



# Nereus LentiHERO<sup>®</sup>

Lentiviral vector purification spin columns



[www.astreabioseparations.com](http://www.astreabioseparations.com)

**Astrea**  
Bioseparations

PURITY  
by DESIGN



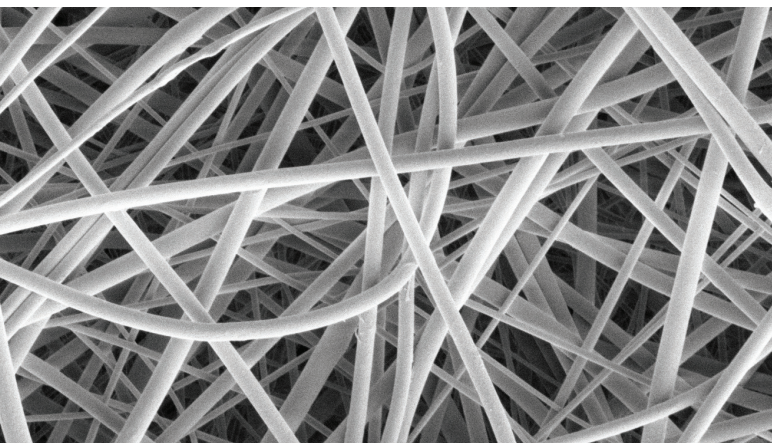
# OUR TECHNOLOGY

## Shaping the future of cell and gene therapy manufacturing with AstreAdept®, a novel purification material.

AstreAdept® brings fast flow rates and increased binding capacities to biological product purification. Higher capacity and faster runs compress bioprocessing, positively impacting on process economics. The compact nature of nanofibers results in smaller devices, reducing physical footprint, water usage, and waste removal, leading to greener manufacturing.

### Bioprocessing using AstreAdept®

AstreAdept® has highly accessible nanofibers which allows for almost immediate access to high binding surface area at high flow rates.

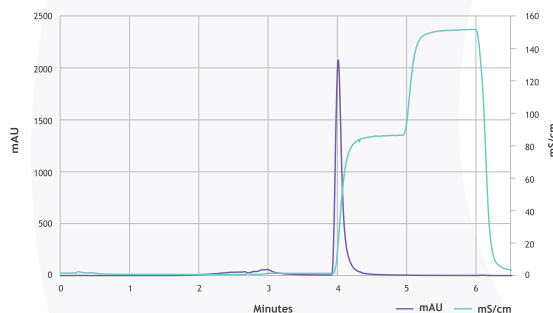


These unique features address the challenges of purifying large and fragile modalities which are often produced at low titers with high levels of contaminants.

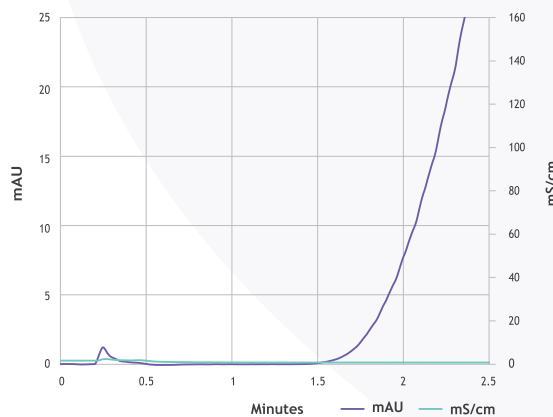
This technology has been incorporated into a spin column format, the Nereus LentiHERO® to bring these advantages to viral vector purification at lab-scale.

## AstreAdept® enables extremely high flow rates without compromising on dynamic binding capacity

High dynamic binding capacity BSA binding of 120 mg/mL



BSA breakthrough at 60mv/min 1s residence time



AstreAdept® nanofiber, functionalized with weak anion exchange, was tested using a chromatography system to characterize dynamic binding capacity and flow rate characteristics.

# Lentiviral Vector Purification

## Novel tools to reduce bottlenecks in viral vector processing

Utilizing **AstreAdept®** technology, **Nereus LentiHERO®** has been shown to significantly reduce the bottlenecks of viral vector sample preparation by compressing the processing of multiple lab-scale lentiviral feedstocks. Combining the benefits of high lentiviral particle recovery, significant reduction of contaminants, and the ability to scale out, **Nereus LentiHERO®** is a novel alternative to affinity resins, IEX membrane adsorbers, and molecular weight cut off ultrafiltration filters.

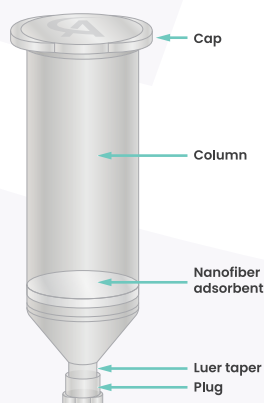
### Lentiviral vector purification using Nereus LentiHERO®

- Easy-to-use spin column format with a simple 5 step workflow, used with a benchtop centrifuge.
- No need for ultracentrifugation, large chromatography systems, or tedious filtering by hand.
- Sample throughput is easily increased by maximizing benchtop centrifuge capacity.
- Feedstock volumes are reduced in the order of 10-fold depending on loading volume.
- Purer samples with reduced volumes shortens duration of subsequent concentration steps, increasing throughput of feedstock processing.

### Key Features

- > 60% recovery of lentiviral particles
- High binding capacity of 1.9E+10 lentiviral particles per unit
- 95% reduction in host cell protein contamination
- Lab-scale purification of lentiviral particles in 5 easy steps
- Suitable for both serum and serum-free feedstocks

1 unit for small or larger volumes



Easy-to-use spin column format







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Powered by  
**AstreAdept®**

Nereus LentiHERO® - V2

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