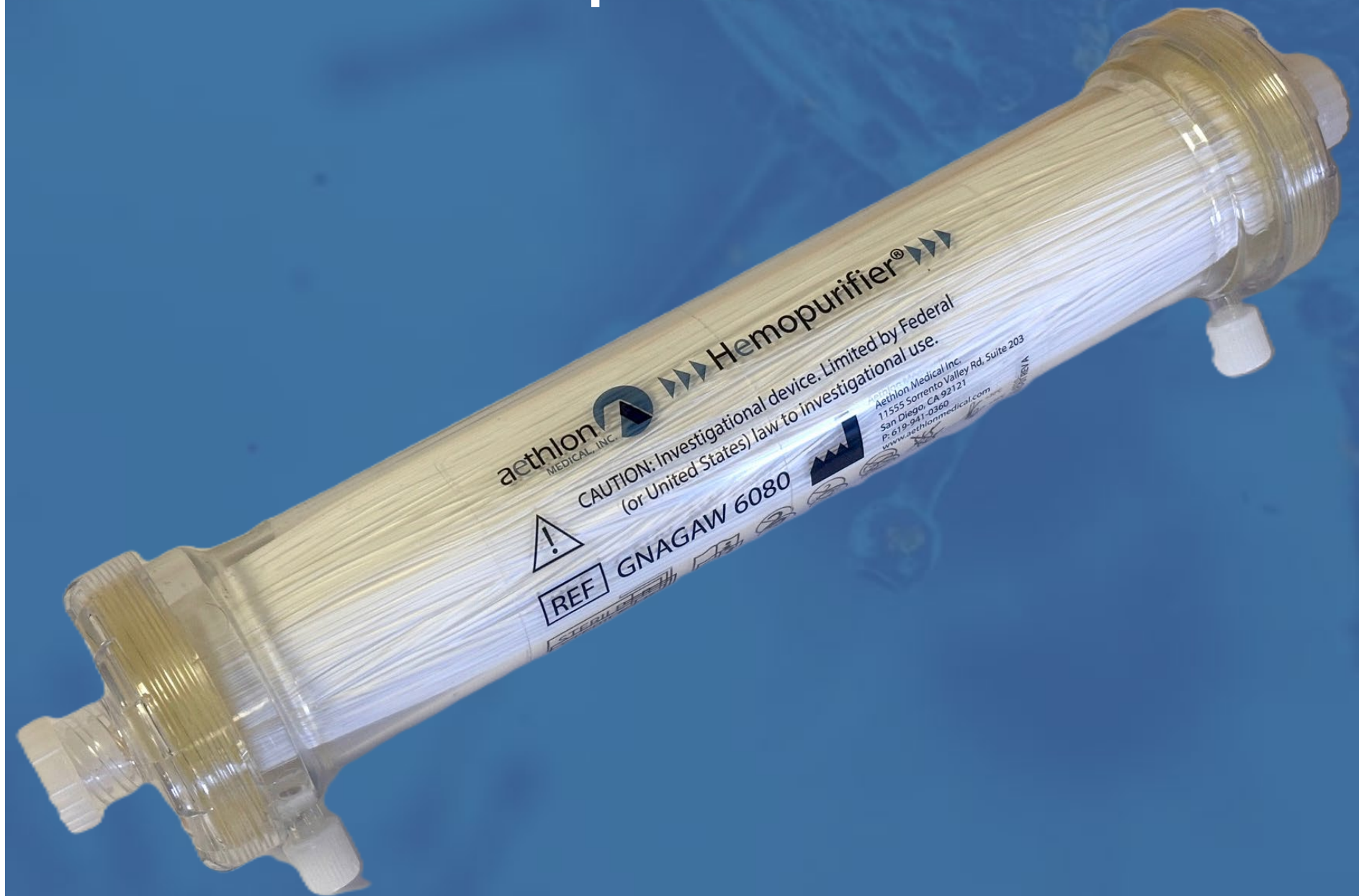




## Corporate Presentation

# The Hemopurifier®





# FORWARD LOOKING STATEMENTS

This investor presentation contains forward-looking statements, as that term is defined in the Private Securities Litigation Reform Act of 1995 as contained in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which are subject to the “safe harbor” created by those sections. All statements other than statements of historical fact contained in this presentation are forward-looking statements, including, without limitation, statements regarding: Aethlon’s ability to enroll patients in Aethlon’s ongoing and planned clinical trials; Aethlon’s ability to successfully complete Aethlon’s clinical trials and achieve the endpoints for the trials, or any future clinical trials with Aethlon’s Hemopurifier® or to successfully develop and commercialize the Hemopurifier®; Aethlon’s ability to demonstrate the removal of nanoparticles (NPs), extracellular vesicles (EVs) and their associated cargo with the Hemopurifier®; the potential synergistic use of the Hemopurifier with chemotherapy, immunotherapy and targeted agents; Aethlon’s ability to successfully demonstrate the benefit of Aethlon’s Hemopurifier® in the organ transplant setting; and Aethlon’s ability to raise additional capital when needed and to maintain Aethlon’s listing on the Nasdaq Capital Market (Nasdaq); and Aethlon’s ability to establish and maintain collaborations. These forward looking statements are subject to a number of risks, uncertainties and assumptions, including, but not limited to: the timing and success of Aethlon’s clinical trials and preclinical research with the Hemopurifier®; Aethlon’s ability to enroll patients in Aethlon’s ongoing and planned clinical trials on a timely basis, or at all; Aethlon’s dependence on Aethlon’s CROs and other third parties; Aethlon’s ability to manufacture Aethlon’s Hemopurifiers®; Aethlon’s ability to obtain regulatory approvals within the timeframes expected, or at all; complications associated with product development and commercialization activities; the size and growth of the market(s) for the Hemopurifier® and the rate and degree of market acceptance thereof; Aethlon’s ability to raise additional capital when needed; Aethlon’s ability to remain listed on Nasdaq; and Aethlon’s ability to attract and retain key management, and members of Aethlon’s board of directors and regulatory changes. In light of these risks and uncertainties, and other risks and uncertainties that are described in the Risk Factors section of Aethlon’s Form 10-K filed with the Securities and Exchange Commission (SEC) on June 27, 2025, subsequent filings with the SEC on Forms 10-Q and 8-K, and other filings that Aethlon makes with the SEC from time to time (which are available at <http://www.sec.gov>), the events and circumstances discussed in such forward-looking statements may not occur, and Aethlon’s actual results could differ materially and adversely from those anticipated or implied thereby. Any forward-looking statements speak only as of the date of this presentation and are based on information available to Aethlon as of the date of this presentation, and Aethlon undertakes no duty to update such information except as required under applicable law. All third-party brand names and logos appearing in this presentation are trademarks or registered trademarks of their respective holders. Any such appearance does not necessarily imply any affiliation with or endorsement of the Company.

*This presentation shall not constitute an offer to sell or the solicitation of an offer to buy our securities.*



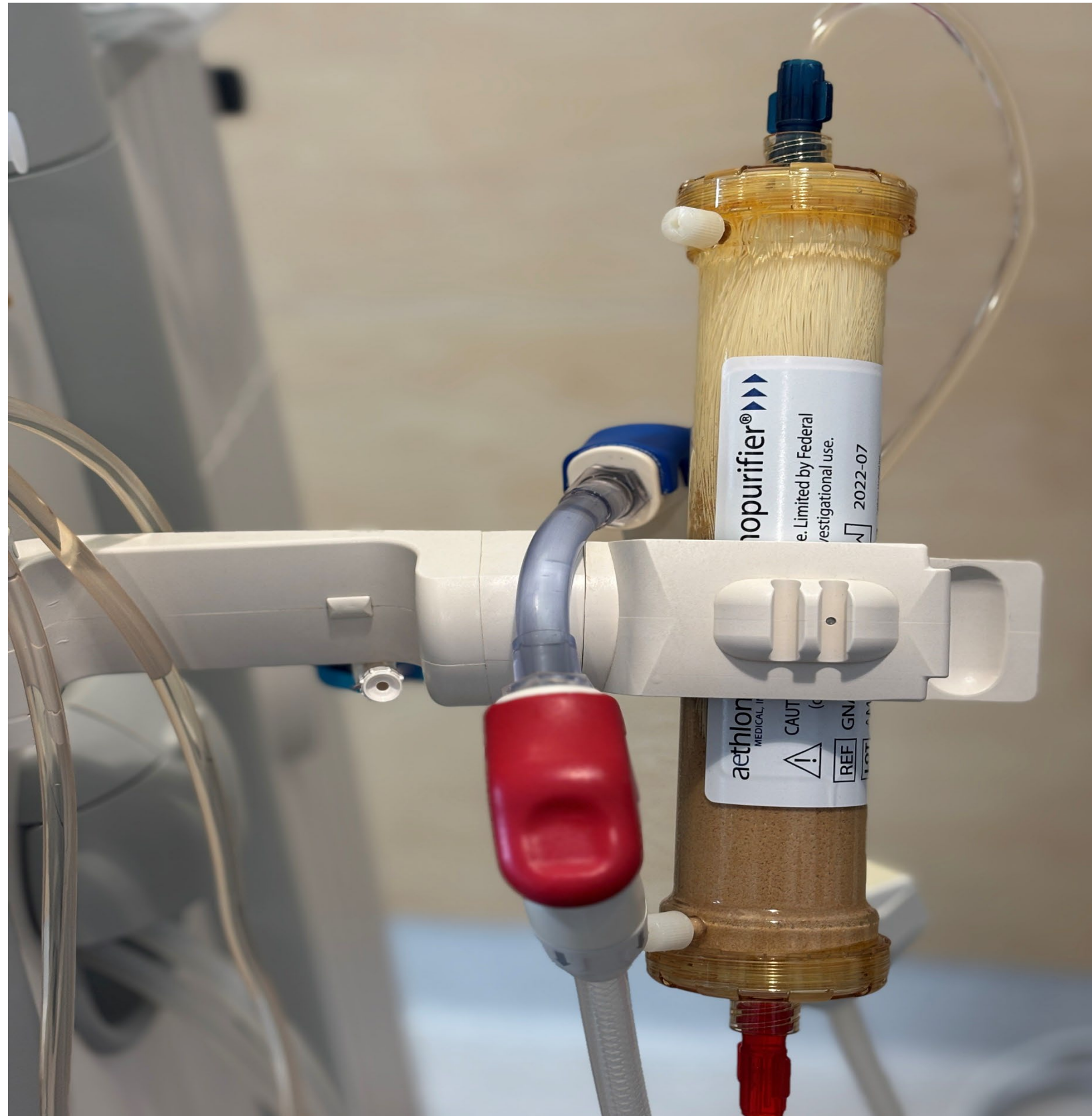
# Investment Highlights

- **Patented Aethlon Hemopurifier® blood purification device**
  - Early clinical trials have shown enveloped virus and extracellular vesicle (EV\*) clearance both in vitro and in patients
- **Two FDA “Breakthrough Device” designations**
  - Advanced/metastatic cancer
  - Life-threatening viral infections without approved therapies
- **Oncology trial enrolling patients in Australia near term opportunity for clinical data readouts**
- **Designed to target multiple therapeutic pathways within oncology and infectious disease**
- **Active R&D in Long COVID**
- **Broad patent portfolio supporting long-term competitive advantage**
- **Multiple future expansion opportunities across high-value therapeutic areas**
- **Capital-efficient clinical development supported by Australia’s 43.5% R&D rebate program**

\* EV = extracellular vesicles, which include exosomes



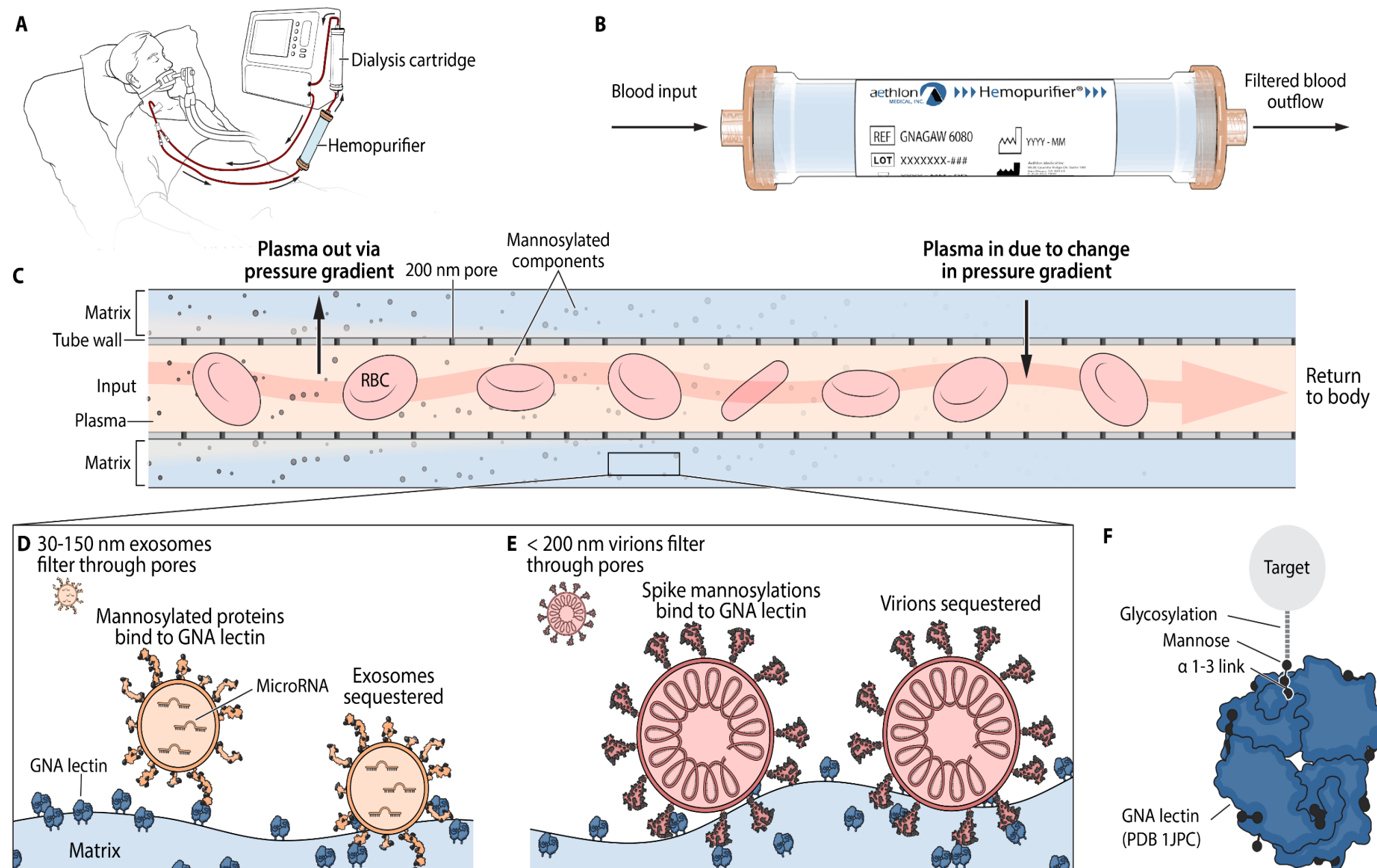
# The Aethlon Hemopurifier®



- Administered in 167 Hemopurifier sessions in 41 patients with a favorable safety profile<sup>1</sup>
- Proprietary, patented technology
- Demonstrated clearance of life-threatening enveloped viruses
- Designed to clear tumor-derived EVs, and their associated cargo (Oncology)

<sup>1</sup> Aethlon clinical safety database

# Unique Mechanism of Action

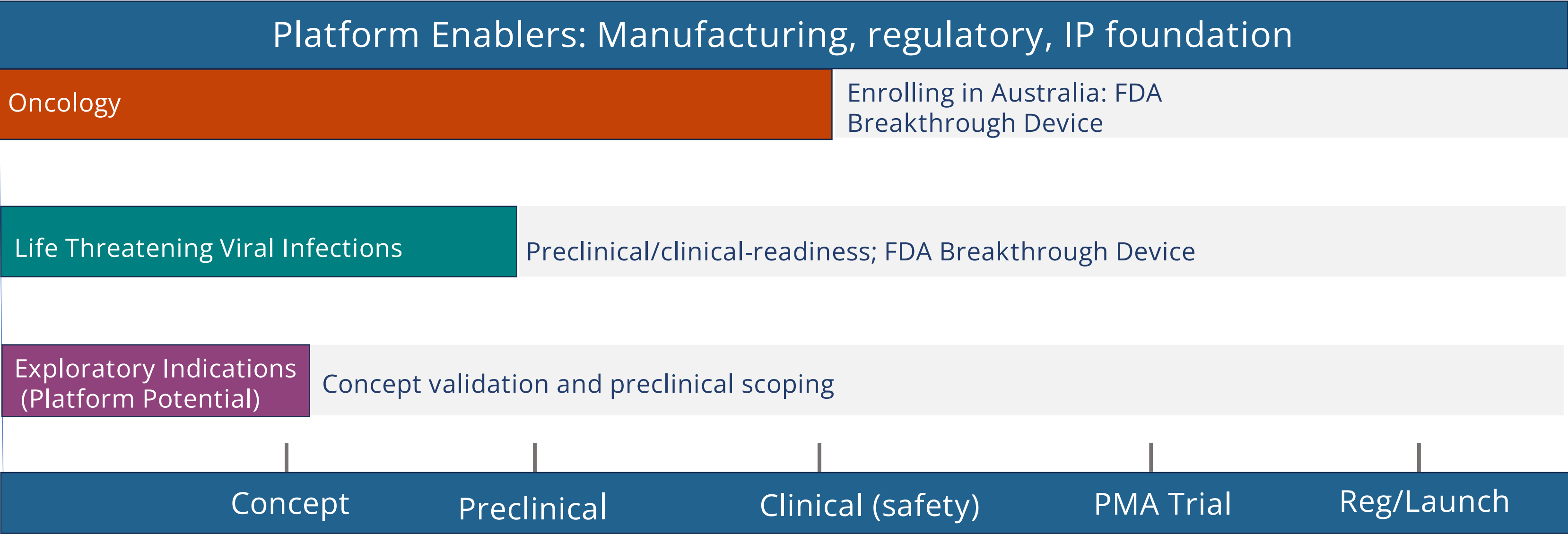


## How It Works:

- **Plasma separation:** Obviates the need for plasmapheresis or plasma exchange
- **Size exclusion:** Keeps larger, unwanted particles within the lumen of the device while allowing smaller targets to contact the proprietary affinity resin of the Hemopurifier
- **Targeted Binding:** A plant lectin (GNA) captures extracellular vesicles and enveloped viruses by attaching to sugars on their surface



# Hemopurifier Platform – Multi-Disease Potential



# Oncology



# Why the Hemopurifier Targets Tumor-Derived EVs

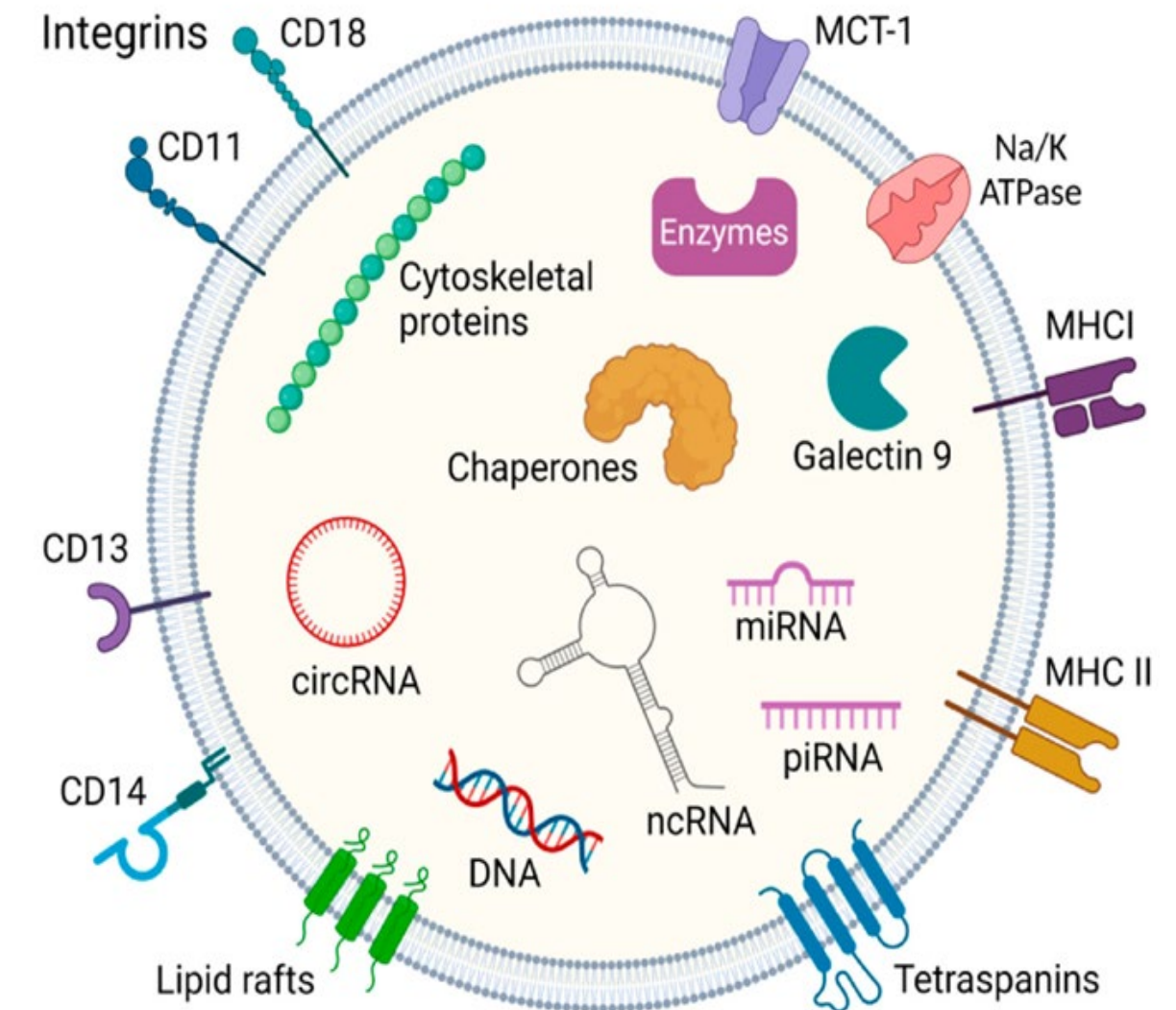
Extracellular Vesicles (EVs) including small EVs known as exosomes (50-150nm) are lipid bilayer enclosed nanoparticles released by all cell types including tumor cells

- EVs are involved in cell-to-cell communication
- Extracellular Vesicles contain cargo including nucleic acids, proteins, lipids and microRNAs
- Tumor-Derived EVs have more mannose on their surface than non-Tumor-Derived ([Anal Biochem. 2019 Sep 1;580:21-29.](#))

Specifically, EVs:

- Linked to the spread of cancer (metastases)
- Play a role in immune system evasion by the tumor
- Facilitate chemotherapy resistance
- **EVs bearing PD-L1** interfere with antibody-based treatments (e.g., PD-1 antibody therapies such as Keytruda and Opdivo)

Zhang L and Yu D. Biochim Acta Rev Cancer 2019;1872 (2): 455-468.







# Immunotherapy Market & Unmet Need

## Market Size

- PD-1/PD-L1 Inhibitors: ~\$62B in 2025 → ~\$120B by 2030
- Checkpoint Inhibitors (PD-1, PD-L1, CTLA-4): ~\$26B in 2024 → ~\$107B by 2034
- PD-1 Inhibitor Drugs: ~\$48.7B in 2025 → ~\$179.8B by 2034

## Response Challenge

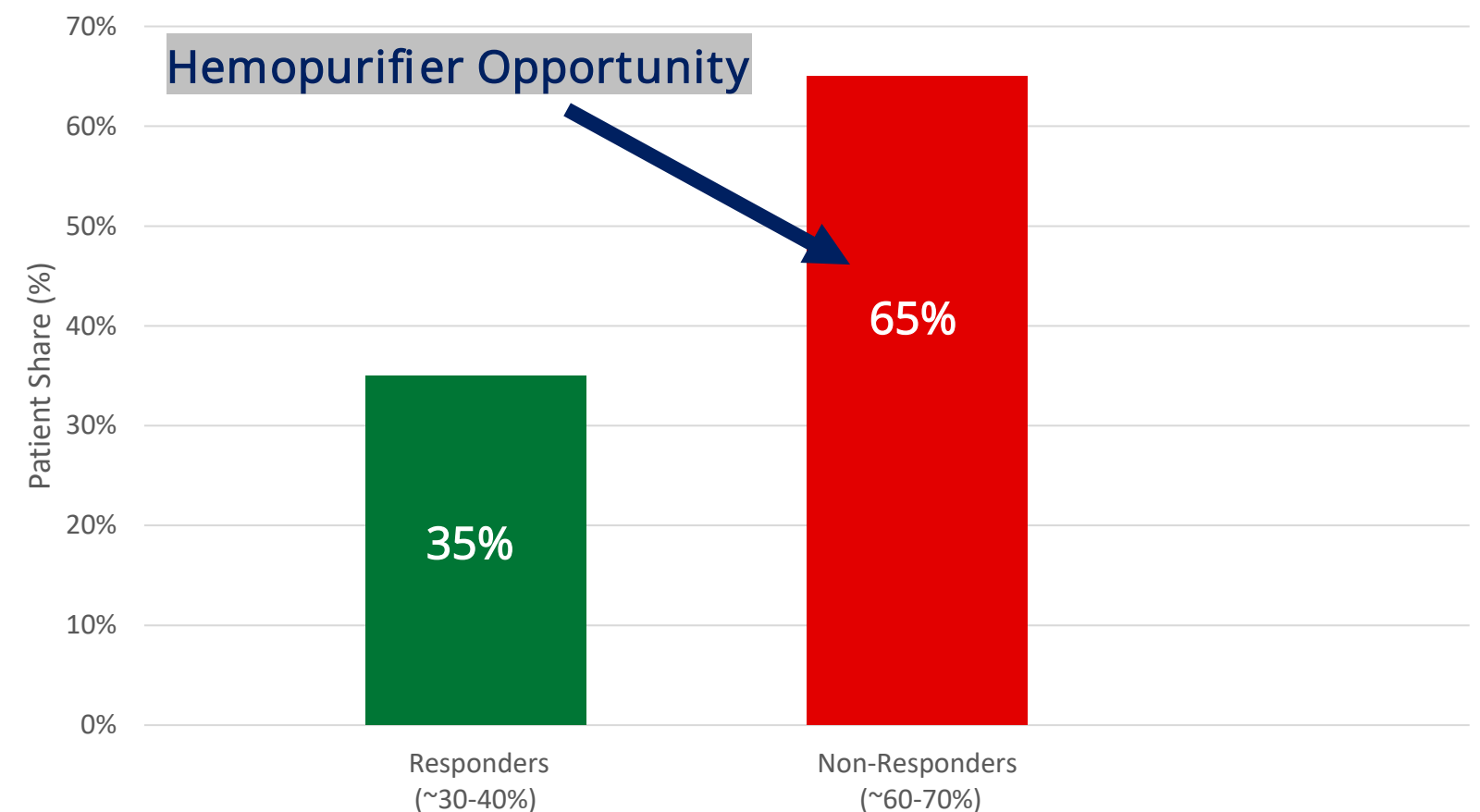
Only 30-40% have a lasting clinical response to anti-PD-1 monotherapy

- ~40% non-response with anti-PD-1 + anti-CTLA-4 combos

Sources: Mordor Intelligence, Persistence Market Research, Precedence Research, ScienceDirect, NIH/PMC

## Hemopurifier Opportunity

- Targets the 60–70% of patients who do not respond
- Novel mechanism: Removes tumor-derived exosomes that leads to T cell exhaustion
- Potential to enhance immunotherapy responsiveness
- Even partial penetration → Possible Multi-billion-dollar impact





# *In-Vitro* Removal Of Cancer-Derived EVs Demonstrated

## In Vitro Experiments (Miniature Hemopurifier):

- Multiple Tumor Types – Removed **92-99%** of buffer suspended EVs (Marleau AM, Jacobs MT, Gruber N, *et al.* Cancer Res 2020;80 (16\_Supplement):4509.)
- Patient Plasma – Removed EVs directly from plasma sample of a non-small cell lung cancer patient (NSCLC) (Brown MP, Matos M, Clarke S, Coates PT, *et al.* medRxiv. Preprint posted on March 21, 2025. doi: <https://doi.org/10.1101/2025.03.20.25323761>.)

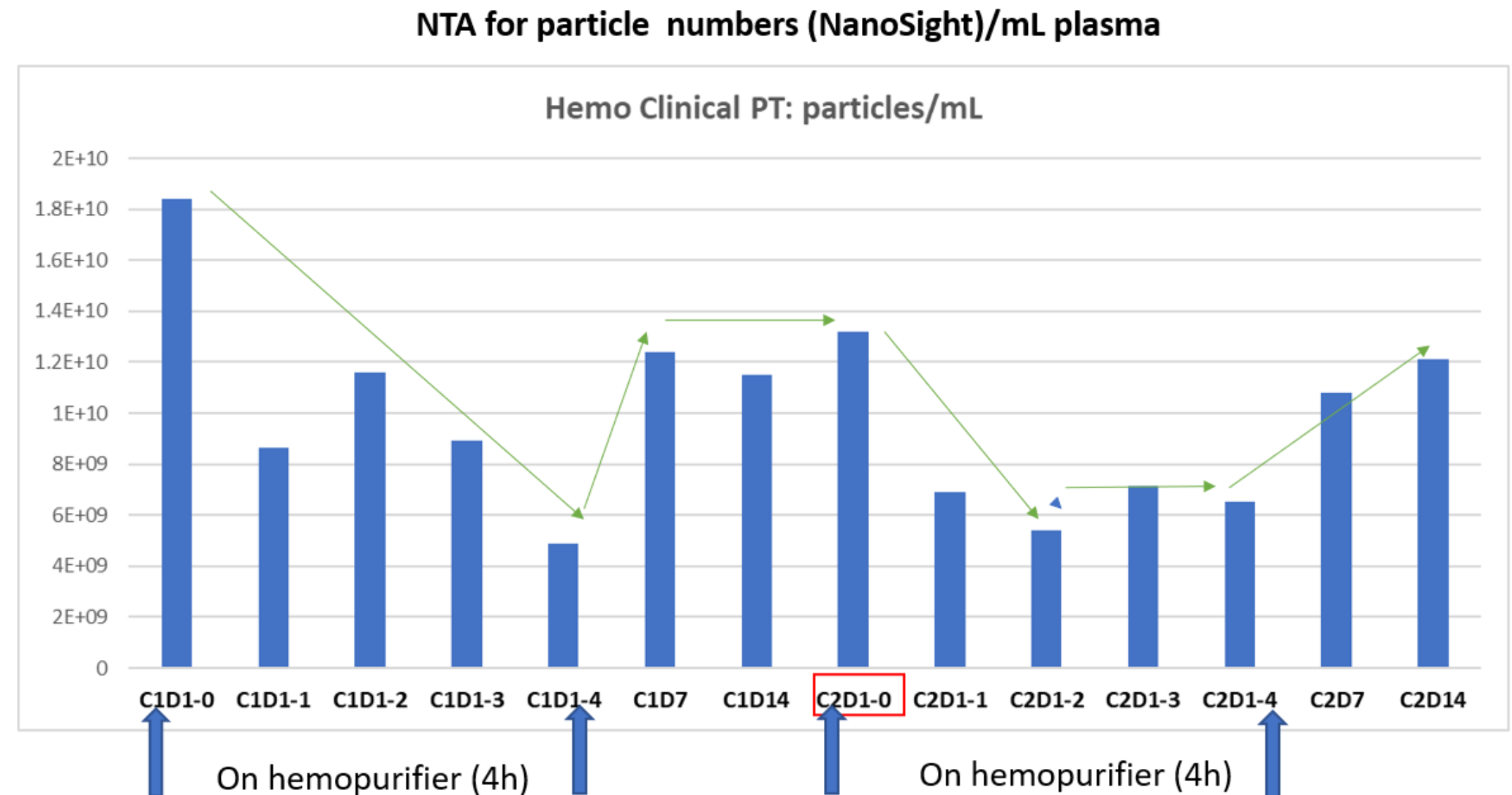
## In Vivo Experiments :

- Severe COVID-19 Patient –Reduced total exosome concentrations over 8 HP treatments (Amundson DE, Shah US, de Necochea-Campion R, *et al* Front Med (Lausanne). 2021 Oct 8;8:744141. )
- Head & Neck Cancer Patient – Reduced total EV concentrations after 2 HP treatments 21 days apart (Brown MP, Matos M, Clarke S, Coates PT, *et al.* medRxiv. Preprint posted on March 21, 2025. doi: <https://doi.org/10.1101/2025.03.20.25323761>.)

# In Vivo Reduction of Exosomes in Head & Neck Cancer

Single subject with head and neck cancer following 2 distinct Hemopurifier treatments

- The total nanoparticle counts decreased following each of the treatments.
- Slowly rose 7 days following the treatment to levels that were below the baseline measurement



Number for sEV in HDs plasma; range =  $2 \times 10^8$  -  $8 \times 10^9$  per mL plasma  
In HNC patients' sEV number; range =  $9 \times 10^8$  -  $4 \times 10^{10}$  per mL plasma

Brown MP, Matos M, Clarke S, Coates PT, et al. medRxiv. Preprint posted on March 21, 2025.

doi: <https://doi.org/10.1101/2025.03.20.25323761>.)





# Progress in Australian Hemopurifier® Oncology Trial

**Trial Design:** Safety, feasibility, and dose-finding study in patients with stable or progressive malignancies while on pembrolizumab or nivolumab. [ANZCTR Link](#)

## Trial Status

- 3 sites open as of February 2025
- 3 participants received a single HP treatment in Cohort 1
- Protocol amendment broadens participant eligibility to allow all treatment regimens that include an anti PD-1 agent
- Cohort 2 now open for enrollment- 2 HP treatments during a 1-week period
- Cohort 3 would follow (3-HP treatments during a 1-week period)

## Upcoming Data

- Central lab results on EV removal after Hemopurifier® treatment from first cohort
- Central lab results on anti-tumor CD8 T cell changes after Hemopurifier® treatment from first cohort

## Safety Outcomes

- No dose-limiting toxicities or device-related serious adverse events at 7-day follow-up
- Data Safety Monitoring Board evaluated data from initial cohort and recommended advancement to next clinical cohort

## Next Steps

- Review and interpret lab findings
- Present data to regulatory agencies in a pre-PMA meeting
- Engage potential partners

# Virology



# Hemopurifier® for Emerging Viral Threats

We believe the Aethlon Hemopurifier® is Uniquely Positioned as an Early Treatment Option for Future Bioattacks or Pandemic Threats

- The next bioattack or pandemic is likely to occur with an **enveloped virus**
- Enveloped viruses contain mannose structures that are the target for the **affinity resin** in the **Aethlon Hemopurifier®**
- During a bioattack or pandemic there will likely be delays in the time to develop effective anti-viral therapies and/or vaccines
- Removal of viruses from the bloodstream in critically ill patients may provide benefit during the time it takes to generate effective therapies (i.e. could provide a layered defense)
- Extensive in vitro and in vivo data with our Hemopurifier has demonstrated removal of enveloped virus (e.g., Ebola, H5N1, H1N1, SARS-CoV-2, etc.) and disease contributing extracellular vesicles

We believe the Hemopurifier's demonstrated removal of enveloped viruses and extracellular vesicles from a patient's blood presents a unique, broad spectrum, treatment option

Source: World Health Organization: Prioritizing diseases for research and development in emergency contexts



# In Vitro and In Vivo Removal of Enveloped Viruses

## In vitro:

- HIV
- Hepatitis C
- Ebola
- Marburg
- Dengue
- Chikungunya
- West Nile Virus
- H5N1 (Bird Flu)
- 1918 Spanish Flu
- EBV
- MERS-CoV
- SARs-CoV-2 Spike Protein
- SARs-CoV2 (7 variants)

## In vivo (Human Subjects):

- Hepatitis C
- HIV
- Ebola
- SARs-CoV -2



# Pre-Clinical Research-Long COVID

## Background:

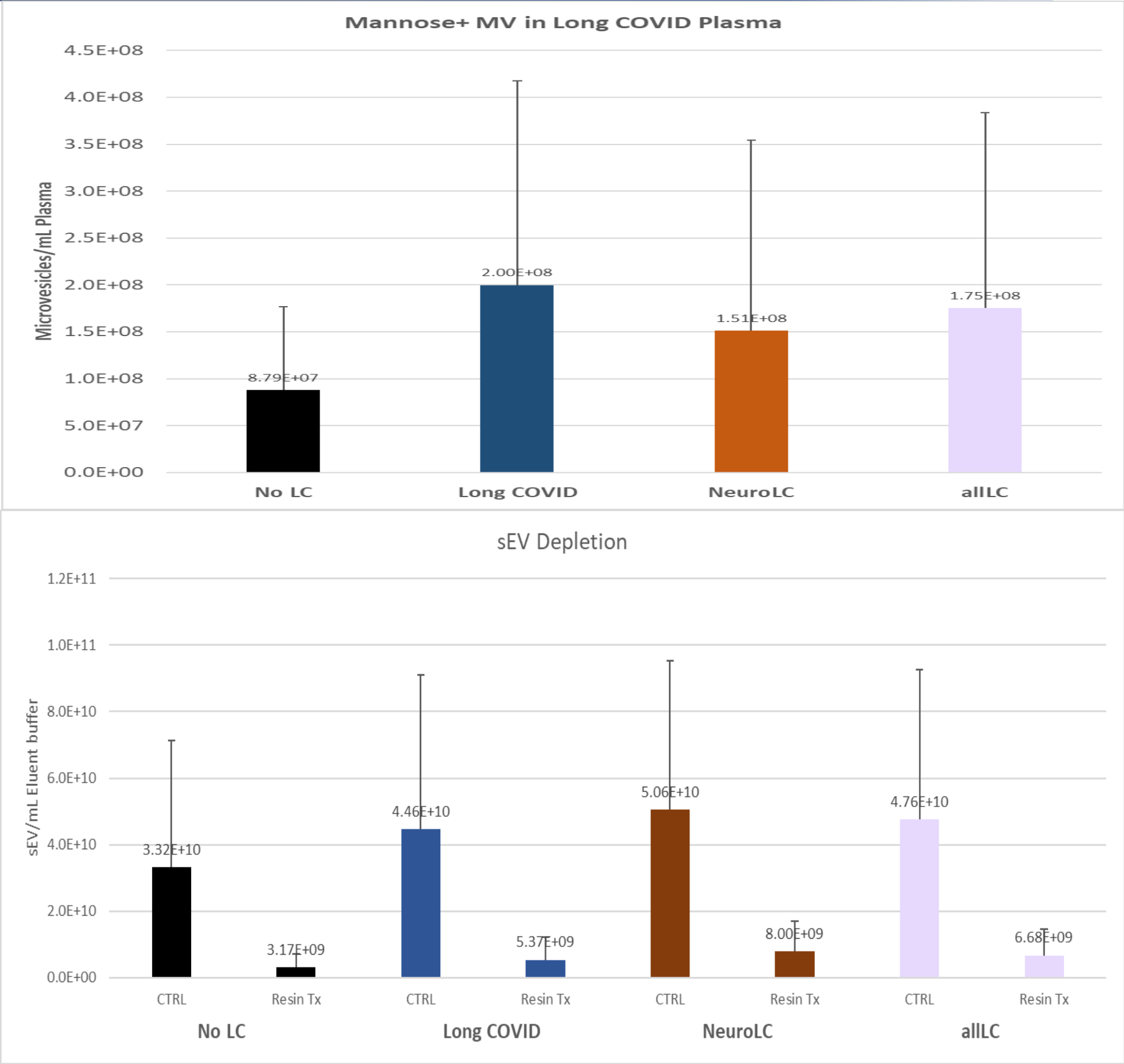
- Long COVID is the persistence of symptoms at least 3 months following acute infection with the SARS-CoV-2 virus
- **Global** incidence of Long COVID is estimated to be 400,000,000 with an economic burden of 1 trillion dollars/year (Nat Med 30, 2148-2164 (2024)).
- Extracellular vesicles including those containing the Spike protein have been implicated in the pathogenesis of Long COVID (Fanelli et al. Extracell Vesicles Circ Nucleic Acids 2024;5:417-370)

## Findings:

- Large EVs (microvesicles ) in Long COVID patient samples showed significantly greater binding to GNA than those in COVID – recovered patients.
- Smaller EVs in Long COVID patient samples bound to the Hemopurifier® GNA affinity resin

## Next steps: EV Cargo Analysis for Mediators of Long COVID Pathogenesis:

- Viral persistence: SARs –CoV-2 RNA & spike protein
- HHV reactivation: EBV in EVs
- Immune and coagulation dysregulation: microRNAs and cytokines
- T cell Exhaustion: PD-L1 in EV





# Pre- Clinical- Platelet-Derived Microparticles (MPs)

## Background:

- Microparticles derived from activated platelets (PD-EVs) are elevated in a myriad of diseases and associated with disease activity:
  - SLE (Lupus)
  - Rheumatoid Arthritis
  - Cancer
  - Systemic Sclerosis
  - **Multiple Sclerosis**
  - Alzheimer's Disease
  - Sepsis
  - Acute and Long COVID

## Methods:

- Normal Human Plasma was run over the Hemopurifier
- Serial samples were collected for EV measurement

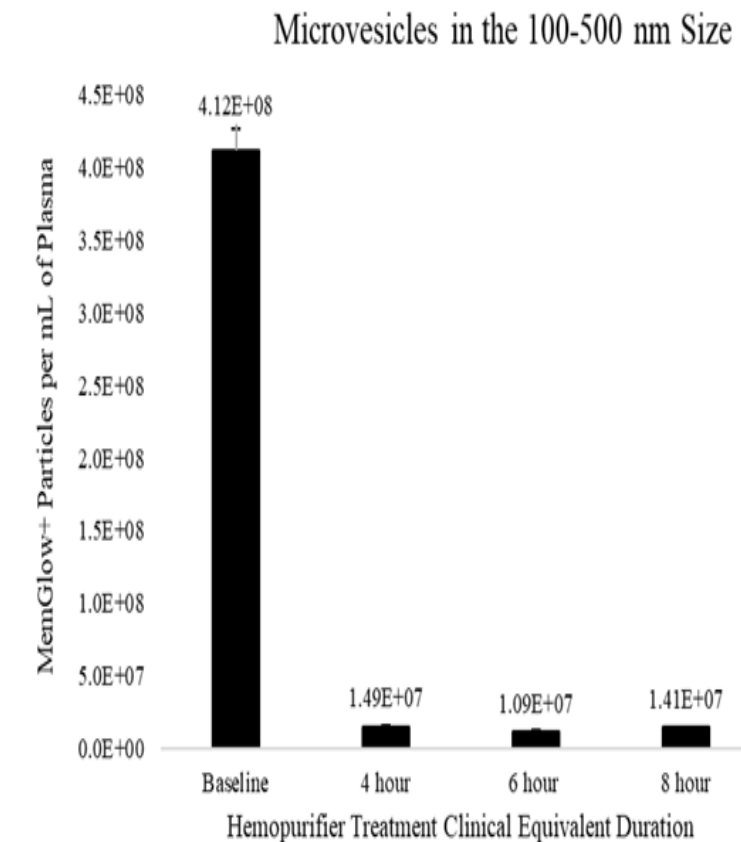
## Findings:

- **98.5%** removal of platelet -derived microparticles at a timepoint equivalent to a 4-hour HP treatment.

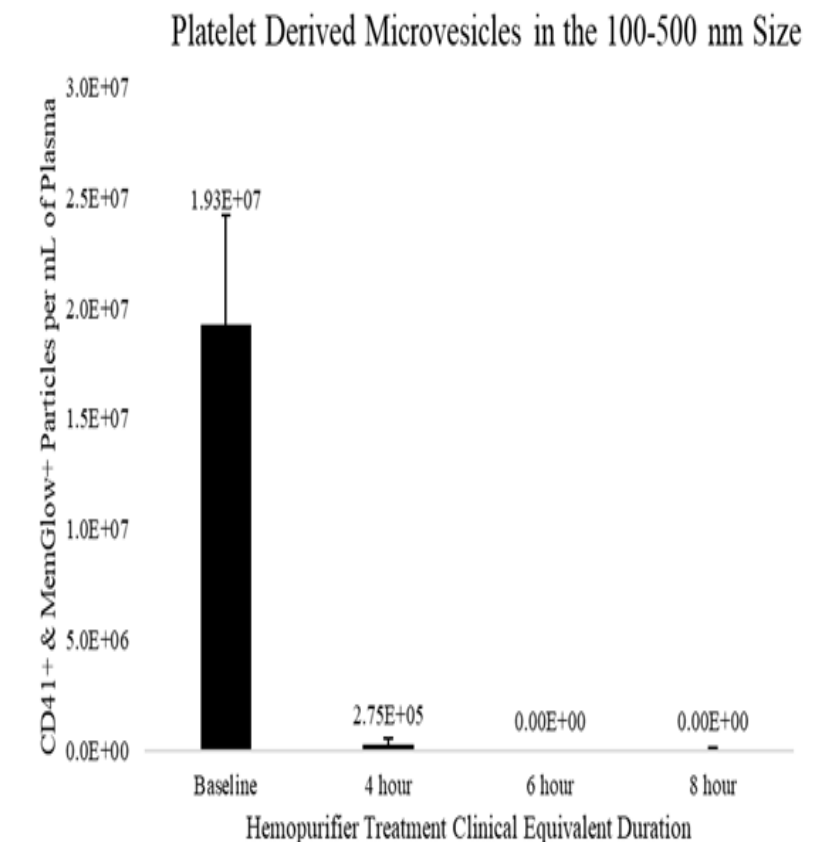
## Implications:

- The results of this study support the current Australian Clinical Trial in Oncology as well as open the investigation of the Hemopurifier in many indications.

A.



B.





# Pre- Clinical- Organ Transplantation

## Background:

- Machine Perfusion (MP) following kidney recovery improves outcomes compared to static cold storage
- MP is associated with the release of EVs and microRNAs, which are linked to delayed graft function and acute rejection

## Hypothesis:

The Hemopurifier would remove EVs and associated miRNAs from renal perfusates that had undergone MP

## Methods:

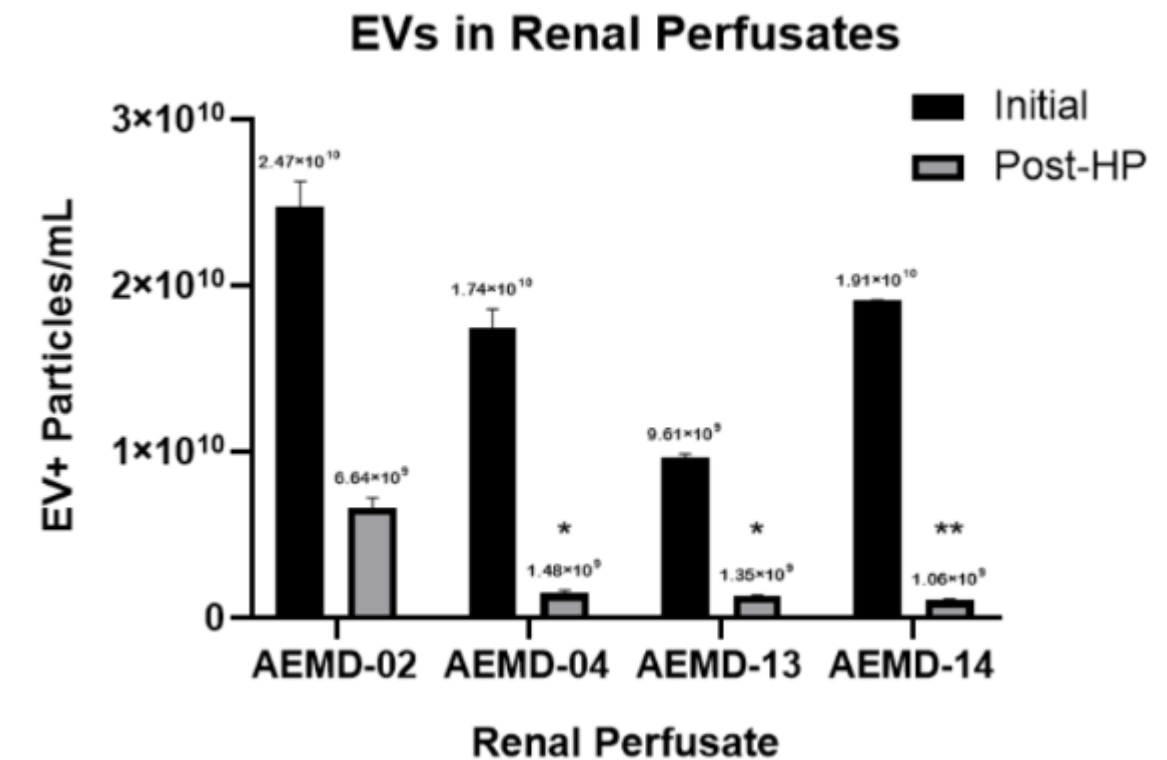
- Perfusates following machine perfusion of recovered kidneys were run over the Hemopurifier
- Serial samples taken for EV and miRNA analysis

## Findings:

- Both small EVs and Large EVs removed from renal perfusates
- NanoString analysis of miRNA identified 5 species potentially involved in renal dysfunction, significantly depleted following Hemopurifier treatment ( $p \leq 0.05$ ).

## Implications:

- The Hemopurifier® could be “bolted on” to existing MP platforms to further improve outcomes renal transplantation



Probe Name	Accession #	24P vs. ctrl	FDR (p-value)	Percent Reduction
hsa-let-7a-5p	MIMAT0000062	-7.4	0.00	-86.5
hsa-miR-148b-3p	MIMAT0000759	-1.78	0.04	-43.7
hsa-miR-148a-3p	MIMAT0000243	-2.36	0.04	-57.7
hsa-miR-29b-3p	MIMAT0000100	-4.48	0.05	-77.7
hsa-miR-99a-5p	MIMAT0000097	-3.75	0.05	-73.3

## United States

### Issued Patents:

- 3 patents issued covering extracorporeal removal of microvesicular particles, patent protection until 2029
- 1 patent to be issued (issue fee paid) covering treatment of coronavirus infections and symptoms thereof, patent protection until 2041 once issued

### Patent Applications:

- 2 applications pending covering removal of Covid-19 viral particles and associated exosomes, patent protection until 2042 if granted
- 1 application pending covering removal of exosomes, ectosomes, miRNAs, circulating nucleic acids, and viral particles with transplantation, patent protection until 2044 if granted

## International

### Issued Patents:

- 14 patents covering exosomes and microvesicular particle removal
  - Patent protection extending to 2031 in Germany, France, Great Britain, and Spain
  - Patent protection extending to 2027 in Canada, Switzerland, Italy, Netherlands, Sweden, Hong Kong, Denmark and Ireland
- 4 patents covering removal of Covid-19 viral particles and associated exosomes.
  - Patent protection extending to 2041 in Unitary Patent member states, Switzerland, Great Britain and Spain

### Patent Applications:

- 13 pending applications directed to extracorporeal removal of microvesicular particles, removal of Covid-19 viral particles and associated exosomes, removal of exosomes, ectosomes, miRNAs, circulating nucleic acids, and viral particles with transplantation patent protection to 2044 if granted
- 1 pending application directed to removal of exosomes, ectosomes, miRNAs, circulating nucleic acids, and viral particles associated with tissues selected for transplantation, patent protection to 2044 if granted



# Key Financial Highlights

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- Cash Position: ~\$3.8 million in cash as of June 30, 2025, funding near term operations and clinical development
- Debt-Free Balance Sheet: No outstanding debt, maintaining financial flexibility
- Capital Structure: ~2.6 million shares outstanding as of August 2025, following a reverse split to preserve Nasdaq listing compliance
- Market Valuation: We believe our market capitalization reflects a significant discount to the company's technology, platform and clinical opportunities
- Nasdaq Listing Maintained: Shares continue to trade on the Nasdaq Capital Market under ticker AEMD, providing visibility and access to a broad investor base



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