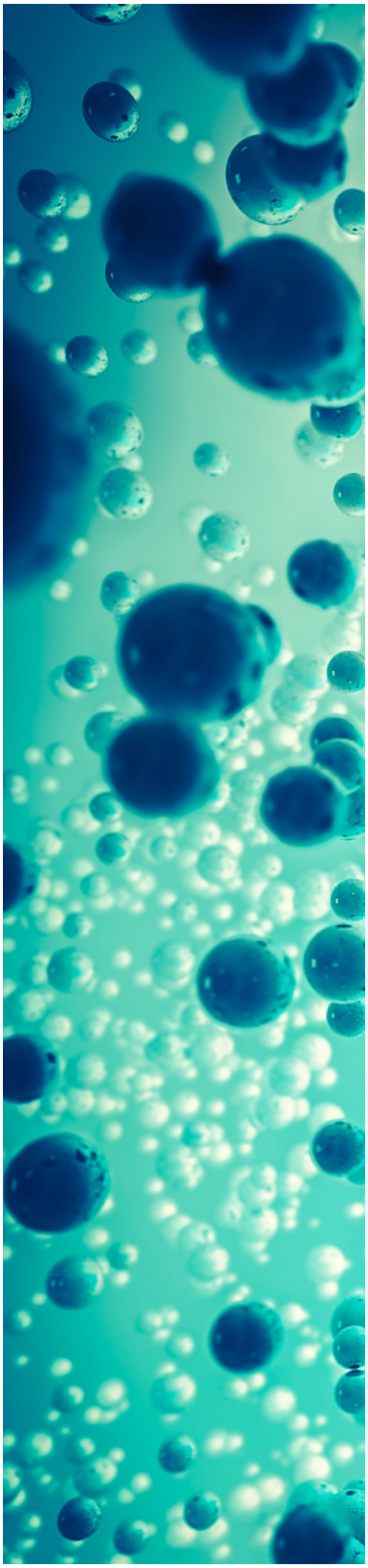

Plasma/Serum Exosome Purification Kit

CAT. 57400,57500, 57600

QUICK AND EASY PROTOCOL FOR THE PURIFICATION OF EXOSOMES FROM DIFFERENT PLASMA/SERUM SAMPLE VOLUMES

- Purification and enrichment of intact exosomes from plasma, serum, urine, cell culture media and saliva in less than 30 minutes.
- Versatile sample input ranging from 50 µL to 10 mL
- Exosome purification is based on Norgen's proprietary resin through exosomes' surface proteins.
- No precipitation reagents, overnight incubation, protease or coagulant treatments required
- No time-consuming ultracentrifugation, filtration or special syringes required
- Purify intact exosomes with a size ranging from 40-200 nm depending on sample input type
- Purified exosomes are compatible with functional studies.

NORGEN BIOTEK

ISO 9001:2015 CERTIFIED QUALITY · ISO 13485:2016 CERTIFIED QUALITY · ISO 15189:2022 CERTIFIED QUALITY · GMP

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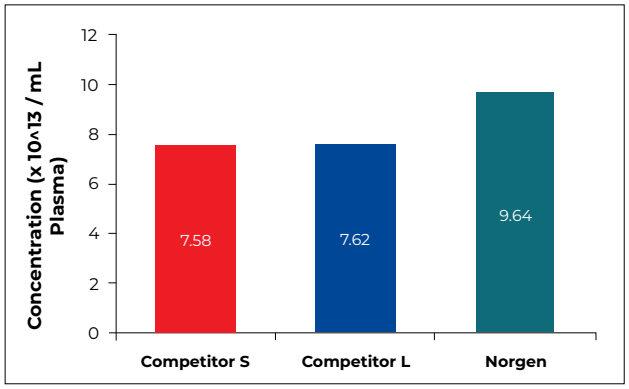
Advantages You Will Bring to Your Lab

A



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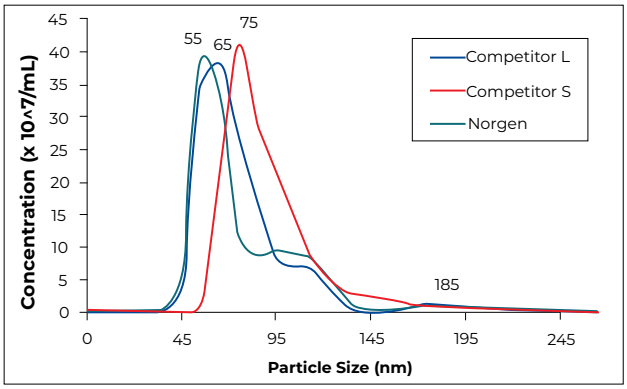
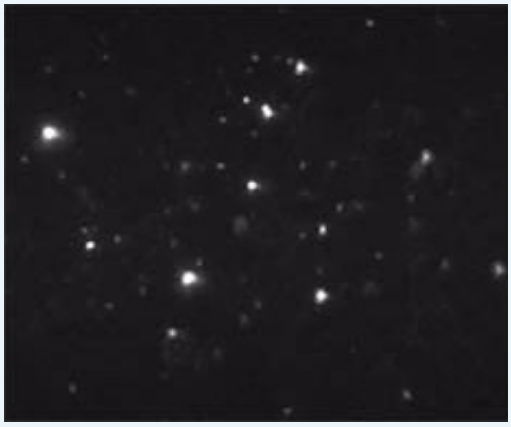


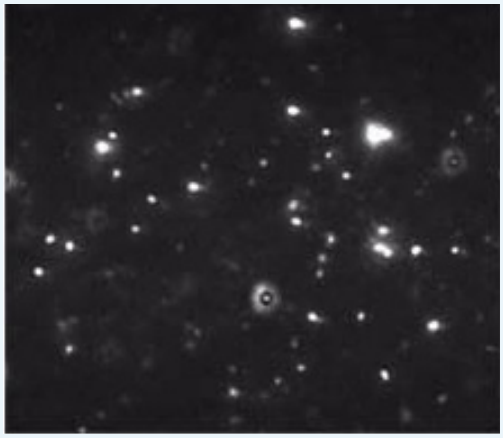
HIGHER EXOSOME YIELD COMPARED TO THE COMPETITION

Figure 1. Comparing exosome yields from 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 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 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-1mL Input

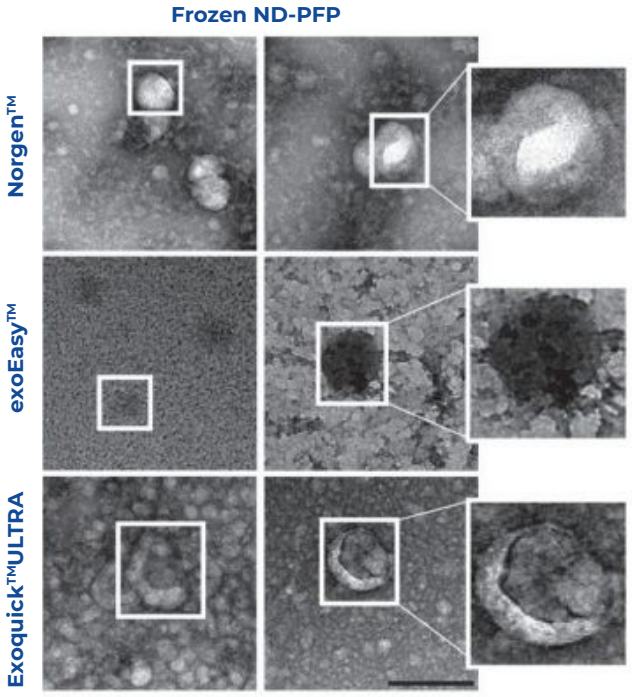


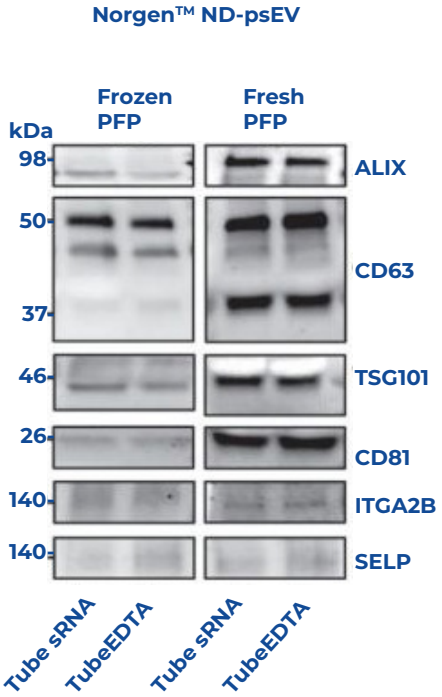
Plasma-10mL Input



PURIFICATION OF EXOSOMES IS LINEAR FROM 1ML AND 10ML PLASMA INPUT

Figure 2. 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 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 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 was recovered from 1 mL plasma whereas 2.95 x 10^{11} particles/mL was recovered from 10 mL plasma.





COMPARISON OF THREE COMMERCIAL KITS IN INDEPENDENT RESEARCH

Figure 3. TEM images of small EVs obtained from the same non disease frozen platelet free plasma (ND-frozen PFP) sample. Sample isolated with three commercial kits; representatives of >10 images are shown (scale bar, 200 nm).

(Human myeloma cell- and plasma-derived extracellular vesicles contribute to functional regulation of stromal cells. Journal Proteomics. 2021. Reale, A., Carmichael, I., Xu, R., Mithraprabhu, S., Khong, T., Chen, M., Fang, H., Savvidou, I., Ramachandran, M., Bingham, N. and Simpson, R.J.).

PLASMA SMALL EVS (PSEV) ISOLATED WITH THE NORGEN BIOTEK KIT SHOWED EXOSOMAL MARKERS IN PROTEIN ANALYSIS

Figure 4. Western blot analysis of plasma small EVs (psEV). Plasma small EVs (psEV) were isolated with the Norgen Biotek kit (#57400) and lysates of psEV derived from frozen Non-disease platelet free plasma (ND-PFP) are compared to lysates of psEV derived from fresh platelet free plasma (PFP) using EV markers (TSG101, CD81, ALIX, CD63) and platelet markers (ITGA2B and SELP). Cell free RNA BCT-Streck (sRNA collection tubes) and EDTA tubes are also compared (n= 3).

(Human myeloma cell- and plasma-derived extracellular vesicles contribute to functional regulation of stromal cells. Journal Proteomics. 2021. Reale, A., Carmichael, I., Xu, R., Mithraprabhu, S., Khong, T., Chen, M., Fang, H., Savvidou, I., Ramachandran, M., Bingham, N. and Simpson, R.J.).

TECHNICAL SPECIFICATIONS

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

SELECT PUBLICATIONS

Publication Title	Authors	Journal	Year
Alteration of miRNAs in Small Neuron-Derived Extracellular Vesicles of Alzheimer's Disease Patients and the Effect of Extracellular Vesicles on Microglial Immune Responses	Devrim Yagmur Durur, Bora Tastan, Kemal Ugur Tufekci, Melis Olcum, Hamdiye Uzuner, Gökhan Karakülah, Gorsev Yener, Sermin Genc	Journal of Molecular Neuroscience	2022
Proteome profiling of neuron-derived exosomes in Alzheimer's disease reveals hemoglobin as a potential biomarker	Arioz, Burak Ibrahim, Kemal Ugur Tufekci, Melis Olcum, Devrim Yagmur Durur, Busra A. Akarlar, Nurhan Ozlu, H. Alper Bagriyanik, Pembe Keskinoglu, Görsev Yener, and Sermin Genc	Neuroscience Letters	2021

Ordering Information

Description	Preps	Cat. #
Plasma/Serum Exosome Purification Kit Mini	50 Prep	57400
Plasma/Serum Exosome Purification Kit Midi	25 Prep	57500
Plasma/Serum Exosome Purification Kit Maxi	15 Prep	57600

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