

# AETHLON MEDICAL, INC.

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INVESTOR PRESENTATION

NASDAQ: AEMD

JUNE 2020



# FORWARD LOOKING STATEMENTS

*The following presentation may contain predictions, estimates, and other forward looking statements that involve risks and uncertainties, including whether and when our products are successfully developed and introduced; market acceptance of the Aethlon Hemopurifier® and other product offerings; regulatory delays, manufacturing delays, delays in our clinical trials, and other risks detailed in our SEC filings, which are accessible at [www.sec.gov](http://www.sec.gov) or on our website: [www.AethlonMedical.com](http://www.AethlonMedical.com)*

# AETHLON MEDICAL, INC.

## PROPRIETARY MEDICAL DEVICES FOR CANCER AND VIRAL DISEASES

- **HEMOPURIFIER®**
  - TWO FDA BREAKTHROUGH DESIGNATIONS
- **EXOSOME SCIENCES, INC.**
  - 80% OWNED SUBSIDIARY
  - DIAGNOSTICS FOR CANCER AND CTE / NEUROGENERATIVE DISEASE
- EXPERIENCED MANAGEMENT TEAM
- STRONG CASH POSITION
- NON-DILUTIVE NCI FUNDING FOR MULTIPLE PROGRAMS
- BASED IN SAN DIEGO

NASDAQ: AEMD    ~12 MILLION SHARES OUTSTANDING

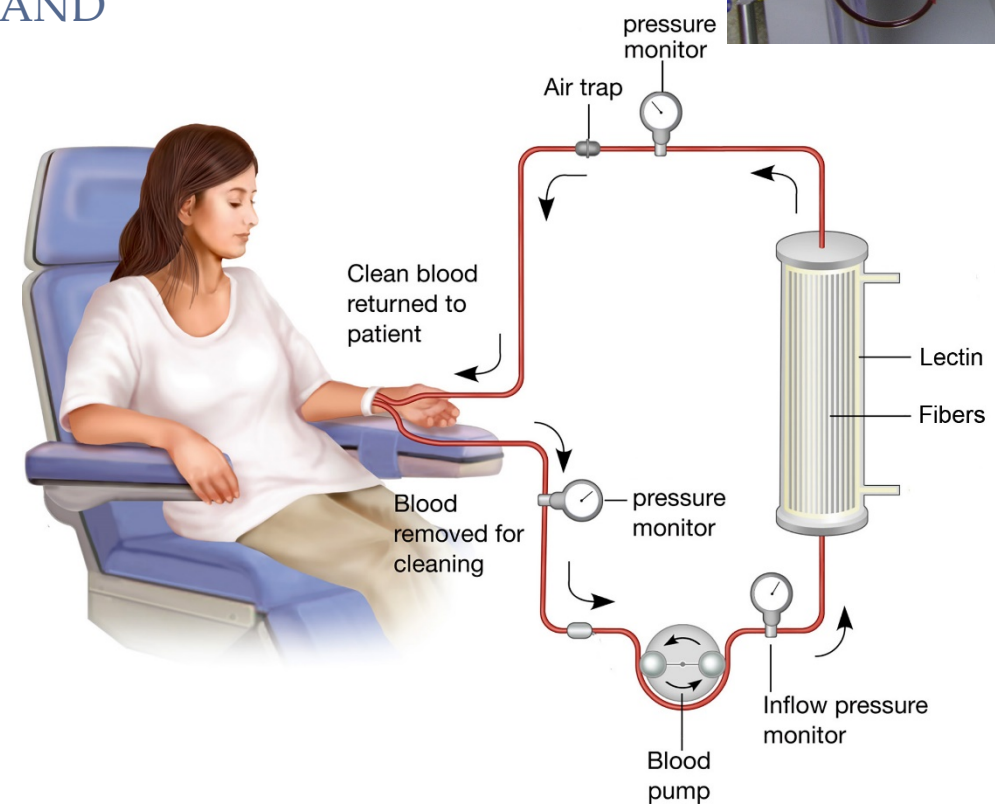
# THE AETHLON HEMOPURIFIER®



FDA DESIGNATED “BREAKTHROUGH DEVICE” FOR THE TREATMENT OF BOTH LIFE THREATENING GLYCOSYLATED VIRUSES AND THE REMOVAL OF CANCER PROMOTING EXOSOMES THAT ARE NOT ADDRESSED WITH APPROVED THERAPIES

# THE AETHLON HEMOPURIFIER

- HOLLOW-FIBER PLASMA SEPARATOR FILLED WITH A PROPRIETARY AFFINITY RESIN IN THE EXTRA-CAPILLARY SPACE OUTSIDE OF CARTRIDGE FIBERS
- ABILITY TO CAPTURE ENVELOPED VIRAL PATHOGENS AND EXOSOMES IN CIRCULATING BLOOD
- USED WITH EITHER A DIALYSIS OR CRRT MACHINE
  - PROPRIETARY PUMP CLOSED SYSTEM BEING EVALUATED



# THE AETHLON HEMOPURIFIER®

## UNIQUE MECHANISM OF ACTION

### COMBINATION MECHANISM OF ACTION

- PLASMA SEPARATION BASED ON SIZE
- EXOSOMES AND VIRUSES ARE OF SIMILAR SIZE

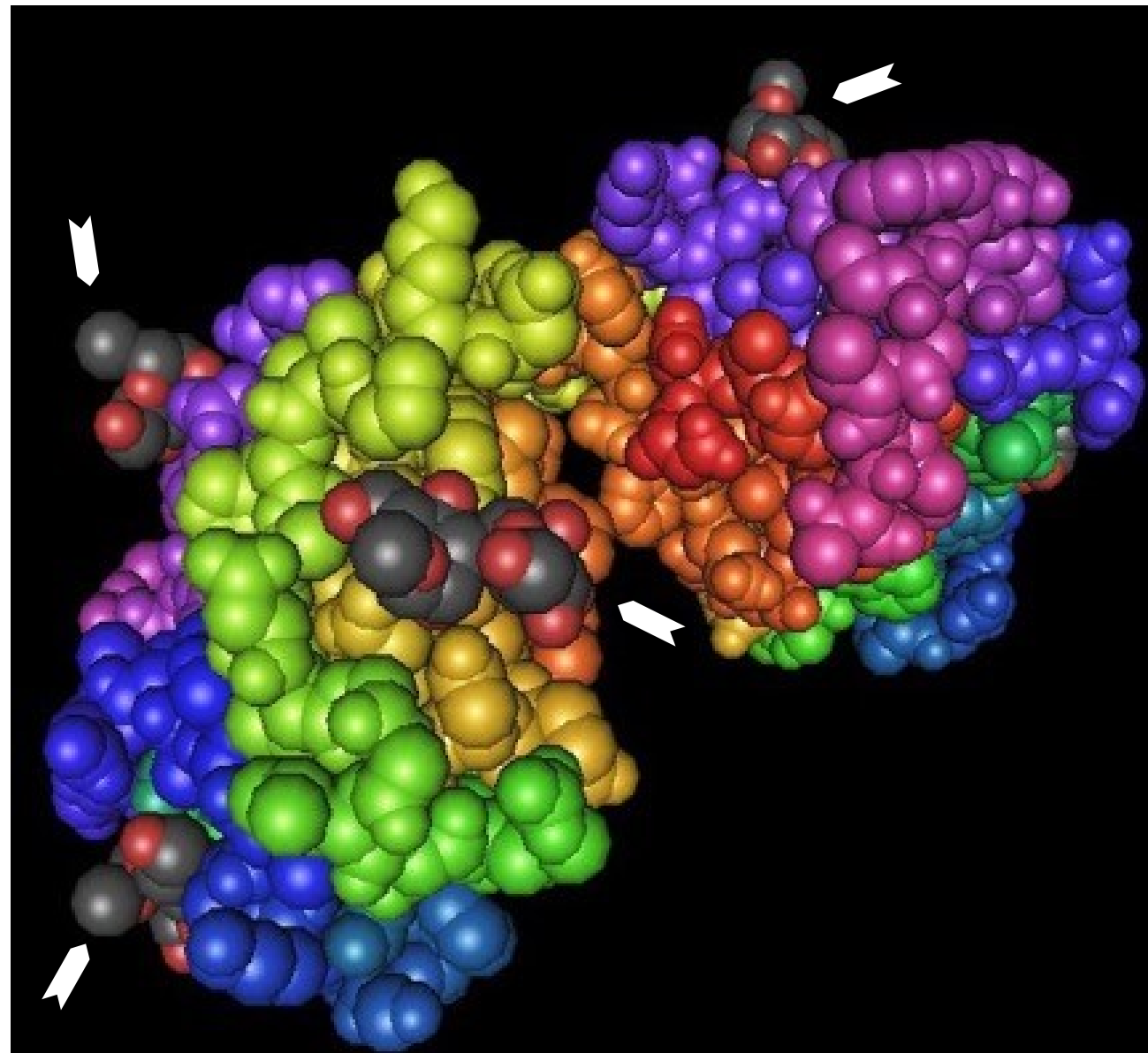
### LECTIN CAPTURE BASED ON GLYCOSYLATION (SUGARS)

- BOTH EXOSOMES AND MOST VIRUSES DISPLAY SUGAR MOLECULES ON THEIR MEMBRANES
- LECTINS ARE PROTEINS THAT BIND SUGAR MOLECULES



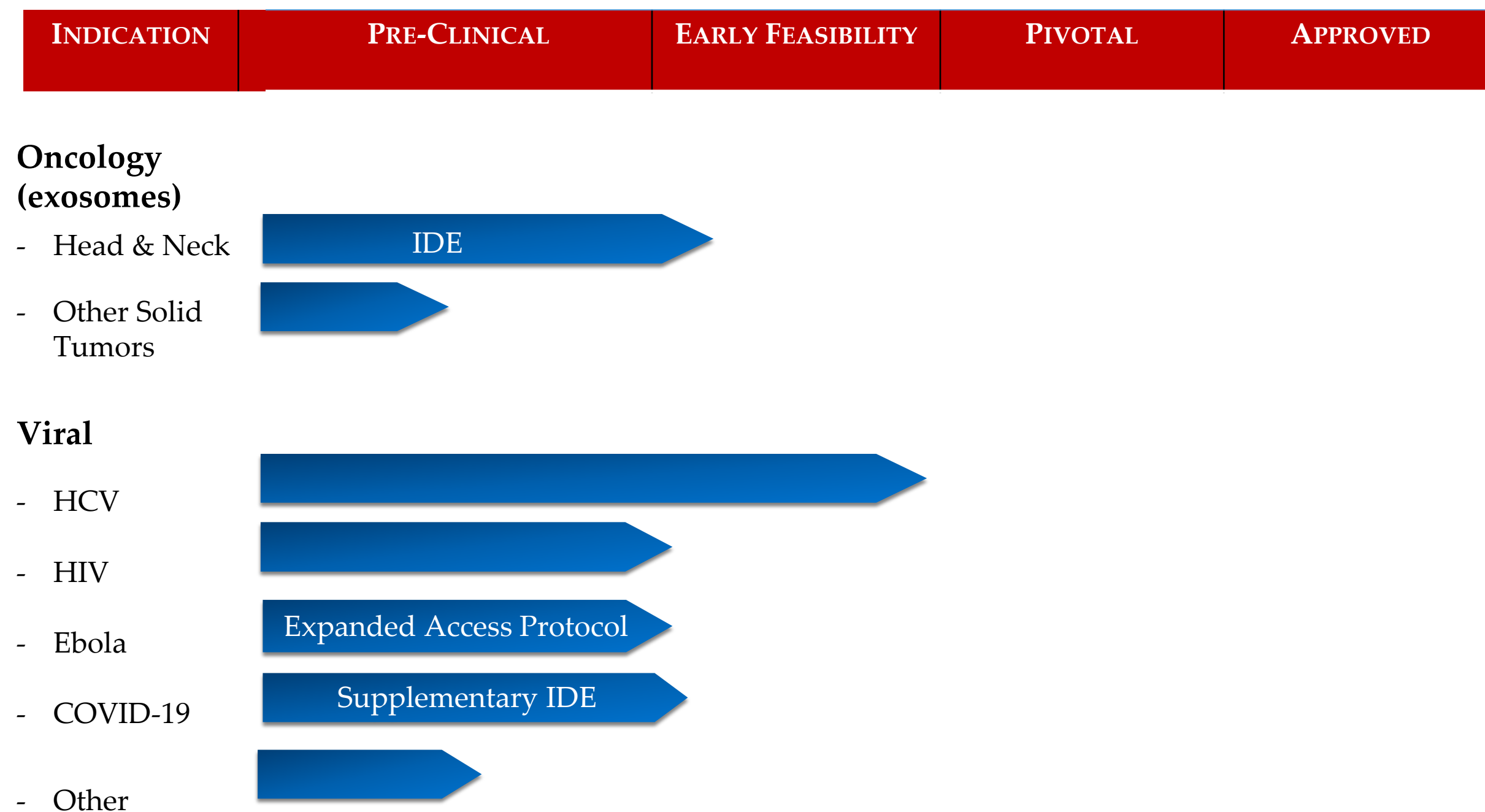


# LECTINS ARE PROTEINS THAT BIND SUGAR MOLECULES



*Bound mannose molecules in gray*

# AETHLON PIPELINE





# HEMOPURIFIER® PROGRAMS

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## ONCOLOGY

- CLEARANCE OF CANCER PROMOTING EXOSOMES
- SYNERGISTIC WITH CHEMOTHERAPY, IMMUNOTHERAPY, TARGETED AGENTS
- MULTIPLE POTENTIAL CLINICAL TARGETS
  - BREAST, HEAD AND NECK, GASTROINTESTINAL, MELANOMA, OTHER SOLID TUMORS
- WELL CHARACTERIZED MARKETS, DEVELOPMENT PATHWAYS & ENDPOINTS
- EARLY FEASIBILITY STUDY (EFS) IN HEAD AND NECK CANCER BEING INITIATED

# EXOSOMES

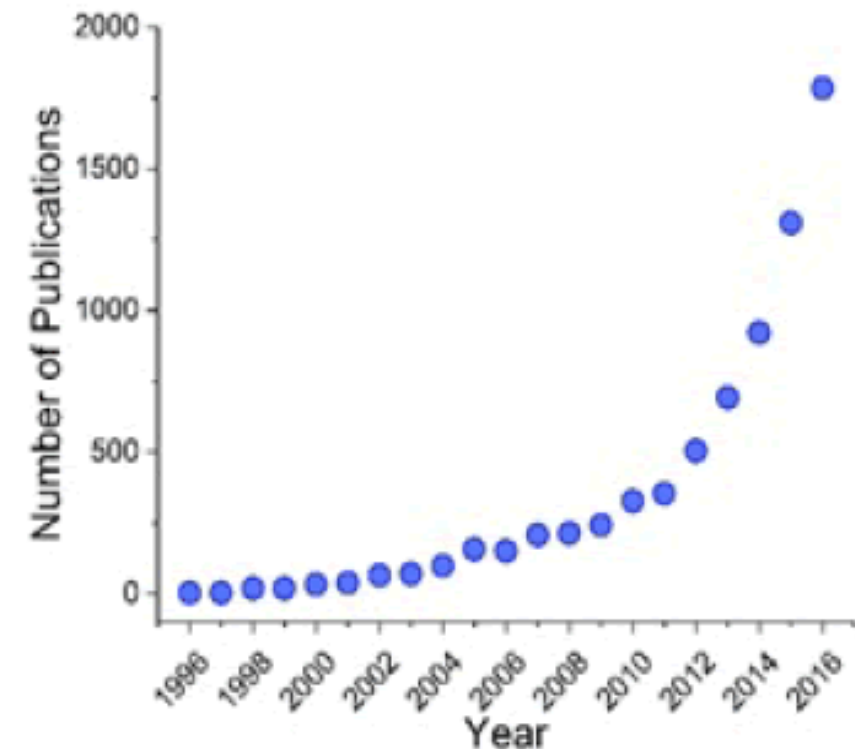
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- NOW UNDERSTOOD *NOT* TO BE CELLULAR GARBAGE
- CRITICAL PLAYERS IN CELL-CELL COMMUNICATION
- TUMOR DERIVED EXOSOMES (TEX) - VESICLES RELEASED BY TUMOR CELLS THAT PROMOTE
  - TUMOR GROWTH
  - METASTASIS
  - CHEMOTHERAPY AND TARGETED THERAPY RESISTANCE
  - IMMUNE SUPPRESSION
- NO EXISTING TREATMENT FOR DEPLETING EXOSOMES
- HEMOPURIFIER® MAY REPRESENT FIRST CANDIDATE TOWARD THIS GOAL

# EXOSOMES

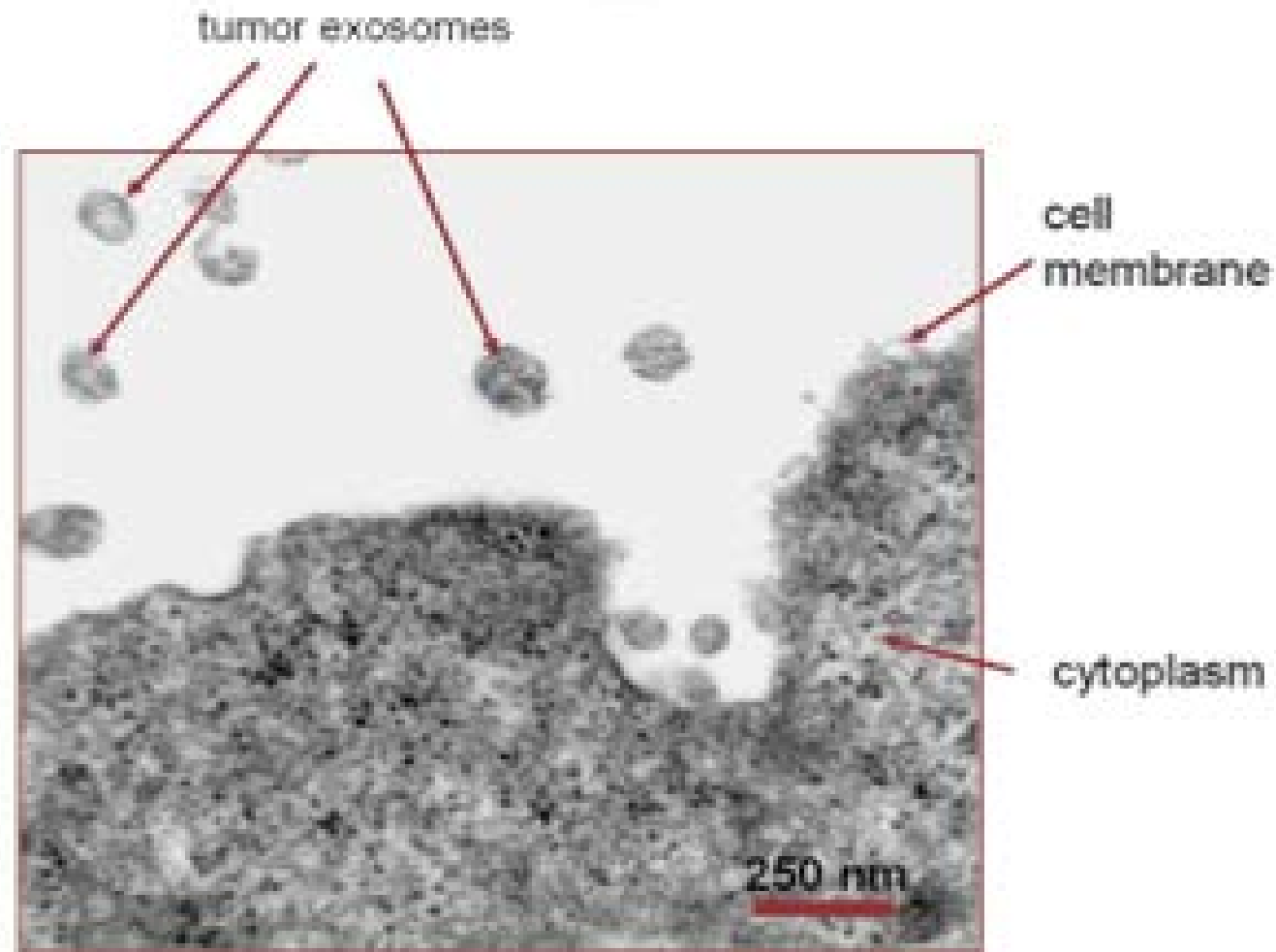
## PREVIOUSLY UNRECOGNIZED TARGETS FOR CLINICAL APPLICATIONS

- LARGELY IGNORED BY THE SCIENTIFIC COMMUNITY UNTIL RECENTLY
- IN 2006 ~ 76 PEER-REVIEWED PUBLICATIONS
- MORE THAN 5,000 TODAY
- 25% OF EXOSOME PUBLICATIONS IN LAST 2 YEARS



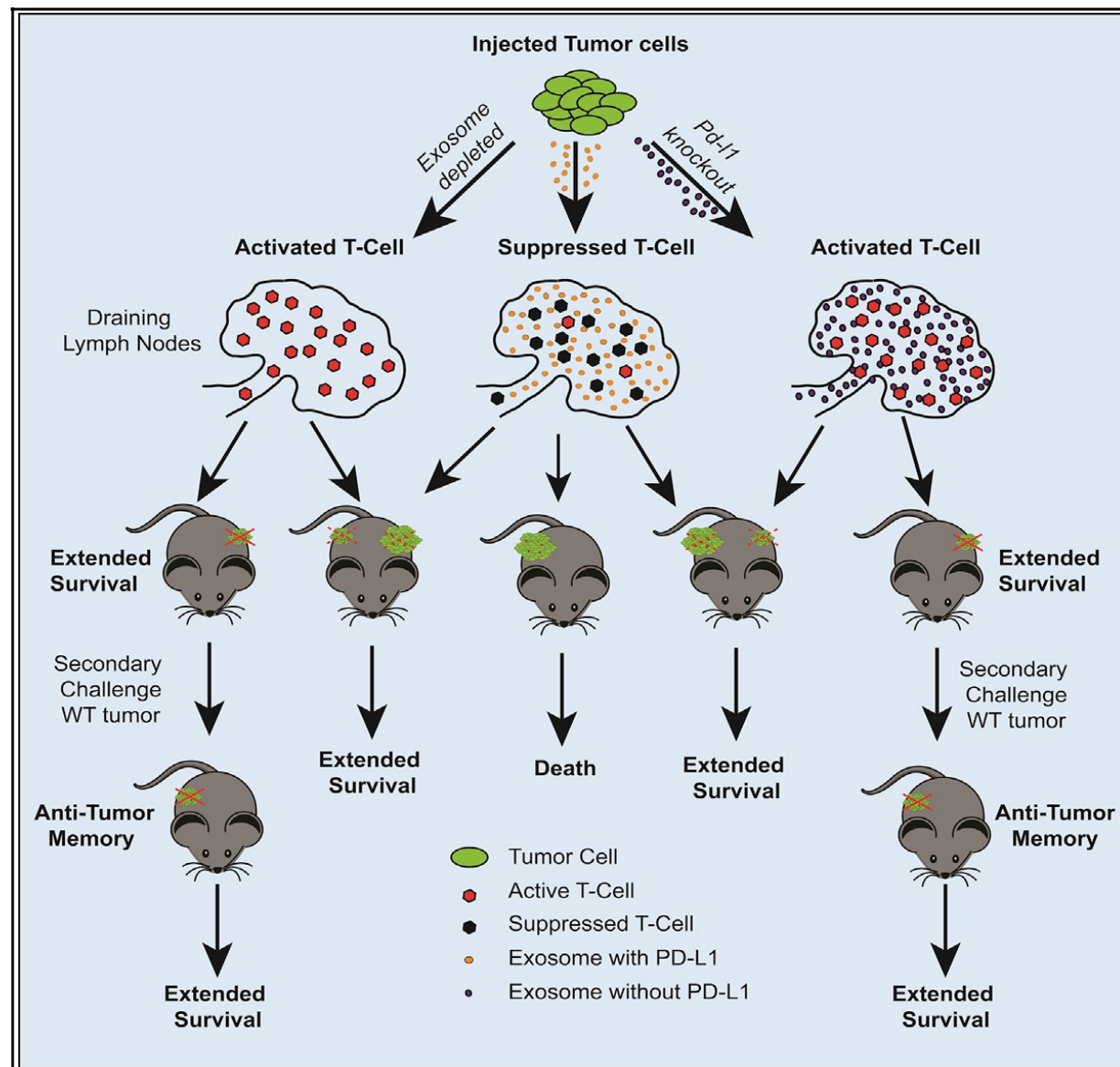
*J Cancer Immunol Ther. 2018; 1(1): 9-16*

# TUMOR-DERIVED EXOSOMES (TEX)



*Exosomes being released by a tumor cell*

# Suppression of Exosomal PD-L1 Induces Systemic Anti-tumor Immunity and Memory



## Authors

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## Correspondence

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## In Brief

Exosomal PD-L1 systemically acts to suppress the anti-tumor immune response, and its genetic blockage promotes T cell activity in the draining lymph node to induce systemic anti-tumor immunity and memory.

# NATIONAL CANCER INSTITUTE STUDIES

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- PHASE I CONTRACT FROM NCI - COMPLETED

*“DEVICE STRATEGY FOR DIFFERENTIAL ISOLATION OF ONCOSOMES AND NON-MALIGNANT EXOSOMES”*

- ONGOING NCI SBIR GRANT

*“THE HEMOPURIFIER® DEVICE FOR TARGETED REMOVAL OF BREAST CANCER EXOSOMES FROM THE BLOOD CIRCULATION”*

- PHASE II NCI SBIR CONTRACT – SEPTEMBER 2019

*\$1.8 MILLION OVER 2 YEARS*

*“TECHNOLOGIES FOR DIFFERENTIAL ISOLATION OF EXOSOMES AND ONCOSOMES”*

# ONCOLOGY IDE “SPRINT” REVIEW

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- ENABLED BY BREAKTHROUGH DESIGNATION
- IDE FILED SEPTEMBER 5<sup>TH</sup>
- FIRST ROUND OF COMMENTS 3 DAYS LATER
- SIX ADDITIONAL ROUNDS OF COMMENTS
  - SEVEN AMENDMENTS FILED IN 25 DAYS
- APPROVED OCTOBER 4
- AUTHORIZES EARLY FEASIBILITY STUDY (EFS) IN HEAD AND NECK CANCER



# EFS IN HEAD AND NECK SQUAMOUS CELL CARCINOMA

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- UNIVERSITY OF PITTSBURGH HILLMAN CANCER CENTER
- 10-12 SUBJECTS WITH ADVANCED OR METASTATIC HNSSC
- COMBINATION WITH PEMBROLIZUMAB (KEYTRUDA®) AS FRONT LINE TREATMENT
  - KEYTRUDA APPROVED JUNE 2019 IN FRONT LINE SETTING
- 4 HOUR HEMOPURIFIER TREATMENT IMMEDIATELY PRIOR TO PEMBRO
- ENDPOINTS
  - SAFETY
  - EXOSOME CLEARANCE AND CHARACTERIZATION
  - ORR, PFS, OS
- IRB APPROVED – START UP IN PROGRESS

# HEMOPURIFIER® PROGRAMS

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## VIRAL DISEASES

- OPEN IDE
- 4 HUMAN CLINICAL TRIALS IN HCV
- ANECDOTAL USE IN OTHER INFECTIONS
- EMERGENCY USE AUTHORIZATION (EUA) IN US AND CANADA FOR EBOLA
- IDE SUPPLEMENT FOR SARS-CoV-2/COVID-19 APPROVED JUNE 2020

# HEMOPURIFIER® IN VIRAL DISEASES

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- ALL GLYCOSYLATED VIRUSES POTENTIALLY CLEARED BY HEMOPURIFIER ®
- DEMONSTRATED CLEARANCE OF MULTIPLE DIFFERENT VIRUSES *IN VITRO*
  - HIV, DENGUE, WEST NILE, INFLUENZA, EBOLA, HERPES, MERS
  - SARS-CoV-2/COVID-19 BEING EVALUATED – IDE OPEN
- SAFETY AND VIRAL CLEARANCE IN 4 HUMAN CLINICAL TRIALS IN HCV
- ANECDOTAL EVIDENCE IN EBOLA AND HIV
- FDA EXPANDED ACCESS PROTOCOL FOR EBOLA IN U.S. & HEALTH CANADA EQUIVALENT
- OTHER POTENTIAL VIRAL TARGETS
  - CMV, HANTAVIRUS, EBV

# HEMOPURIFIER IN SARS-CoV-2/COVID-19

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- CIRCULATING VIRUS CORRELATES WITH CYTOKINE LEVELS AND POOR OUTCOME
- HEMOPURIFIER CLEARS VERSION OF CLOSELY RELATED CORONAVIRUS (MERS)
- IDE SUPPLEMENT FOR COVID-19 APPROVED JUNE 17, 2020
- NEW FEASIBILITY STUDY STARTING
- 20 SITES – 40 PATIENTS
- ICU ADMITTED WITH SEVERE OR LIFE THREATENING DISEASE AND CENTRAL IV ACCESS

# FDA BREAKTHROUGH DESIGNATION

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- GRANTED TO HEMOPURIFIER<sup>®</sup> FOR BOTH VIRAL AND CANCER APPLICATIONS
- MANDATED BY 21<sup>ST</sup> CENTURY CURES ACT
- FDA CHARACTERIZATION AS “ALL HANDS ON DECK”
- RAPID HIGH LEVEL COMMUNICATION BETWEEN FDA AND COMPANY
- SHORTENED COMMUNICATION TIMELINES
- POTENTIAL PATHWAY FOR ACCELERATED APPROVAL ON EARLY TIMEPOINTS
  - CONFIRMATORY POST APPROVAL STUDIES
- DOES NOT REMOVE REQUIREMENT FOR “SUBSTANTIAL EVIDENCE OF SAFETY AND EFFICACY” PRE-APPROVAL

# EXOSOME SCIENCES, INC.

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## DIAGNOSTICS BASED ON EXOSOME DETECTION AND CHARACTERIZATION

- EXOSOMAL TAU PROTEIN CORRELATES WITH EXPOSURE TO TRAUMA IN NFL PLAYERS
  - *J. ALZHEIMERS Dis. 2016*
- CONFIRMATORY STUDY ONGOING AT TGEN
- POTENTIAL DIAGNOSTIC FOR CTE IN LIVING PLAYERS
- ONCOLOGY APPLICATIONS IN DEVELOPMENT
  - COLLABORATION WITH HOAG HOSPITAL SYSTEMS FOR EXOSOMAL DIAGNOSTICS
    - FAMILIAL PANCREAS CANCER
    - PROGNOSTICS IN RESECTED PANCREAS CANCER
    - LI FRAUMENI SYNDROME

# AETHLON LEADERSHIP

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TIMOTHY C. RODELL, M.D., FCCP, CHIEF EXECUTIVE OFFICER

- PHYSICIAN SCIENTIST WITH OVER 30 YEARS DEVELOPMENT EXPERIENCE IN PUBLIC & PRIVATE COMPANIES, 3 IPOs IN U.S. AND ABROAD, 10 PRODUCTS FROM BENCH THROUGH LATE STAGE CLINICAL TRIALS

CHARLES J. FISHER, JR., M.D., CHAIRMAN

- ACADEMIC & INDUSTRY THOUGHT LEADER IN SEPSIS & INFLAMMATION
- HEAD OF CRITICAL CARE - CLEVELAND CLINIC
- 35 YEARS INDUSTRY DEVELOPMENT EXPERIENCE
- SENIOR EXECUTIVE - LILLY, ABBOTT, CARDIOME

JAMES B. FRAKES, CHIEF FINANCIAL OFFICER

- 29 YEARS PUBLIC COMPANY CFO EXPERIENCE, INVESTMENT BANKING & VC

THOMAS L. TACCINI, VP MANUFACTURING & PRODUCT DEVELOPMENT

- OVER 35 YEARS EXPERIENCE IN ENGINEERING, PRODUCT DEVELOPMENT & QUALITY SYSTEMS



## STRONG CASH POSITION

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- AT MARCH 31, 2020, THE COMPANY'S CASH BALANCE WAS APPROXIMATELY \$9.6 MILLION.
- IN JUNE 2020, THE COMPANY RAISED AN ADDITIONAL \$7.3 MILLION IN CASH.

# UPCOMING NEWS

## 2020 -2021

PRODUCT	INDICATION	EVENT
<b>HEMOPURIFIER</b>		
	SARS-CoV-2/COVID-19	IDE SUPPLEMENT APPROVED
	HEAD & NECK CANCER	INITIATE EARLY FEASIBILITY STUDY
	OTHER SOLID TUMORS	PROOF OF CONCEPT
	AACR POSTER	JUNE 22 <sup>ND</sup> ONLINE PRESENTATION
<b>EXOSOME SCIENCES</b>		
		COMPLETE BREAST CANCER GRANT
		INITIAL DATA FROM HOAG PROJECT
		CTE DATA
		DISCLOSING FUTURE ACHIEVEMENTS ON EXISTING NCI INSTRUMENT CONTRACT

# SUMMARY

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- UNIQUE HEMOPURIFIER ® BLOOD PURIFICATION DEVICE
- TWO FDA BREAKTHROUGH DESIGNATIONS
- MULTIPLE THERAPEUTIC TARGETS IN CANCER AND VIRAL DISEASE
- MANAGEMENT TEAM WITH OVER 100 YEARS HEALTHCARE EXPERIENCE
- EXOSOME SCIENCES SUBSIDIARY
  - DIAGNOSTICS IN CANCER AND NEURODEGENERATIVE DISEASE
- NASDAQ: AEMD



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