL. No impurities were found to be contaminating the exosomes purified using Norgen's Urine Exosome Purification Midi Kit as opposed to the exosomes purified using ultracentrifugation, which purified exosomes with larger particle sizes ranging from 125 nm - 235 nm with a total recovery of 1.56×10^8 particles/mL.

| Component | Cat. 57700 | Cat. 57800 | Cat. 57900 |
|--------------------------|------------|------------|------------|
| Slurry E | 12.5 mL | 12.5 mL | 12.5 mL |
| ExoC Buffer | 8 mL | 30 mL | 50 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

Urine samples stored at -70°C, -20°C or at 4°C will develop some precipitation due to the aggregation of some of the highly abundant proteins in urine. Eliminating these precipitates using centrifugation or filtration may cause the loss of exosomes. Furthermore, these precipitates may affect the quality of the purified nucleic acid. We recommend the use of Norgen's Urine Preservative when collecting urine samples, which is designed for the preservation of nucleic acids and proteins in fresh urine samples at ambient temperatures. The components of the Urine Preservative allow samples to be stored for over 2 years at room temperature with no detected degradation of urine DNA, RNA or proteins. Norgen's Urine Preservative is available as a liquid format in Norgen's Urine Preservative Single Dose Ampules, as well as in a dried format in Norgen's Urine Collection and Preservation Tubes.

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 |
|-------|-------------------------------------|----------|
| 57700 | Urine Exosome Purification Mini Kit | 50 preps |
| 57800 | Urine Exosome Purification Midi Kit | 25 preps |
| 57900 | Urine Exosome Purification Maxi Kit | 15 preps |