



Advancing Immunotherapy & Prevention

January 2020

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www.geovax.com ♦ OTC: GOVX

Forward Looking Statements

Certain statements in this presentation may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act. These statements are based on management's current expectations and are subject to uncertainty and changes in circumstances. Actual results may differ materially from those included in these statements due to a variety of factors, including whether: GeoVax can develop and manufacture its vaccines with the desired characteristics in a timely manner, GeoVax's vaccines will be safe for human use, GeoVax's vaccines will effectively prevent targeted infections in humans, GeoVax's vaccines will receive regulatory approvals necessary to be licensed and marketed, GeoVax raises required capital to complete vaccine development, there is development of competitive products that may be more effective or easier to use than GeoVax's products, GeoVax will be able to enter into favorable manufacturing and distribution agreements, and other factors, over which GeoVax has no control. GeoVax assumes no obligation to update these forward-looking statements, and does not intend to do so. More information about these factors is contained in GeoVax's filings with the Securities and Exchange Commission including those set forth at "Risk Factors" in GeoVax's Form 10-K.

- ▶ A clinical-stage company developing cancer immunotherapies and infectious disease vaccines using a novel MVA-VLP platform
- ▶ Winner of the Best Biotech Award at the 2018 World Vaccine Congress Vaccine In Excellence
- ▶ Leveraging internal and external expertise to minimize development risk

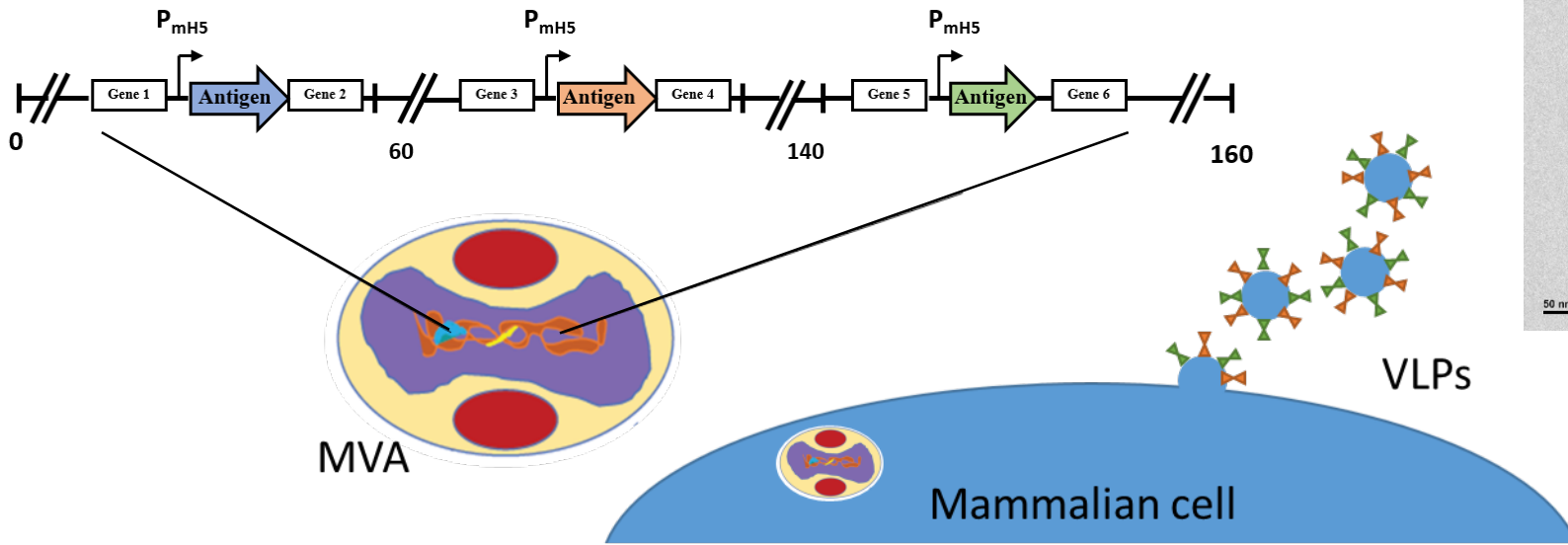
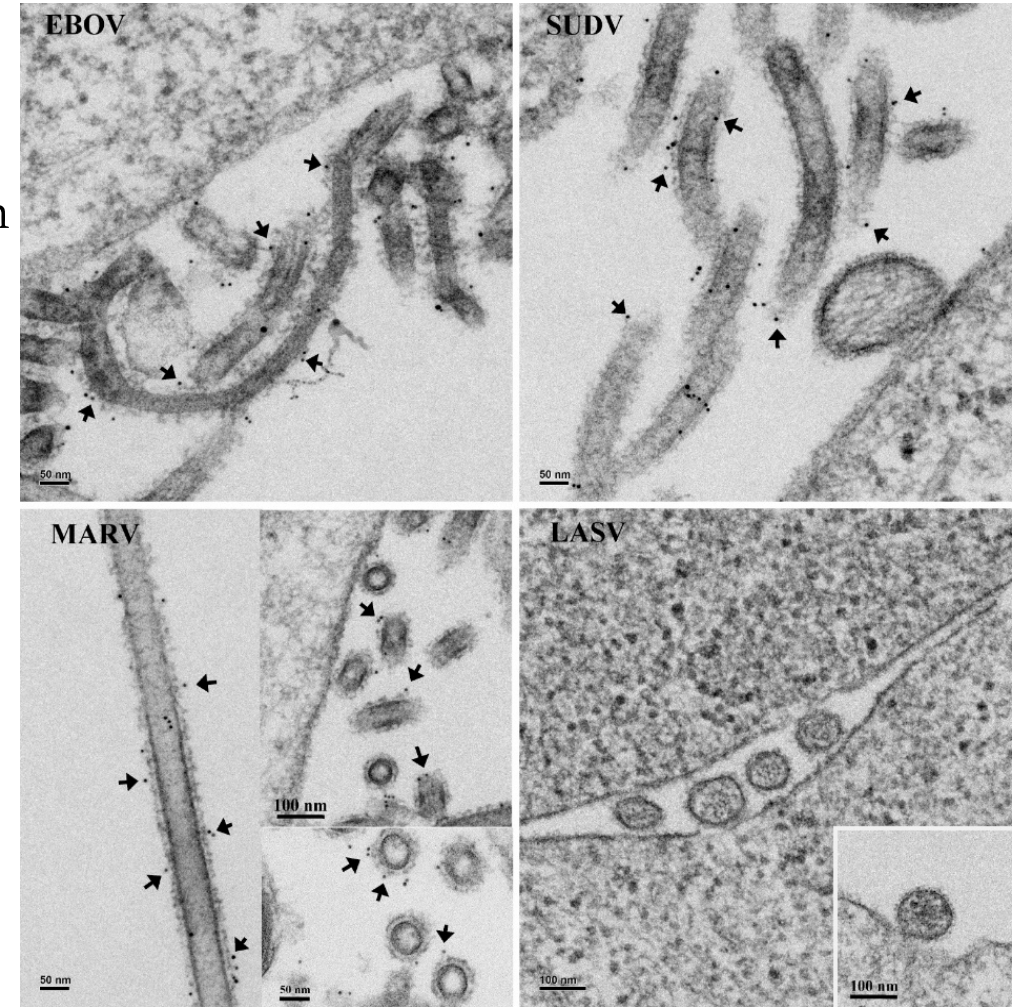


GeoVax...A Compelling Opportunity

- ▶ **Developing cancer immunotherapies and infectious disease vaccines based on**
 - **Single-dose**
 - **Durable immunity**
 - **No adjuvant**
 - **Extensive safety profile**
 - **Simple, cost-effective manufacturing**

GeoVax MVA-VLP Vaccine Technology

- ▶ **MVA Vector = Safety**
 - Replication-deficient in mammalian cells → Vaccination
 - Replication competent in avian cells → Manufacturing
- ▶ **Transgenes: Antigen = Immunogenicity**
- ▶ **Vector + Antigen = MVA-(VLP) Platform**



Advantages of GeoVax MVA-VLP vaccines



- ▶ **Inherently safe** ✓
- ▶ **Non-replicating in host** ✓
- ▶ **Potential for single dose protective immunity** ✓
- ▶ **Not hindered by pre-existing immunity to vector** ✓
- ▶ **Self-adjuvant** ✓
- ▶ **Thermostable > can be lyophilized** ✓
- ▶ **Established methods for manufacturing** ✓

Broadly Validated Technology



		Target Identification	Preclinical Validation	Clinical Trials	
				Phase 1	Phase 2
Immuno-Oncology					
	Solid Tumors				
	HPV-associated Head and Neck Cancer				
Infectious Disease					
	HIV (preventive)	<i>GOVX-B11</i>			
	HIV (therapeutic)	<i>GOVX-B01</i>			
	Lassa Fever	<i>GEO-LM01</i>			
	Ebola, Marburg, Sudan	<i>GEO-EM01</i>			
	Zika Virus	<i>GEO-ZM02</i>			
	Malaria				
	Hepatitis B (chronic infection)				



Advancing Cancer Immunotherapy

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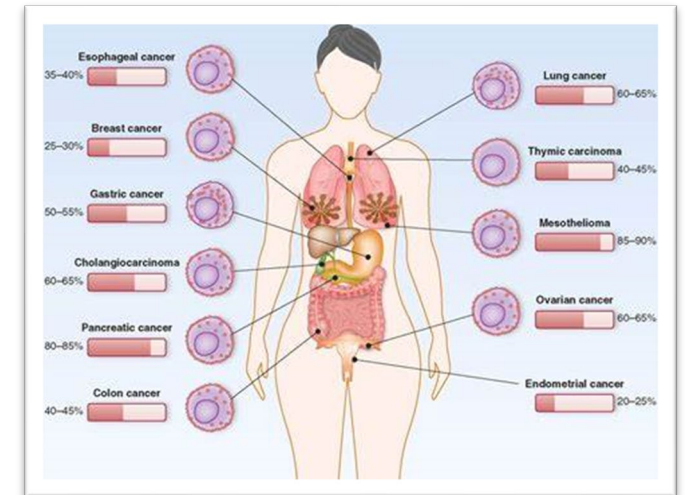
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Cancer Immunotherapy Focus

Delivering a **combination cancer vaccine strategy**:

- ▶ A novel Cancer Immunotherapy using combinations of:
 - MVA-VLP cancer vaccines
 - Select proteins, peptides (e.g., MUC1; Cyclin B1),
 - Immune check-point inhibitors (e.g., anti-PD1)

For treating and potentially preventing solid tumors.



Concept to Cancer Immunotherapy



STIMULATE

MVA-VLP with TAA to
provoke immune system
(POC completed)



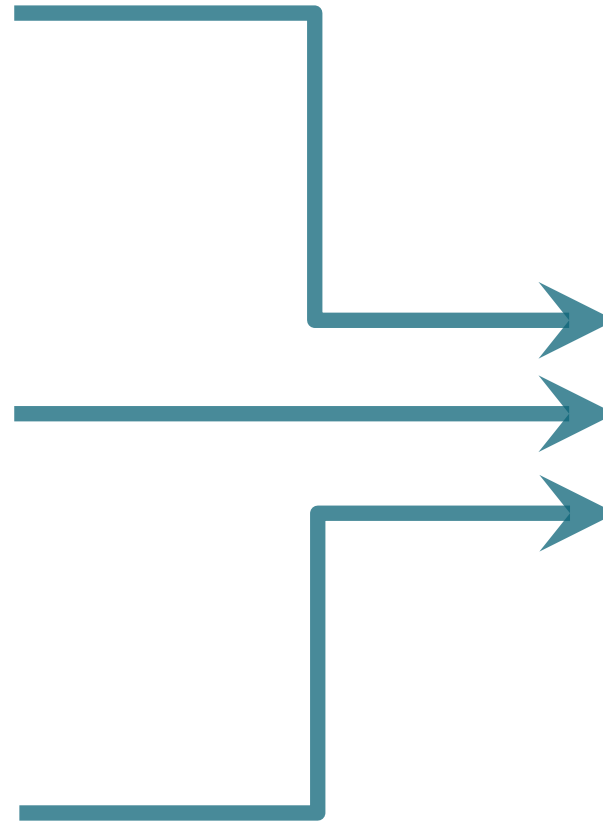
BLOCK

checkpoint inhibitor to
reverse immune tolerance
(POC completed)

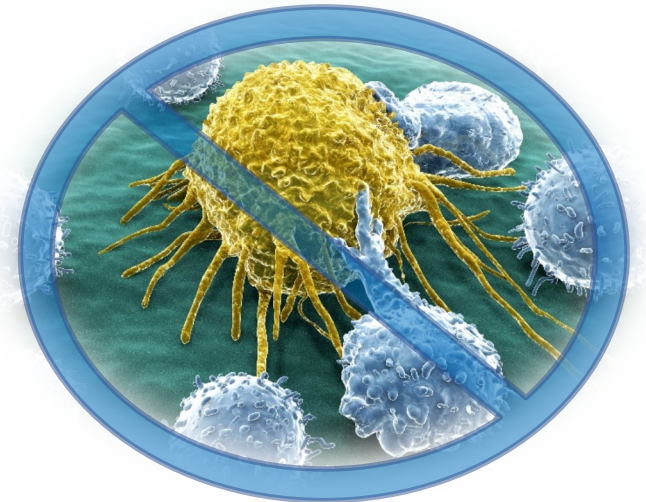


KILL

achieve oncolysis using
armed vaccinia virus



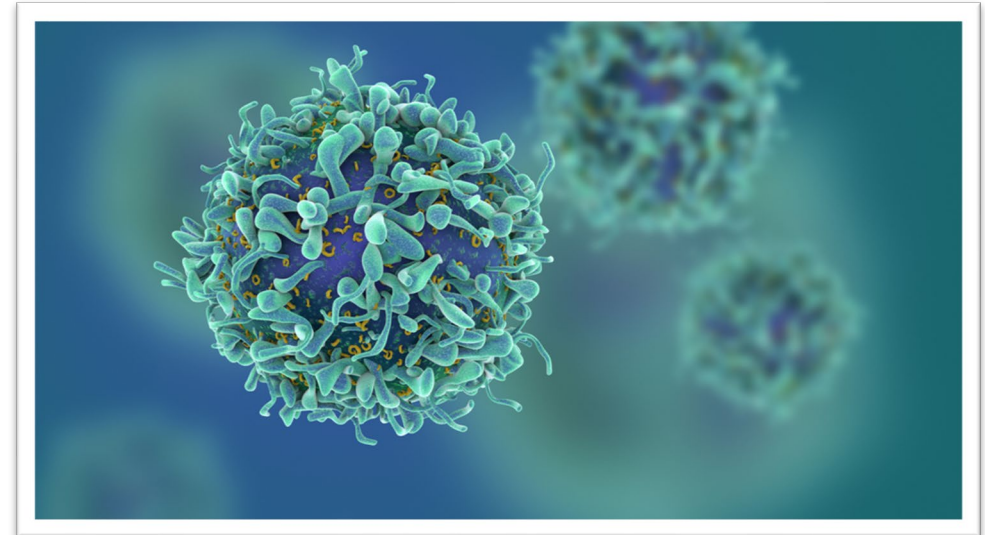
TUMOR



REGRESSION

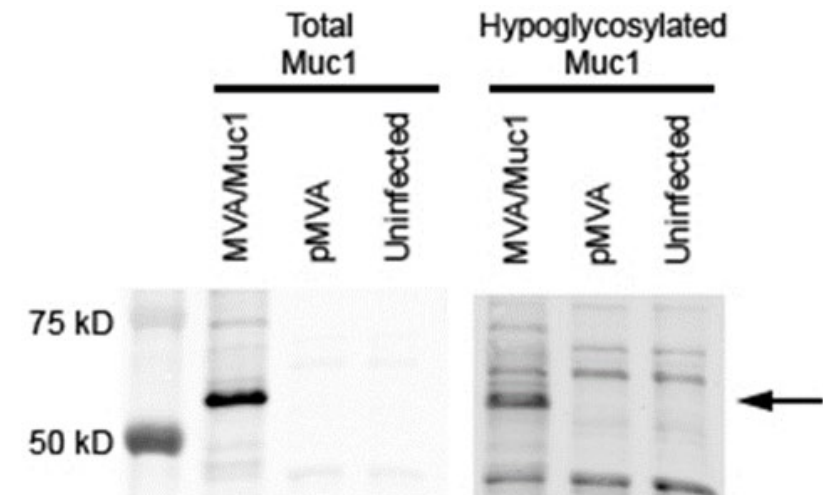
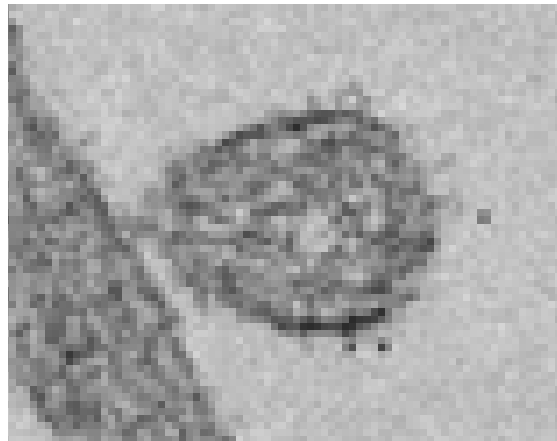
GeoVax Cancer Vaccines

- ▶ **MUC1** – aberrantly glycosylated in many cancers
- ▶ **CyclinB1** – overexpressed in certain cancers
- ▶ **HPV head and neck cancers**
 - E6/E7 antigens

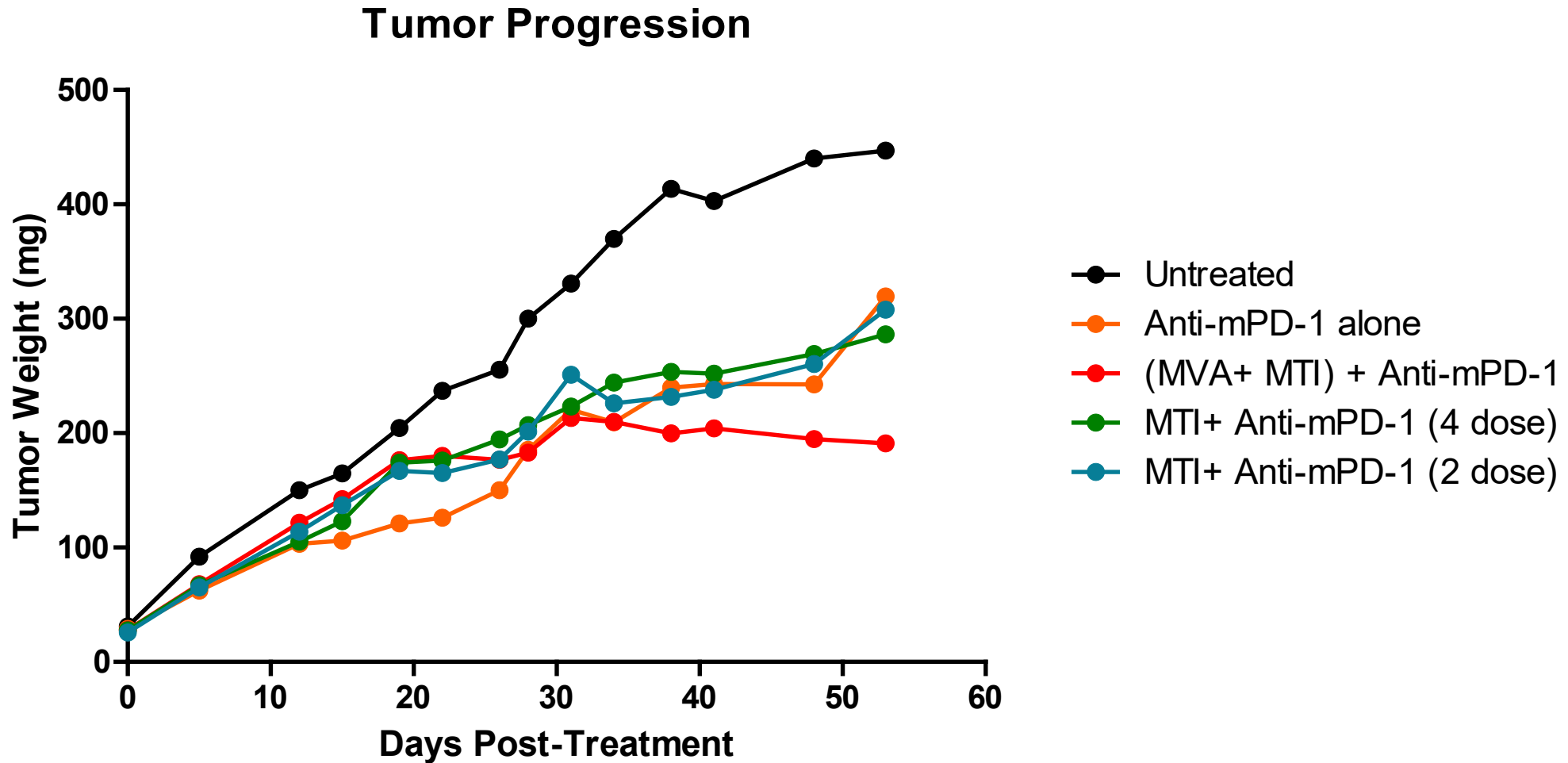


GeoVax MVA-VLP-MUC1

- ▶ MUC1 engineered to be displayed on VLPs produced *in vivo*
- ▶ 5 repeats of the VNTR region of MUC1
- ▶ Overexpression of MUC1 by MVA leads to accumulation of hypoglycosylated protein
- ▶ Potentially useful against all MUC1+ cancers
 - Pancreatic
 - Colorectal
 - Prostate
 - Lung
 - Breast
 - Others



Therapeutic Experiment Results



MVA+MTI+CPI arrested tumor growth and shrank tumors

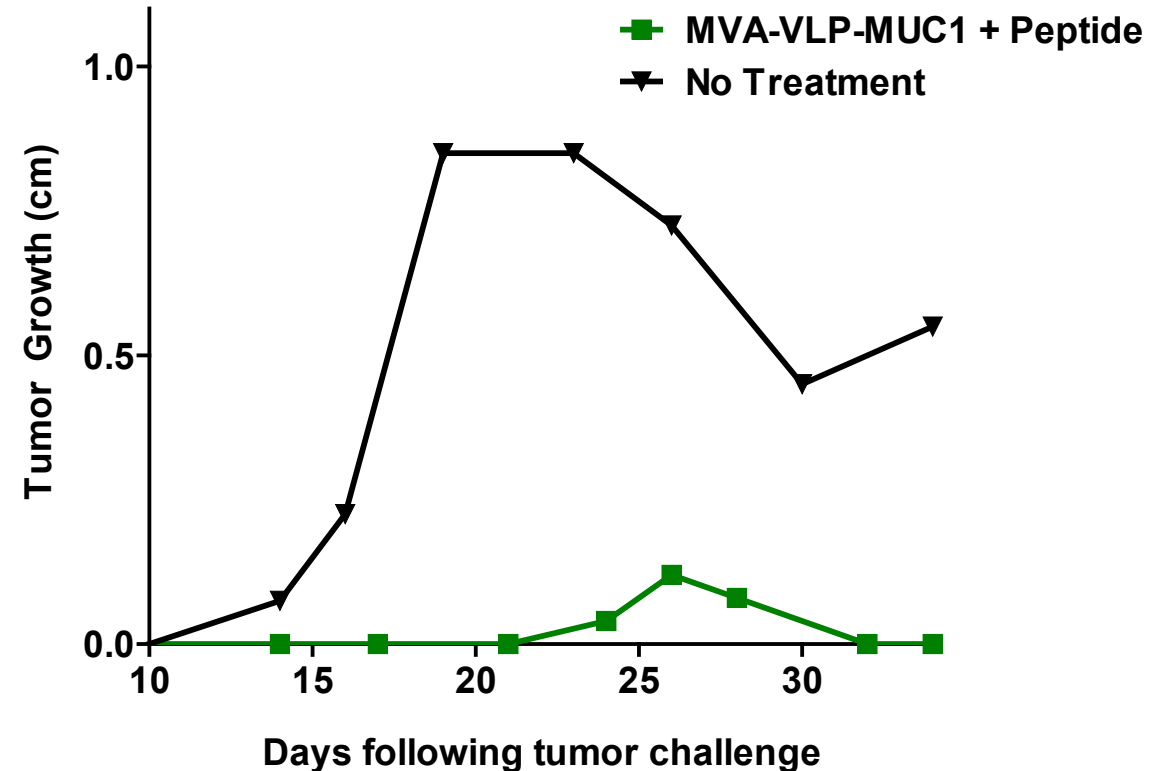
Prevention Experiment Results

▶ MUC1 Tumor Associated Antigen (TAA):

- Combination therapy:
 - MVA-VLP-MUC1 and MUC1 peptide
- **GeoVax MVA-VLP combination achieved tumor prevention**

▶ Indications:

- Lung, colorectal, breast, gastric, prostate, colon, pancreas, etc.

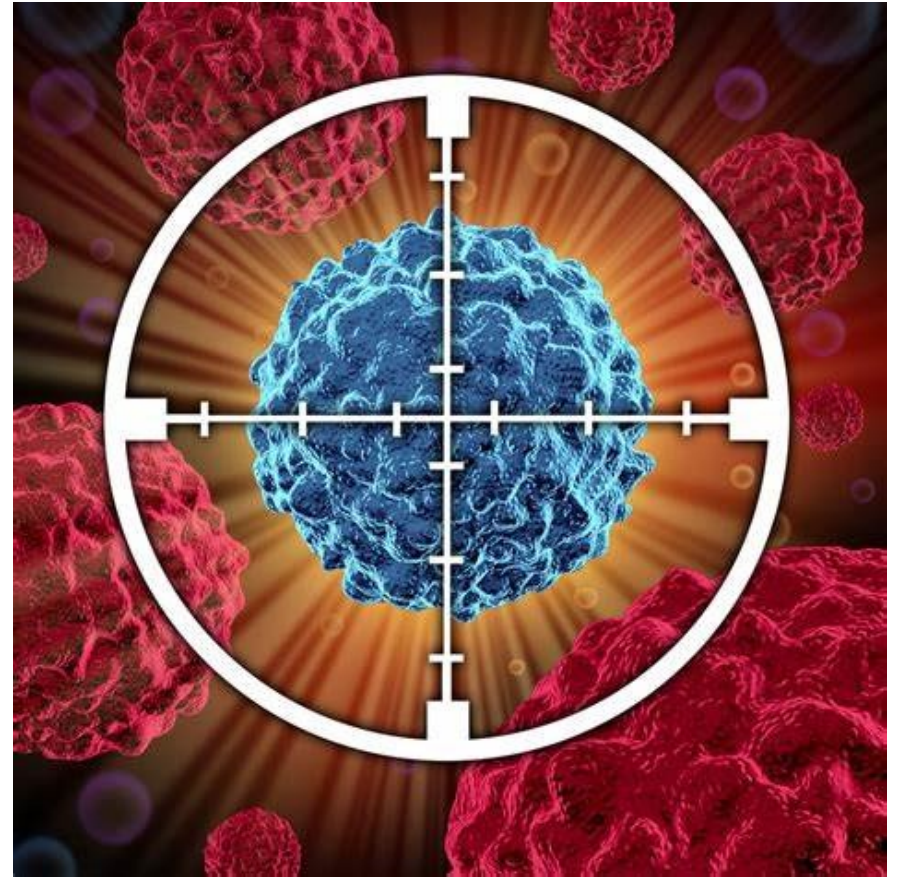


Cancer Immunotherapy Next Steps

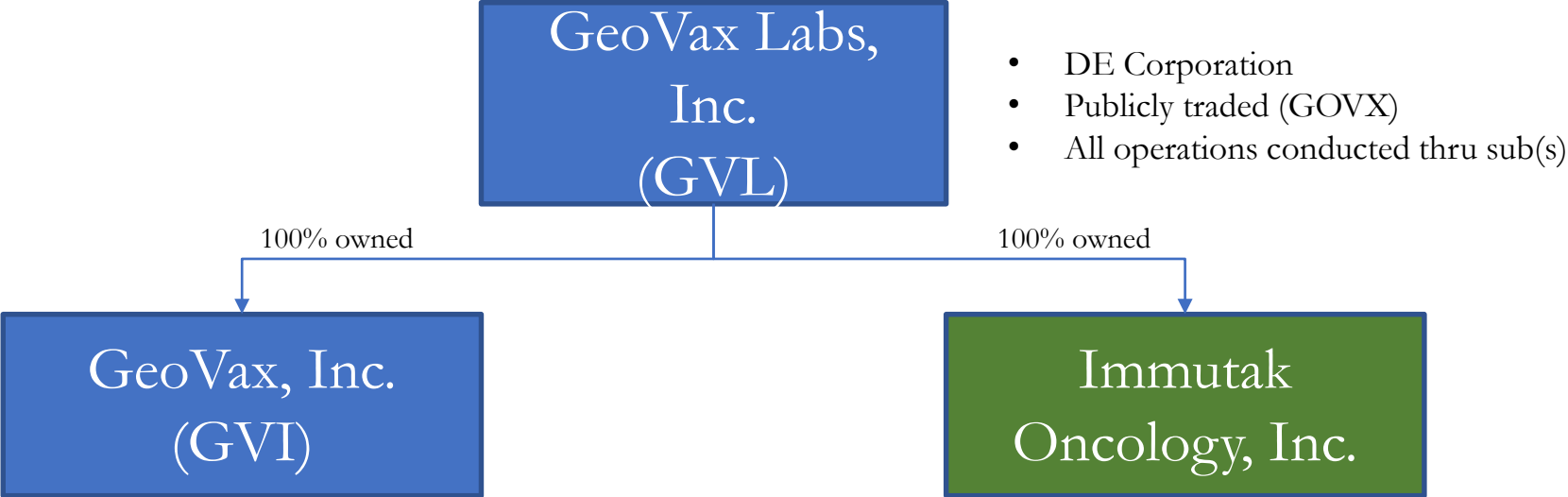
- ▶ **Further validate novel cancer vaccine approach using other target antigens & novel check-point inhibitors that can be expressed by the vector and not administered separately**
- ▶ **Complete POC related to using oncolytic virus to achieve tumor cell lysis (e.g. KILLing the tumor)**
- ▶ **Proceed to clinical trials and technology validation**

Immutak Oncology, Inc.

Advancing Innovation in Cancer Therapy



Immutak Oncology, Inc.



- DE Corporation
- Publicly traded (GOVX)
- All operations conducted thru sub(s)

- GA corporation
- Immuno-oncology Programs
 - MUC1 TAA
- Infectious Disease Vaccine Programs
 - HIV
 - Zika
 - Hem. Fevers (Ebola, Marburg, Lassa)
 - Malaria
 - Hepatitis B

- DE corporation
- Immuno-oncology focus
- Initial IP licensed from GVI
- Additional IP to be developed and/or licensed
- Personnel/facilities shared with GVI

**Seeking Additional Oncology Assets in Clinical-Stage or Approved;
 Seeking Direct Investment to Advance First Immuno-oncology
 Candidate to Clinical Testing**

Immutak Oncology – Rationale

Mission Statement

Focus on the development of innovative therapeutics to inhibit or reverse the progression of cancers, delivering an attractive pipeline of immuno-oncology products for both the benefit of patients and investors.

Benefits to Immutak Oncology Investors

- Pure play investment in an attractive mix of oncology assets leveraging proven technology and expertise.
- Advance immuno-oncology candidates to exit/registration milestones.
- Potential to acquire/in-license clinical-stage oncology products to accelerate regulatory/exit milestone events

Benefits to GeoVax Investors

- Separate entity provides vehicle for acquisition of complementary technologies creating the critical mass needed to attract financing.
- Financing at the subsidiary level avoids complications associated with GeoVax's capital structure and resultant dilution to GeoVax shareholders.
- Value created by Immutak will accrete to GeoVax through its ownership interest and licensing arrangements.
- Allows GeoVax to retain its focus on infectious disease programs (core strengths).

Clinical-Stage Opportunity: Company X

Company X

- Private Company

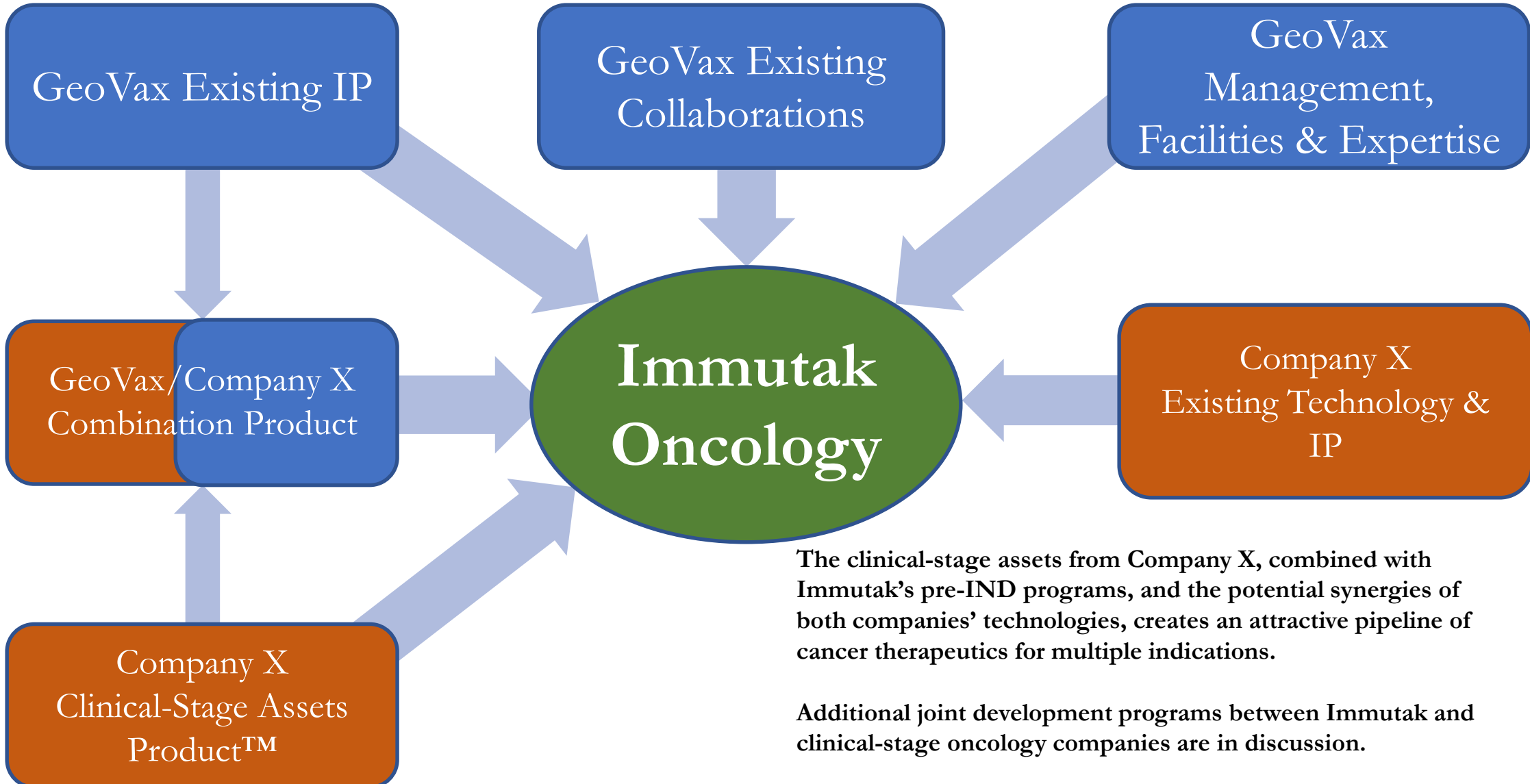
Product™

- Granted Orphan Drug status for specific cancer
- Phase I/IIa clinical trial successfully completed
 - Demonstrated efficacy in patients with no significant toxicity
- Phase IIa/b clinical trial underway with funding from FDA Orphan Drug/Rare Disease Grants Program
- Commercial Opportunity in US alone:
 - \$150 million-\$500 million potential Annual Sales

Technology & IP

- The intended therapy has the potential to be highly effective in the treatment of local advanced specific cancer and other malignancies, as well as the potential to combine in immuno-therapy.
- The Company has filed and is the exclusive licensee to a substantial patent portfolio; most of the patent applications have been granted and extend to 2032 or beyond.

Immutak Oncology – Building Critical Mass



The clinical-stage assets from Company X, combined with Immutak’s pre-IND programs, and the potential synergies of both companies’ technologies, creates an attractive pipeline of cancer therapeutics for multiple indications.

Additional joint development programs between Immutak and clinical-stage oncology companies are in discussion.

Immutak Oncology & Company X Merger Rationale

Mission Statement

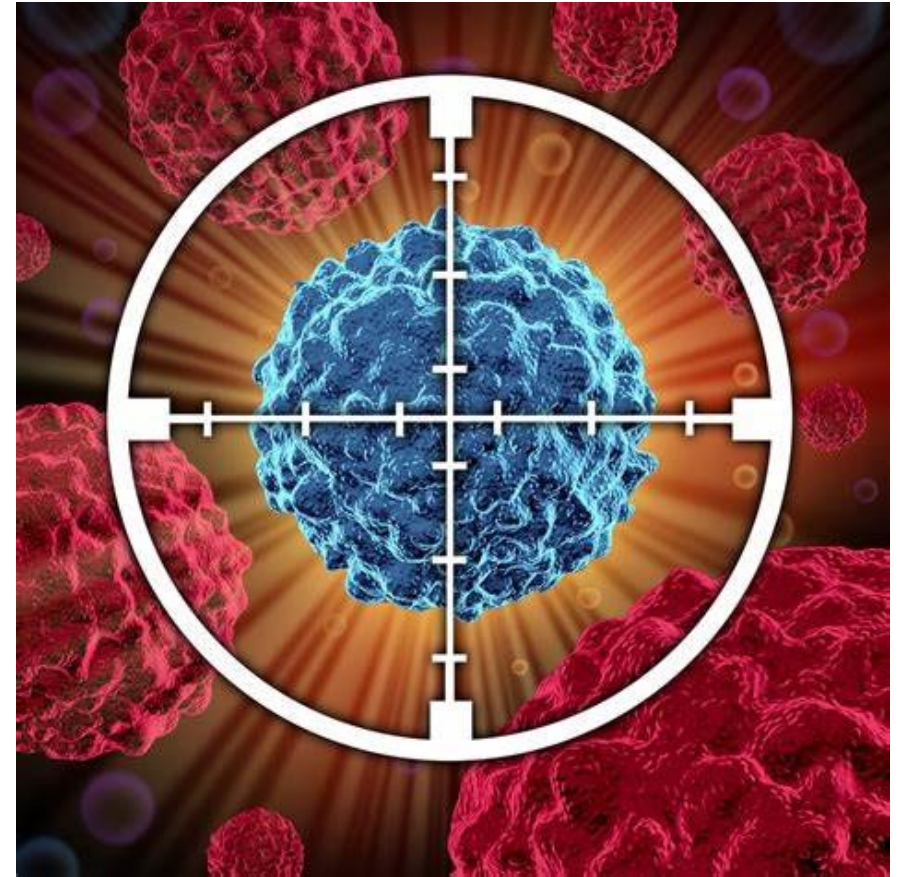
Focus on the development of innovative therapeutics to inhibit or reverse the progression of cancers, delivering an attractive pipeline of immuno-oncology products for both the benefit of patients and investors.

Benefits to Immutak Oncology Investors

- Pure play investment in an attractive mix of oncology assets, including clinical-stage and pre-IND programs.
- Dedicated, experienced leadership in capital formation, corporate development and product/regulatory development.
- Focused on Capital Development to:
 - Accelerate Product™ clinical-program to regulatory milestone.
 - Advance immuno-oncology candidate to clinical-stage development.

Immutak Oncology, Inc.

Advancing Innovation in Cancer Therapy





Advancing Infectious Disease Prevention

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Advancing HIV Prevention in Human Trials

- ▶ **Excellent safety and immunogenicity: Phase 1 & 2a human clinical trials**
 - Superior antibody profile and durability compared to Sanofi Thailand Phase 3 clinical trial (RV144)

- ▶ **Therapeutic vaccine: Two Phase 1 trials to begin 2020**
 - Focused on demonstrating “functional cure” for HIV

- ▶ **Preventive vaccine: HVTN 132 – Approved by HVTN; awaiting IND submission**

Focused on Areas of Critical Healthcare Need



Hemorrhagic Fever Vaccines

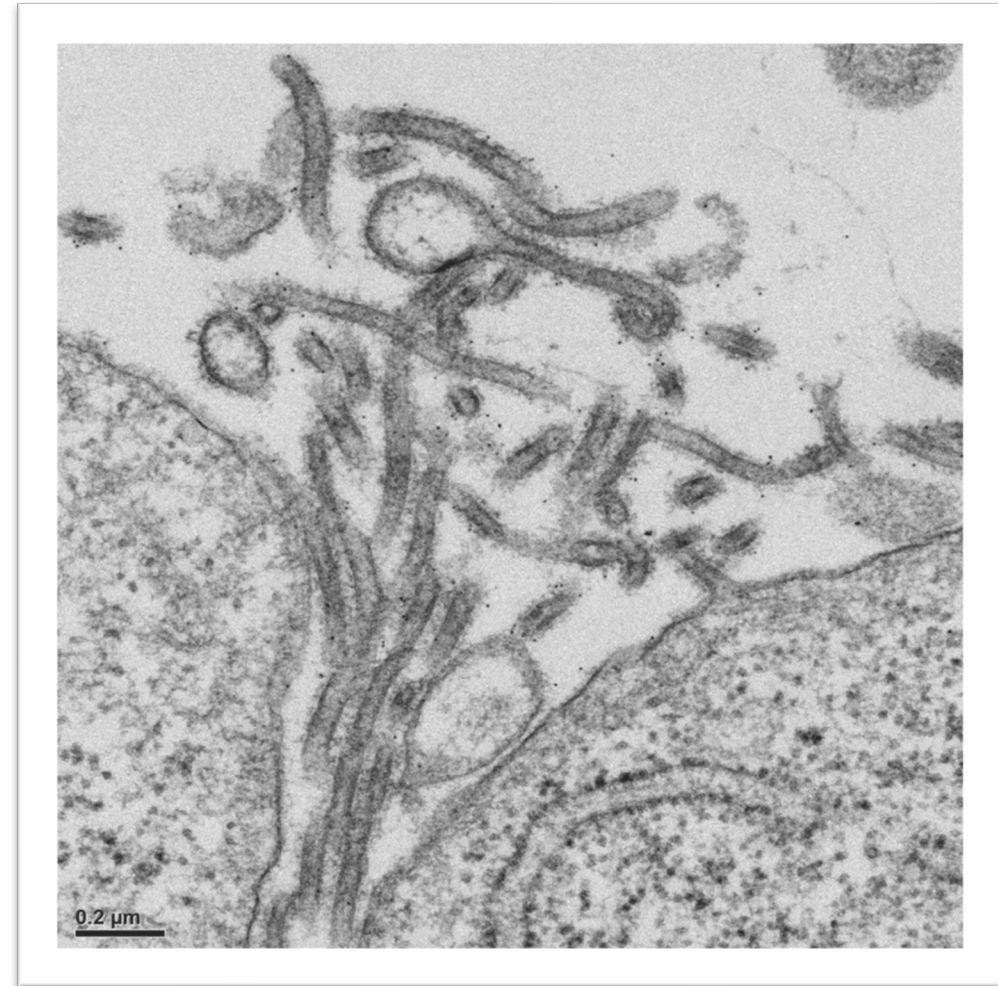
- Four vaccines covering all major hemorrhagic fevers:
 - Ebola
 - Sudan
 - Marburg
 - Lassa

Zika Vaccine (GOVX-ZM01)

- A novel vaccine candidate that removes risk of ADE

Malaria Program

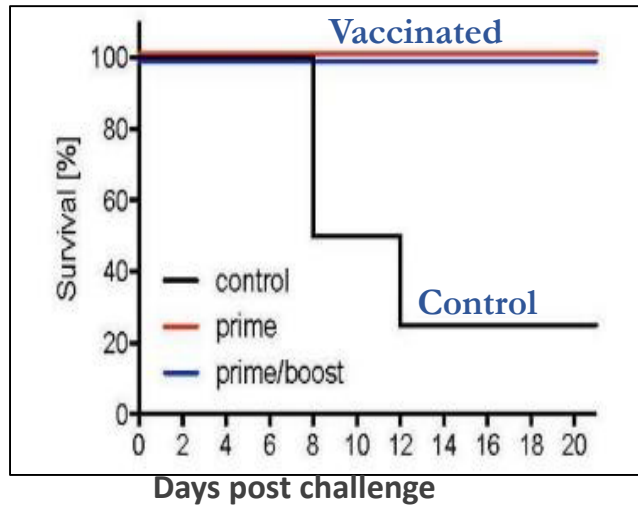
- Vaccine antigens covering all 3 stages of malaria infection



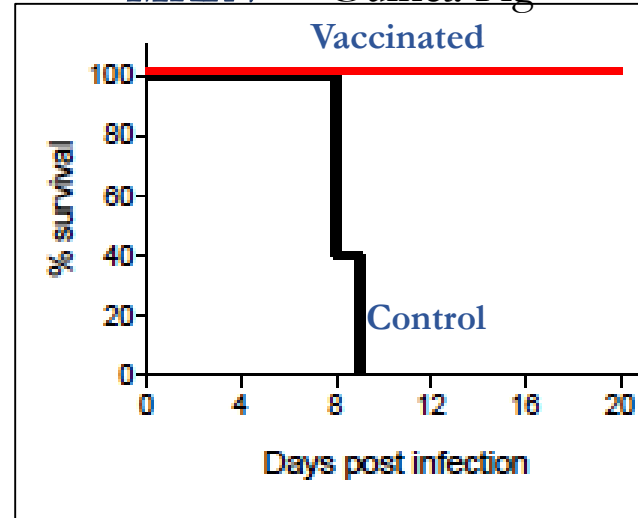
Hemorrhagic Fever Vaccines-Unparalleled Success



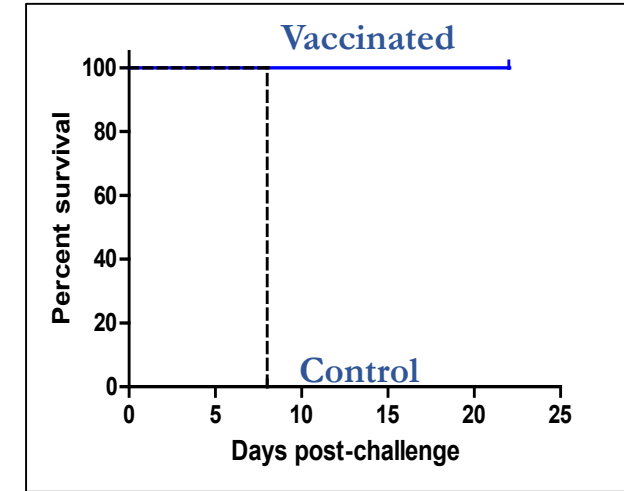
EBOLA Monkey



MARV Guinea Pig



LASSA Normal mice



▶ **Ebola vaccine – 100% Protection, Single-Dose**

- In 2 rodent models and Nonhuman Primates
- Anticipating govt support (NIH, BARDA)

▶ **Marburg vaccine – 100% Protection,**

- In Guinea Pig model
- Anticipating govt support (NIH, BARDA)

▶ **Lassa vaccine – 100% Protection, Single-Dose**

- In a lethal (intracerebral inoculation) mouse model
- Ongoing Govt. Support
 - Fast-Track Phase I / II SBIR grant from NIH
 - CDMRP grant from DoD for production of Master Seed Virus

▶ **Sudan Vaccine, awaiting animal testing**

Potential to develop a single tetravalent vaccine

Zika Vaccine Program – Progressing to Clinic



▶ Novel vaccine design

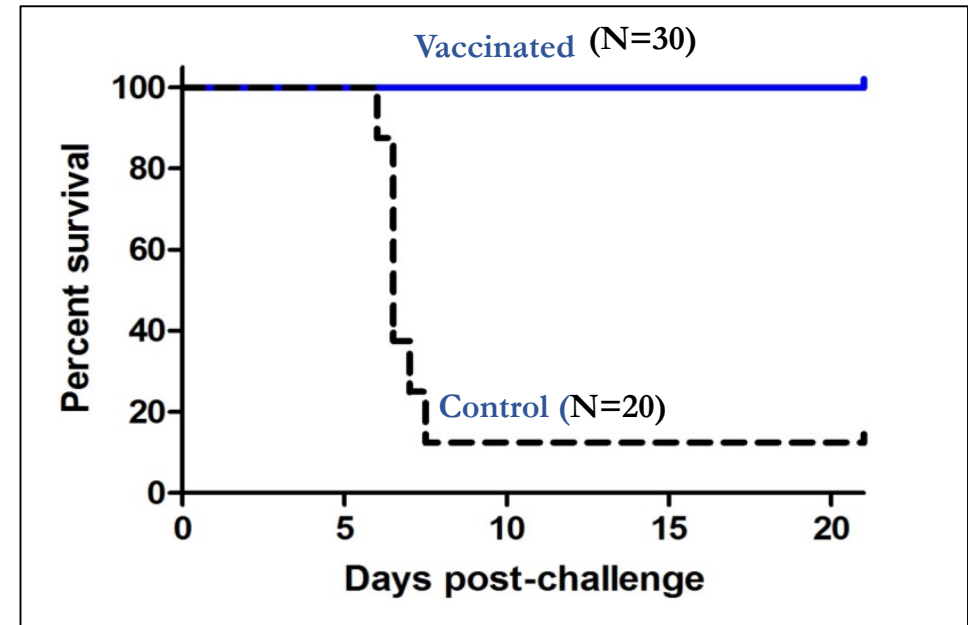
- **Competitive Advantage**
 - No risk of Antibody Dependent Enhancement (ADE) of infection against Dengue or other flaviviruses

▶ Excellent preclinical data

- Immunocompetent outbred mice vaccinated IM and challenged IC (very rigorous model)
- **100% single-dose survival in vaccinated mice**
- 90-100% death in saline controls within 1 week
- Effective clearance - no virus recovered from brains of vaccinated and Zika-challenged mice

▶ Completed Immunogenicity and Efficacy studies in Nonhuman Primates with NIH grant support

(Nature's Scientific Reports 2017)



Strong IP Protection

► Patent Portfolio

- Owner of Record Patents
 - U.S. – 11 applications pending
 - Non-U.S. – 17 application pending
- Licensed Patents
 - U.S. – 10 issued, 2 applications pending
 - Non-U.S. – 14 issued, 2 applications pending



GeoVax Value → Proprietary Expertise in Vaccine Vector Development

Collaborators



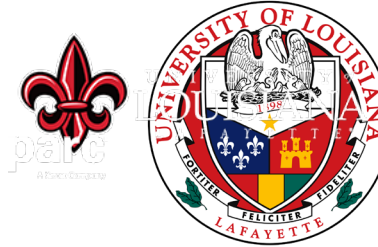
HF



HIV



ZIKA



HBV T_x



ONCOLOGY



Univ of N Carolina at Charlotte



MALARIA



GeoVax Scientific Advisors

Thomas Monath, MD (Chairman)

- Managing Director & CSO, Crozet BioPharma
- Acambis, Hookipa, PaxVax, NewLink Genetics, PerkinElmer

Olja Finn, PhD

- Prof. Immunology and Surgery, Univ. of Pittsburgh

Barney Graham, MD, PhD

- Sr. Investigator, VRC, NIAID/NIH

Stanley Plotkin, MD

- Vaxconsult, LLC
- Sanofi Pasteur

Scott Weaver, PhD

- Director UTMB Institute for Human Infections and Immunity

A Compelling Opportunity



- ✓ **Developing novel, patented cancer immunotherapies and infectious disease vaccines based on a unique technology & expertise**
 - ❖ **Robust, durable immunity, single-dose, no adjuvant, cost-effective manufacturing, safe vaccines**
- ✓ **Focused on critical major medical needs with differentiated advantages**
- ✓ **Translational programs underway to advance clinical and regulatory development**





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