

# EXODUS

## EXODUS T-2800

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



# EXODUS T-2800

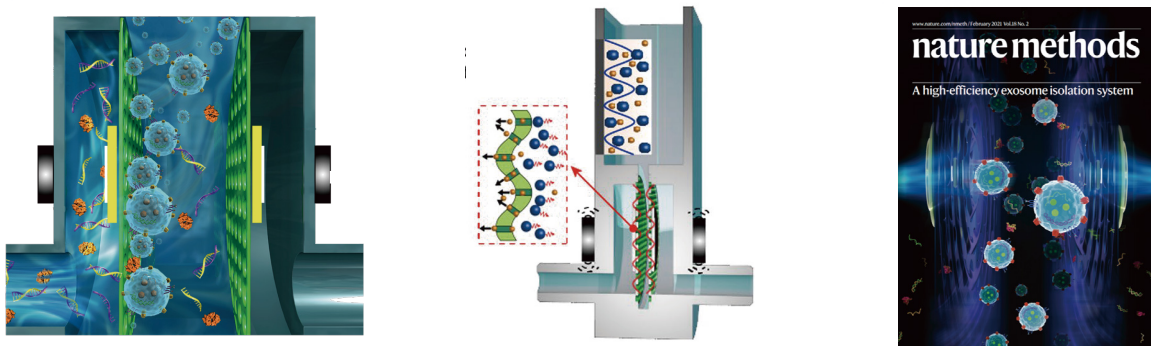
High-efficiency exosome isolation system  
for large-scale GMP manufacturing



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  $>5 \times 10^8$  particles/ $\mu\text{g}$  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

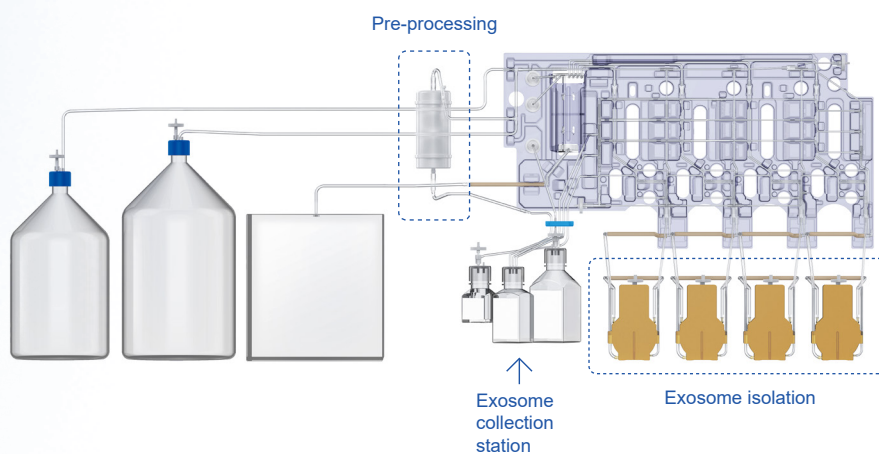
A single-use approach: fully enclosed consumables that meet pharmacopeial standards, i.e., sterile and endotoxin-free products. The system and software comply with GMP and 21 CFR part 11 requirements, respectively.



# Technical Advantages

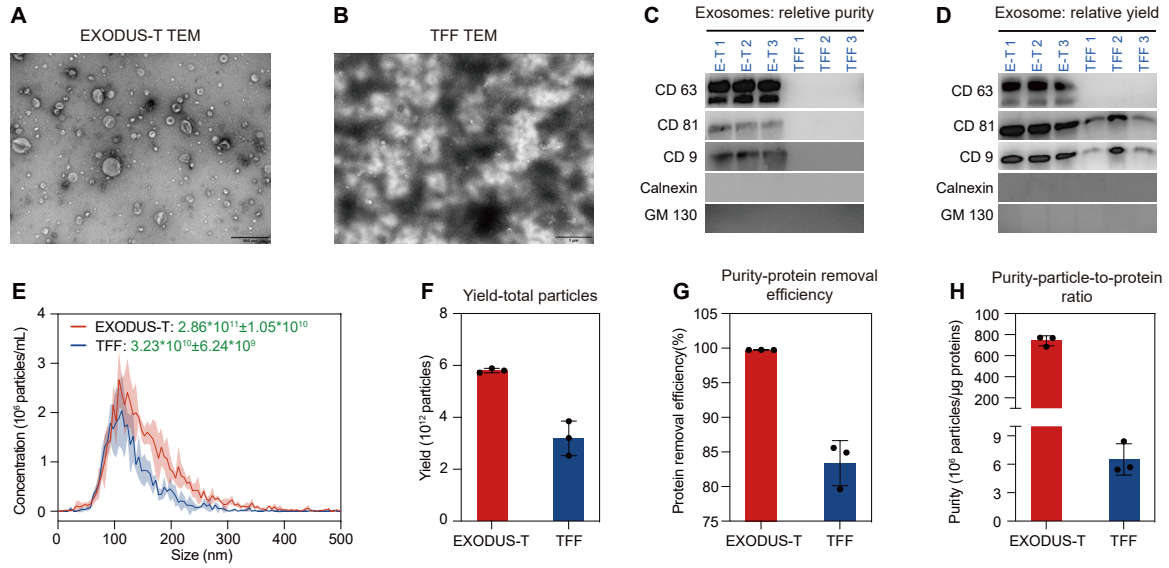
## Three-in-one

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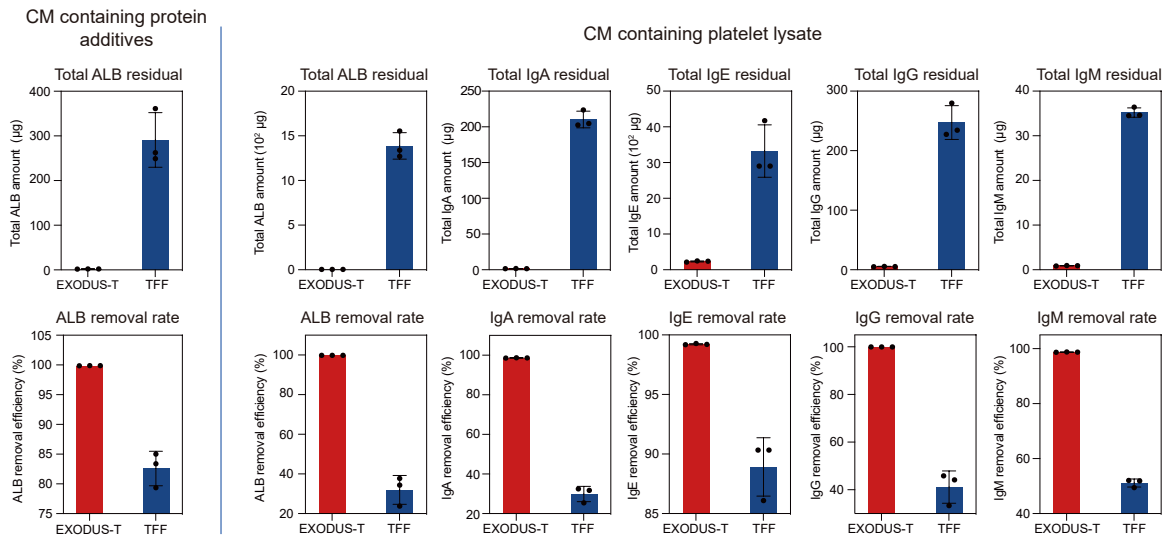
## ⊕ Outstanding purity and yield

Protein removal efficiency >99%, with particle-to-protein ratio >  $5 \times 10^8$  particles/μg protein; exosome concentration >  $1 \times 10^{11}$  particles/mL.



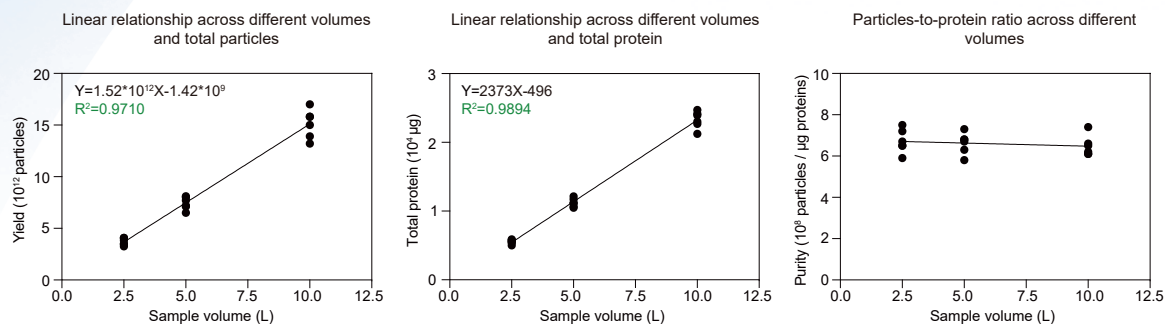
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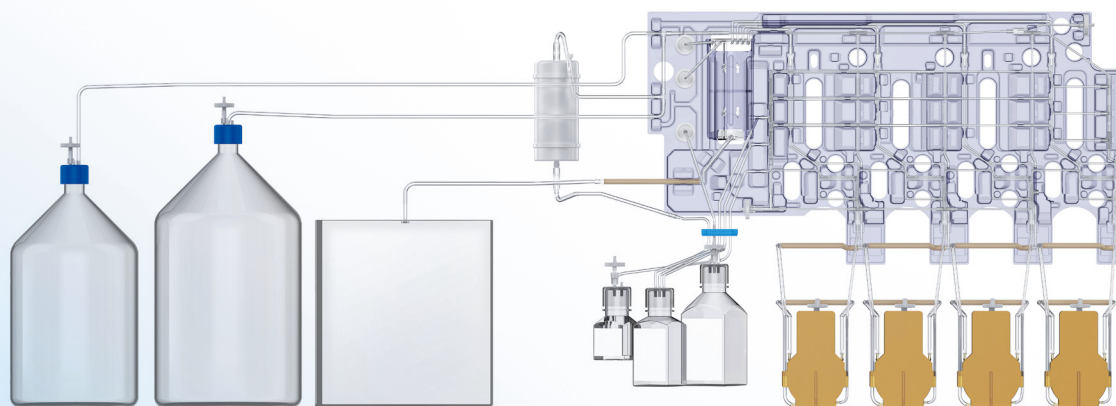
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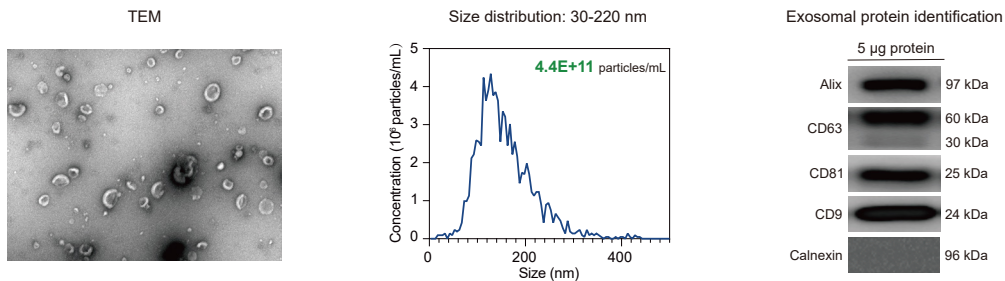
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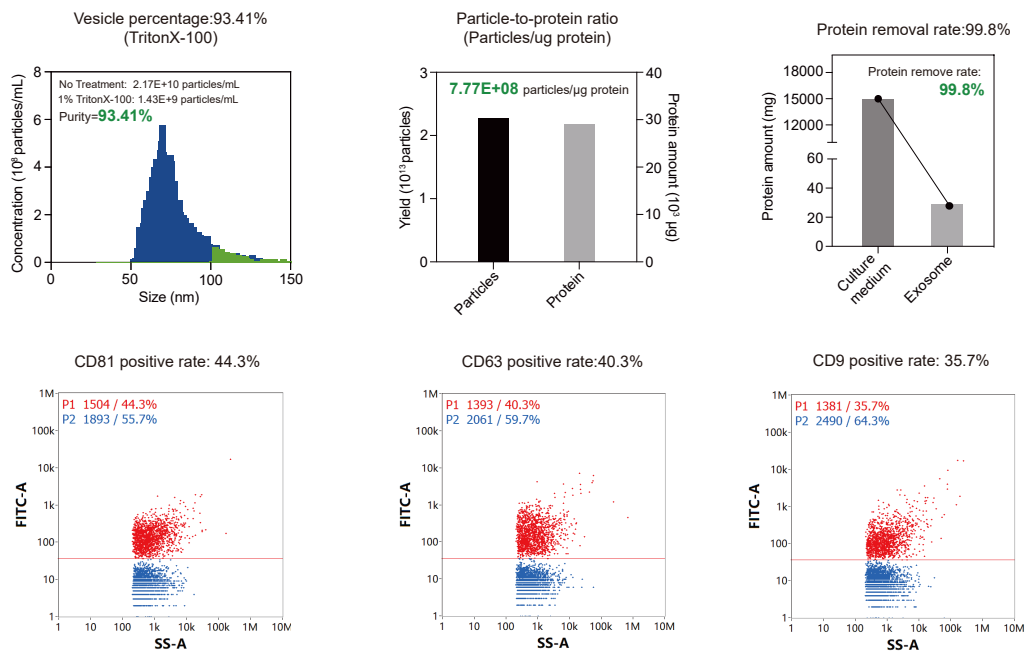
Fully enclosed consumables: Suitable for Class C or Class C+A Environments.

# Applications- Mesenchymal Stem Cell (10 L)

## Exosome characterization



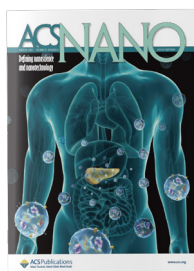
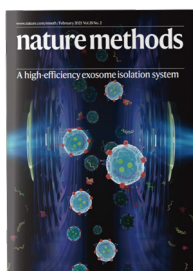
## Performance demonstration of high-purity exosomes





# 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

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|                                |   |
|--------------------------------|---|
| 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      | >5×10 <sup>8</sup> particles/μg protein   |
| Exosome Particle Concentration | 1×10 <sup>11-12</sup> 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                     | ≤200lbs (90kg)  |
| Operating Environment          | Voltage: AC 110 V-240 V, 50/60 Hz<br>Operating Temperature: 10-30°C<br>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.