

EXODUS

EXODUS T-2800

High-efficiency exosome isolation system
for large-scale GMP manufacturing



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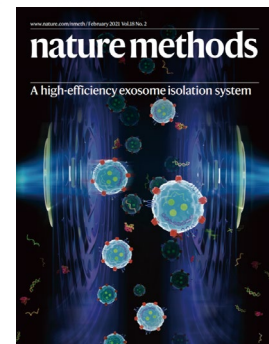
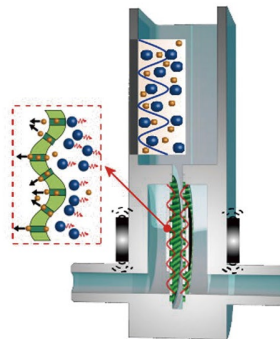
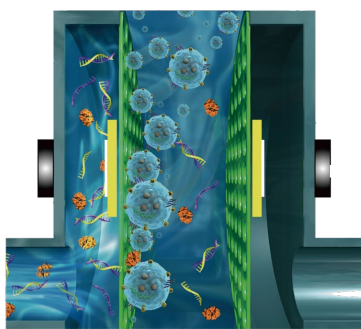
High-efficiency exosome isolation system
for large-scale GMP manufacturing



EXODUS T-2800 is a large-scale, fully automatic exosome isolation system that integrates sample pre-processing, exosome isolation, and collection. Based on the advanced EXODUS ultrasonic nano-filtration technology, this system offers a robust solution for users in exosome drug delivery, treatment, and regenerative medicine. It is designed to support the industrial-scale, automated production of high-purity and high-yield exosomes, ensuring stability and compliance with Good Manufacturing Practices (GMP).

EXODUS Isolation Principle

A novel exosome isolation technique employing ultrasonic nano-filtration technology presents several advantages over conventional membrane separation methods. This approach utilizes a combination of negative pressure oscillation (NPO) and double-coupled ultrasonic harmonic oscillation (HO). Together, these mechanisms act on the nano-filtration device to efficiently and rapidly eliminate impurities, including free nucleic acids and proteins, resulting in the extraction of ultra-pure exosomes.



Technical Advantages



Three-in-one

Three functions are integrated into one instrument: sample pre-processing, isolation, and automatic recovery, all featuring simple and user-friendly operations.



Outstanding purity and yield

Protein removal efficiency >99%, with particle-to-protein ratio $>3 \times 10^8$ particles/ μg protein; exosome concentration $>1 \times 10^{11}$ particles/mL.



Reliable quality

The isolated exosomes are sterile and free from endotoxins, complying with established safety limits; it removes >99% of proteins from culture media, ensuring enhanced safety for downstream applications.



Stable and controllable

Fully automatic workflow that ensures batch-to-batch stability, full-process status monitoring, and intelligent handling.



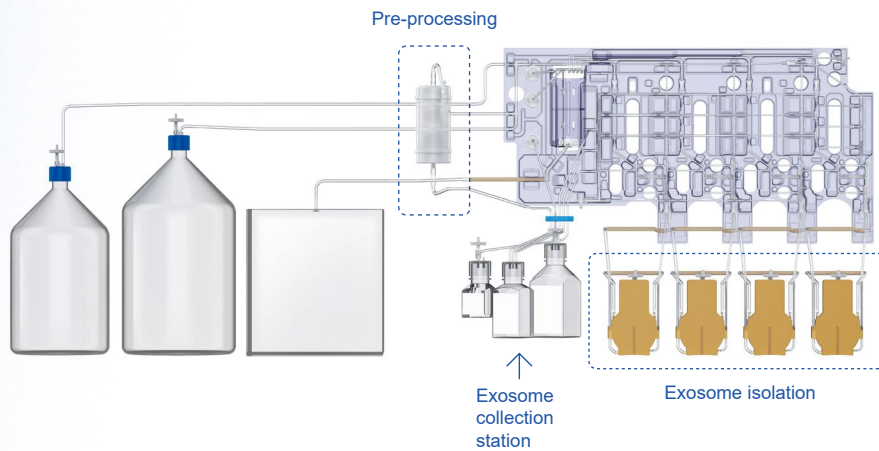
Safe and compliant

A single-use approach: fully enclosed consumables that meet pharmacopeial standards, i.e., sterile and endotoxin-free products. The system and software comply with GMP and 21 CFR part 11 requirements, respectively.

Technical Advantages

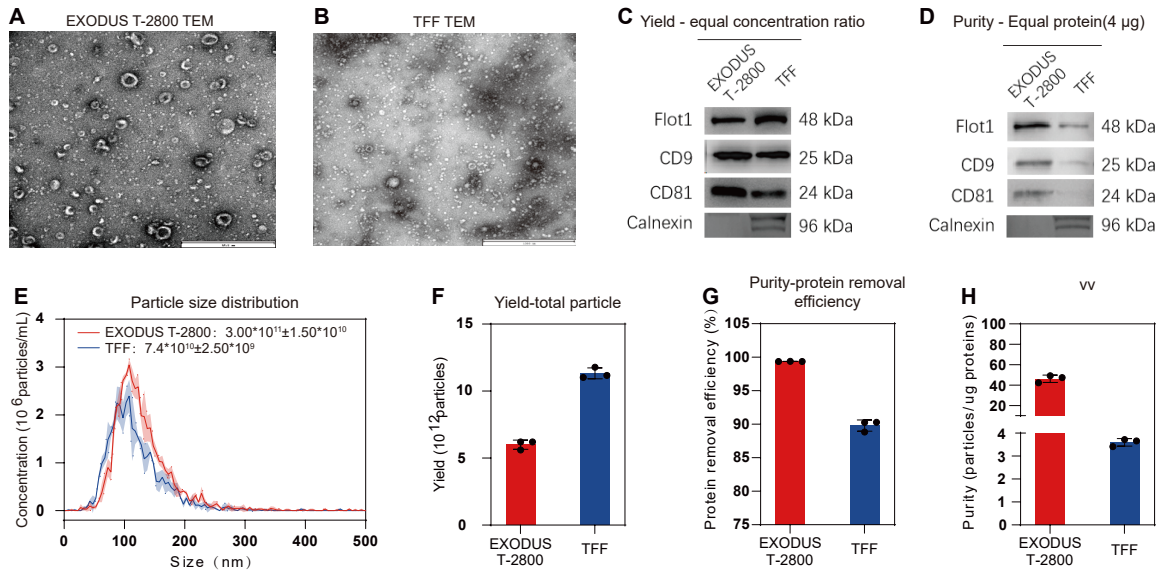
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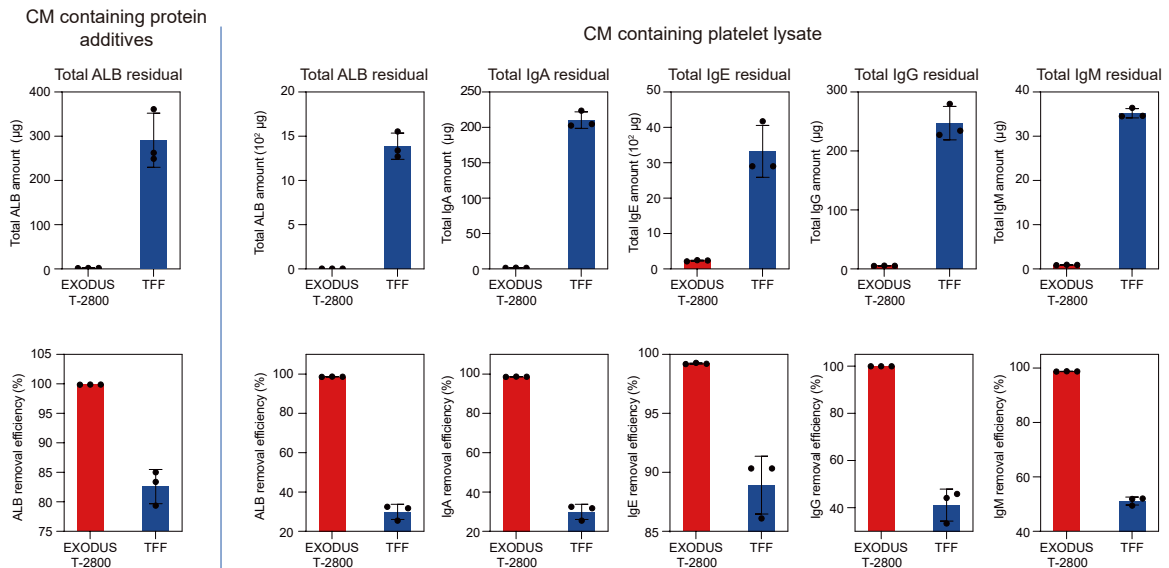
⊕ Outstanding purity and yield

Protein removal efficiency >99%, with particle-to-protein ratio > 3x10⁸ particles/ug protein; exosome concentration >1x10¹¹ particles/mL.



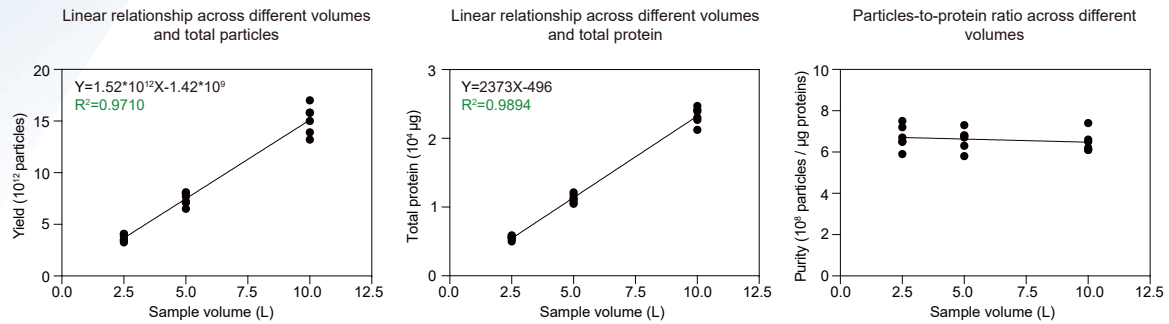
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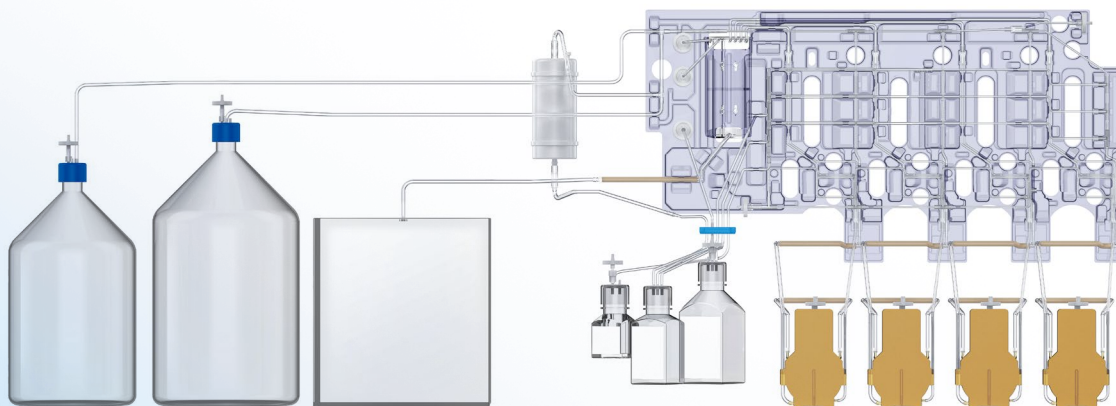
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Safe and compliant

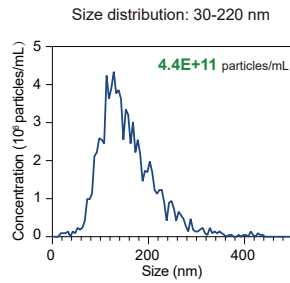
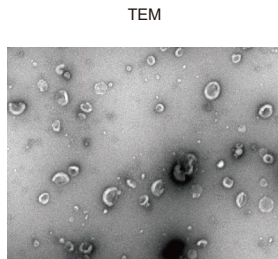
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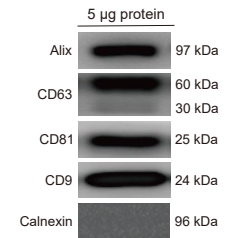
Fully enclosed consumables: Suitable for Class C or Class C+A Environments.

Applications- Mesenchymal Stem Cell (10 L)

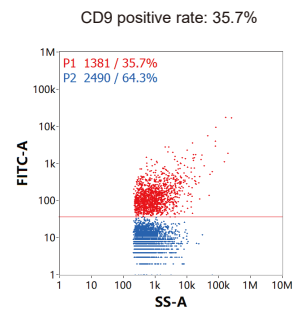
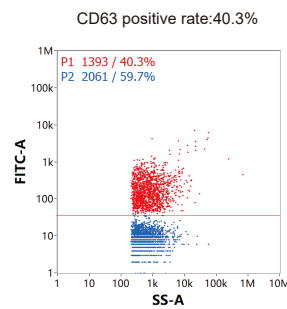
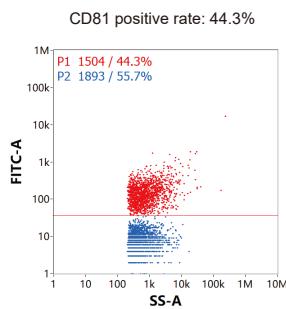
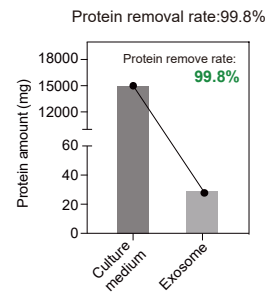
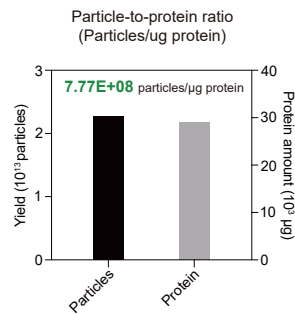
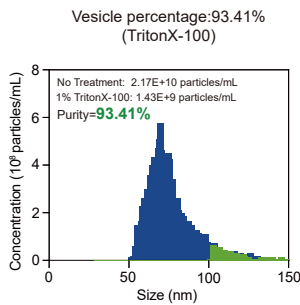
Exosome characterization



Exosomal protein identification

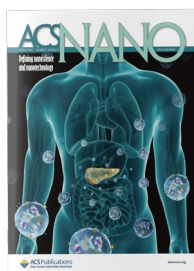
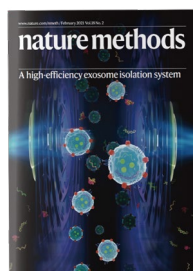


Performance demonstration of high-purity exosomes



Publications




NO.	Title	Journal	IF
01	Exosome detection via the ultrafast-isolation system: EXODUS	Nature Methods	47.990
02	Discovering the Secret of Diseases by Integrated Tear Exosomes Analysis via Rapid-isolation System: ITEARS	ACS Nano	18.027
03	Robust Acute Pancreatitis Identification and Diagnosis: RAPIDx	ACS Nano	18.027
04	Interaction network of extracellular vesicles building universal analysis via eye tears: iNEBULA	Science Advances	14.980
05	The genetic source tracking of human urinary exosomes	PNAS	12.779
06	Identification and detection of plasma extracellular vesicles-derived biomarkers for esophageal squamous cell carcinoma diagnosis	Biosensors & Bioelectronics	12.545
07	Identification of circulating extracellular vesicle long RNAs as diagnostic biomarkers for patients with severe acute pancreatitis	Clinical and Translational Medicine	10.600
08	Isolation of small extracellular vesicles from a drop of plasma via EXODUS and their fingerprint proteomics profiling by MALDI-TOF MS	Biosensors & Bioelectronics:X	/
09	Audible Acoustic Wave Promotes EV Formation and Secretion from Adherent Cancer Cells via Mechanical Stimulation	ACS Applied Materials & Interfaces	10.383
10	Quantitative metabolic analysis of plasma extracellular vesicles for the diagnosis of severe acute pancreatitis	Journal of Nanobiotechnology	10.200
11	Lipidomic identification of urinary extracellular vesicles for non-alcoholic	Journal of Nanobiotechnology	10.200
12	Metabolomic investigation of urinary extracellular vesicles for early detection and screening of lung cancer	Journal of Nanobiotechnology	10.200
13	Metabolomic analysis of exosomal-markers in esophageal squamous cell carcinoma	Nanoscale	8.307
14	Metabolic signatures of tear extracellular vesicles caused by herpes simplex keratitis	The Ocular Surface	6.268
15	Isolation of Exosome Nanoparticles from Human Cerebrospinal Fluid for Proteomic Analysis	ACS Applied Nano Materials	5.900
16	Human umbilical cord mesenchymal stem cells inhibit liver fibrosis via the microRNA-148a-5p/SLIT3 axis	International Immunopharmacology	5.714
17	Efficient preparation of high-purity and intact mesenchymal stem cell-derived extracellular vesicles	Analytical and Bioanalytical Chemistry	4.478
18	Liquid Biopsy Proteomics in Ophthalmology	Journal of proteome research	5.370
19	Recent technical advances to study metabolomics of extracellular vesicles	Microchemical Journal	5.304
20	Mesenchymal stem cell-derived extracellular vesicles for cell-free therapy of ocular diseases	Extracellular Vesicles and Circulating Nucleic Acids	/



Specifications

Processing volume	1-10 L
Processing speed	1-2 L/h
Concentration factor	≥100 fold concentration, with adjustable concentration ratio
Recovery volume	Adjustable based on the concentration ratio
Exosome Resuspension System	Exosomes can be resuspended in PBS buffer or saline solution, tailored to meet the requirements of downstream applications
Protein Removal Efficiency	>99%
Particle-to-Protein Ratio	>3×10 ⁸ particles/μg protein
Exosome Particle Concentration	1×10 ¹¹⁻¹² particles/mL, varies based on the sample type and the isolation program
Temperature Control	Sample position, buffer position, and exosome recovery station, with a controlled temperature range of 2-8°C
Display Screen	Features a 10.4 inch TFT touch screen that provides real-time updates on sample type, timing, purification progress, and more, facilitating standalone operation without the need of an additional computer
System interface	1 power port, 4 usb ports ,and 1 network port
Dimensions	820 mm x 500 mm x 685 mm
Net Weight	≤200 lbs (90 kg)
Operating Environment	Voltage: AC 110 V-240 V, 50/60 Hz Operating Temperature: 10-30°C Operating Humidity: 30-85%, non-condensing

EXODUS

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Product specifications may change without notice, based on the latest technical data and test results.