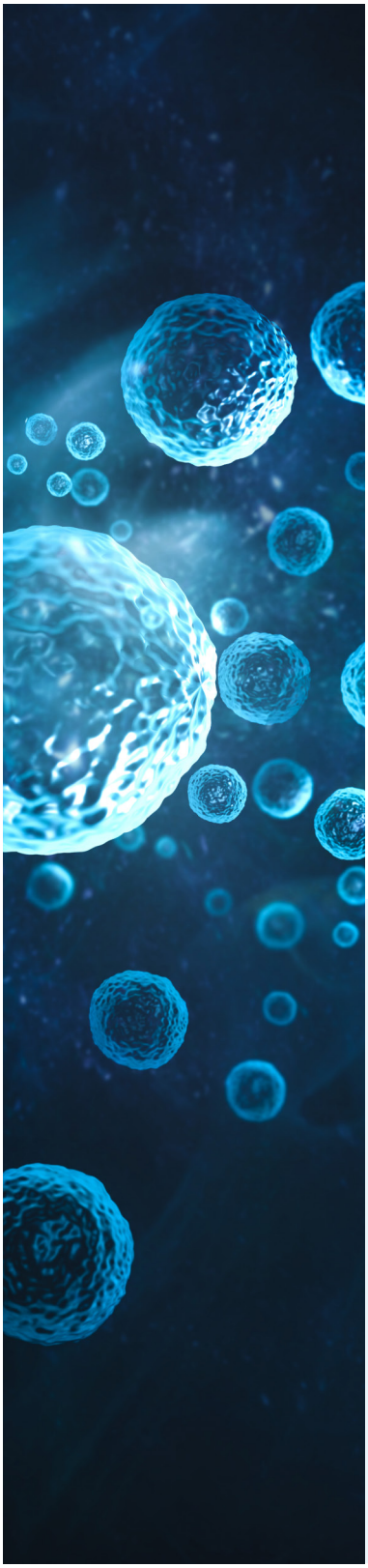

Plasma/Serum Exosome Purification and RNA Isolation Kits

CAT. 58300, 58500, 58600

ALL-IN-ONE SYSTEM FOR THE PURIFICATION OF EXOSOMES AND THE SUBSEQUENT ISOLATION OF RNA FROM PLASMA/SERUM SAMPLES

- Purification and enrichment of intact plasma/serum exosomes for functional studies
- Isolate all sizes of RNA, including microRNA, irrespective of size or GC content, without bias
- Versatile plasma/serum input volume
- No phenol extractions, Proteinase K treatment, nor carrier RNA required
- No time-consuming ultracentrifugation, filtration nor special syringes required
- No precipitation reagents, nor overnight incubation required
- Compatible with plasma/serum from most species
- Pure exosomes are purified and are free from any other RNA-binding proteins

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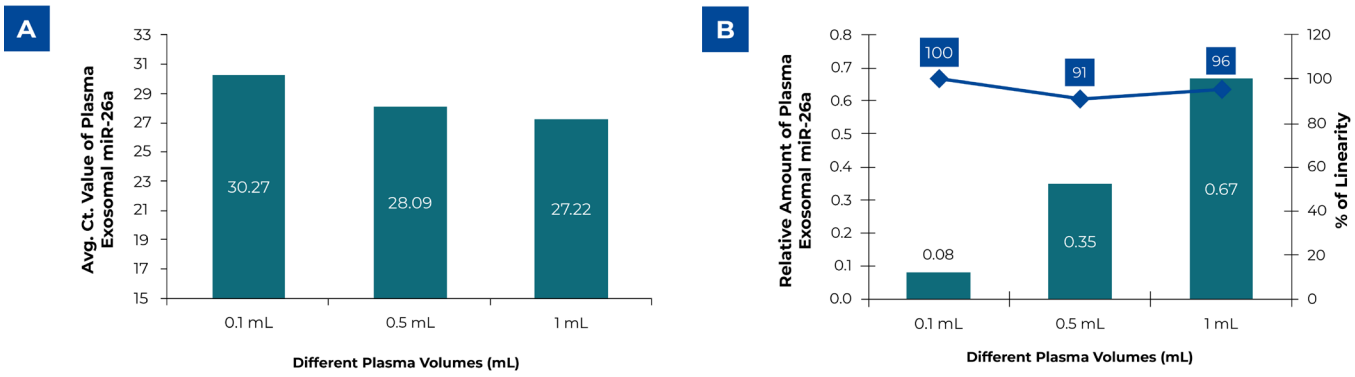
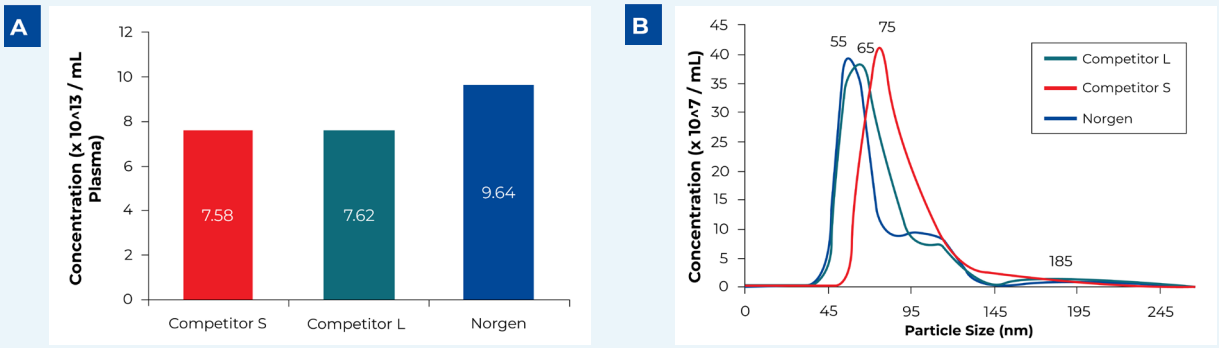
Advantages You Will Bring to Your Lab



EXCELLENT LINEARITY WITH A PERCENTAGE OF RECOVERY OF MORE THAN 90% USING MINI KIT

Figure 1. Isolation of RNA from exosomes purified from different plasma volumes. Norgen's Plasma/Serum Exosome Purification and RNA Isolation Mini Kit (Cat# 58300) was used to isolate RNA from exosomes purified from different plasma volumes using the same kit. 2 µL of the isolated RNA was then used as the template in RT-qPCR reactions to assess the amplification of the isolated plasma exosomal miR-26a. (A) The avg. Ct value for plasma exosomal miR-26a is linearly decreasing with increasing the sample input volume. (B) The relative amount of the plasma exosomal miR-26a shows excellent linearity with a percentage of recovery of more than 90%.



HIGH EXOSOME YIELD COMPARED TO COMPETITORS

Figure 2. Comparing exosome yields from different purification methods. Intact exosomes were purified from 1 mL plasma using Norgen's Plasma/Serum Exosome Purification and RNA Isolation Mini Kit (Cat# 58300), Competitor S's kit and Competitor L's kit (from plasma). Exosomes purified using Norgen's kit were resuspended in 200 µL 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 x 10^{13} particles/mL plasma. No impurities were found to be contaminating the exosomes purified using Norgen's Plasma/Serum Exosome Purification and RNA Isolation 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.

PURIFICATION OF EXOSOMES IS LINEAR TO 10ML PLASMA INPUT

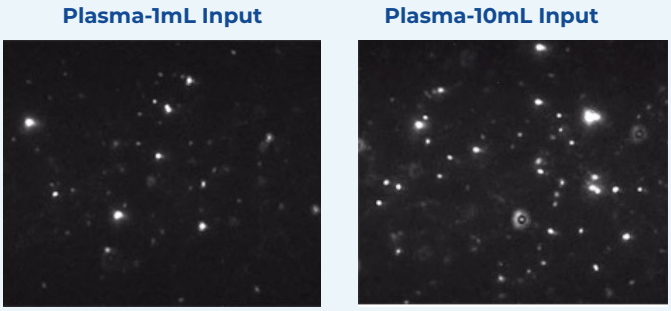
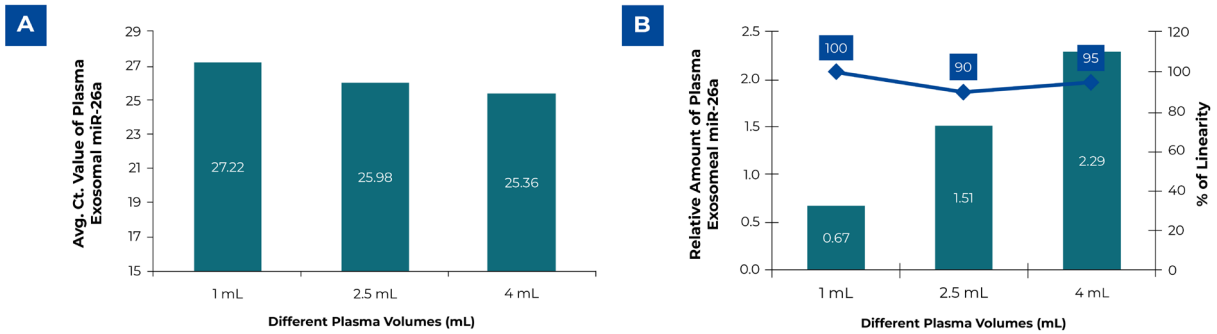


Figure 3. NanoSight data showing intact exosomes purified from 1 mL and 10 mL plasma. Intact exosomes were purified from 1 mL plasma using Norgen's Plasma/Serum Exosome Purification and RNA Isolation Mini Kit (Cat# 58300) and from 10 mL plasma using Norgen's Plasma/Serum Exosome Purification and RNA Isolation Maxi Kit (Cat# 58600). Exosomes purified using Norgen's mini kit were resuspended in 200 µL of Norgen's ExoR buffer whereas exosomes purified using Norgen's Maxi kit were resuspended in 600 µL 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 x 10^{10} particles/mL were recovered from 1 mL plasma, whereas 2.95 x 10^{11} particles/mL were recovered from 10 mL plasma.



EXOSOMAL MIR-26A SHOWS EXCELLENT LINEARITY USING MIDI KIT

Figure 4. Isolation of RNA from exosomes purified from different plasma volumes. Norgen's Plasma/Serum Exosome Purification and RNA Isolation Midi Kit (Cat# 58500) was used to isolate RNA from exosomes purified from different plasma volumes using the same kit. 2 µL of the isolated RNA was then used as the template in RT-qPCR reactions to assess the amplification of the isolated plasma exosomal miR-26a. **(A)** The avg. Ct value for plasma exosomal miR-26a is linearly decreasing with increasing sample input volume. **(B)** The relative amount of the plasma exosomal miR-26a shows excellent linearity with a percentage of recovery of more than 90%.

Technical Specifications

Description	Specifications
Minimum Plasma/Serum Input	50 µL
Maximum Plasma/Serum Input	1 mL (Cat. 58300), 4 mL (Cat. 58500), 10mL (Cat. 58600)
Size of Exosomes Purified	40 nm - 150 nm
Size of RNA Purified	All sizes, including miRNA and small RNA (< 200 nt)
Elution Volume	50-100 µL
Time to Complete 10 Purifications	35 - 40 minutes
Average Yields*	Variable depending on specimen

Select Publications

Monfaredan, Amir, et al. **"Exosome enveloped by nano lipid particle A new model for signal transducer and activator of transcription 3 silencer ribonucleic acid delivery system to a glioblastoma mice model."** Cancers, vol. 17, no. 10, 13 May 2025, p. 1648, https://doi.org/10.3390/cancers17101648.

Kargl, Chris K., et al. **"Circulating extracellular vesicle characteristics differ between men and women following 12-weeks of concurrent exercise training."** Medicine & Science in Sports & Exercise, vol. 56, no. 10S, Oct. 2024, pp. 417–417, https://doi.org/10.1249/01.mss.0001056184.46328.f5.

Ordering Information

Description	Preps	Cat. #
Plasma/Serum Exosome Purification and RNA Isolation Kit Mini	50 Prep	58300
Plasma/Serum Exosome Purification and RNA Isolation Kit Midi	25 Prep	58500
Plasma/Serum Exosome Purification and RNA Isolation Kit Maxi	15 Preps	58600

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