



Advancing Immunotherapy & Prevention

1900 Lake Park Drive, Suite 380 ♦ Atlanta, GA 30080

Tel: (678) 384-7220, Fax: (678) 384-7281

www.geovax.com ♦ OTCQB: 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.

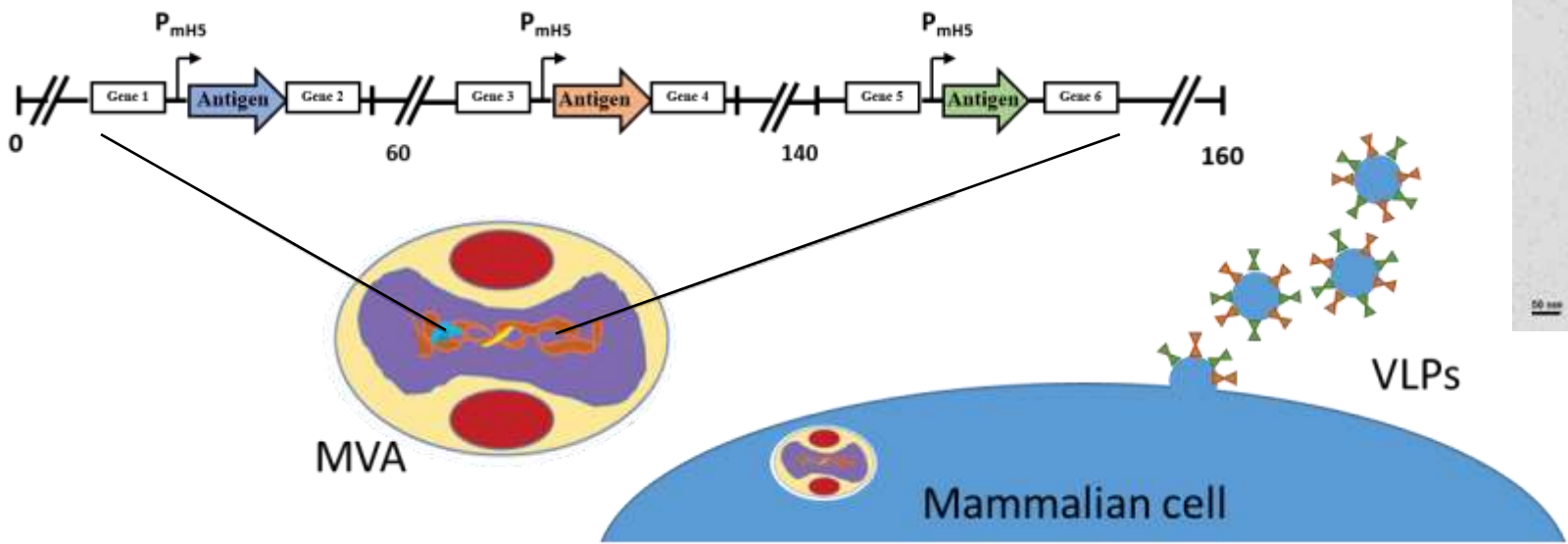
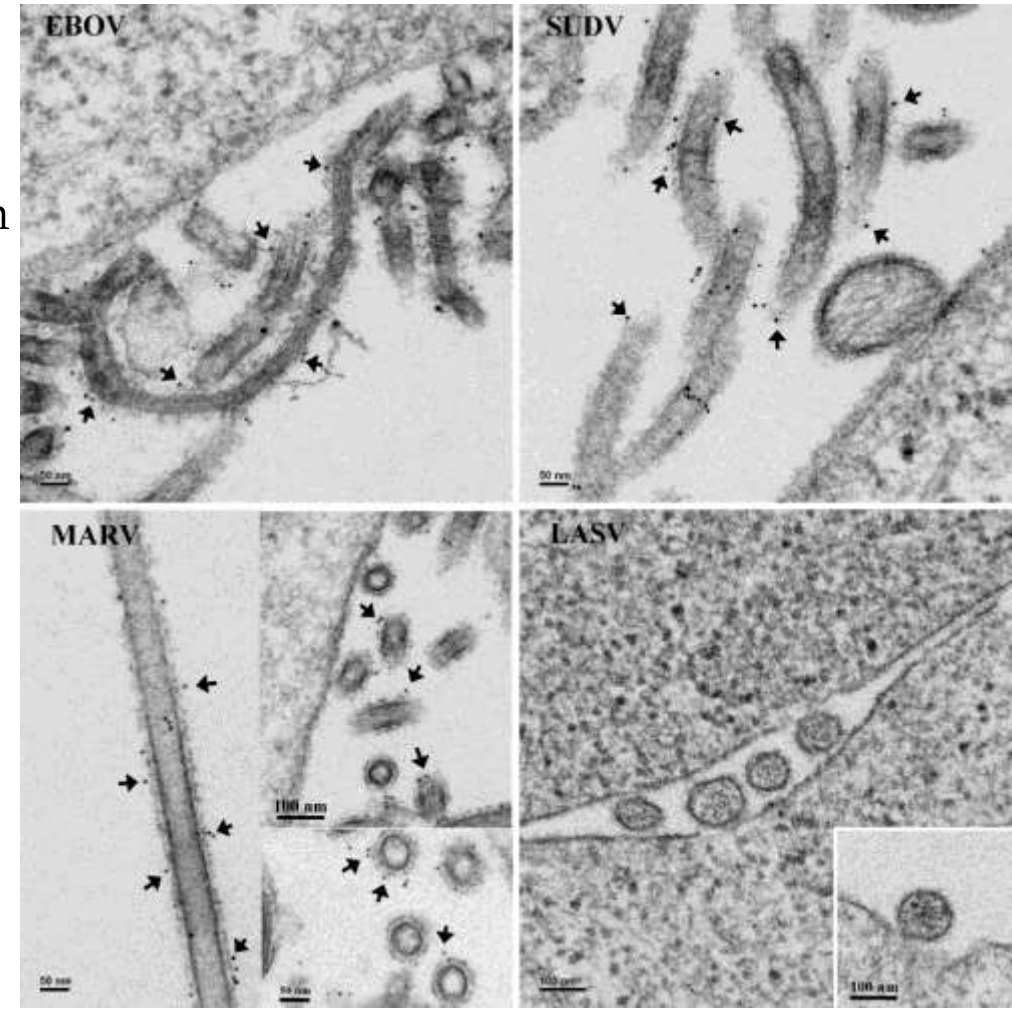
GeoVax...A Compelling Opportunity

- ▶ **Developing immunotherapies and infectious disease prevention based on**
 - Single-dose
 - Durable immunity
 - No adjuvant
 - Extensive safety profile
 - Cost-effective manufacturing

- ▶ **Leveraging internal and external expertise to minimize development risk**

GeoVax MVA-VLP Vaccine Technology

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



Advantages of 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**



Advantages of GeoVax Technology

Technology	Single-Dose Immunity	Immunogenicity	Optimized VLP Formation	Transgene Stability
GeoVax MVA-VLP	Yes	Excellent	Yes	Excellent
Competitive MVA Technologies	No ✓	Limited ✓	No ✓	??Unknown?? ✓

Cost-Effective Manufacturing and No Adjuvant Necessary

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)				
	Coronavirus (COVID-19)				



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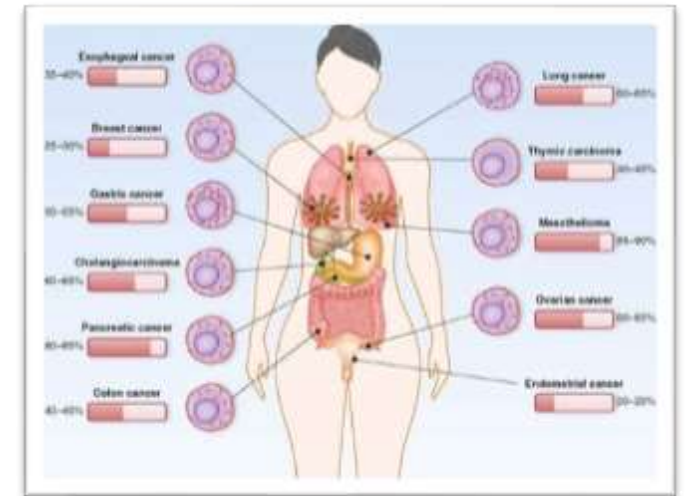
GeoVax Cancer Immunotherapy Focus



GeoVax has developed a **combination cancer vaccine strategy**:

- ▶ GeoVax novel Cancer Immunotherapy uses 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.



GeoVax Concept to Cancer Immunotherapy



STIMULATE

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



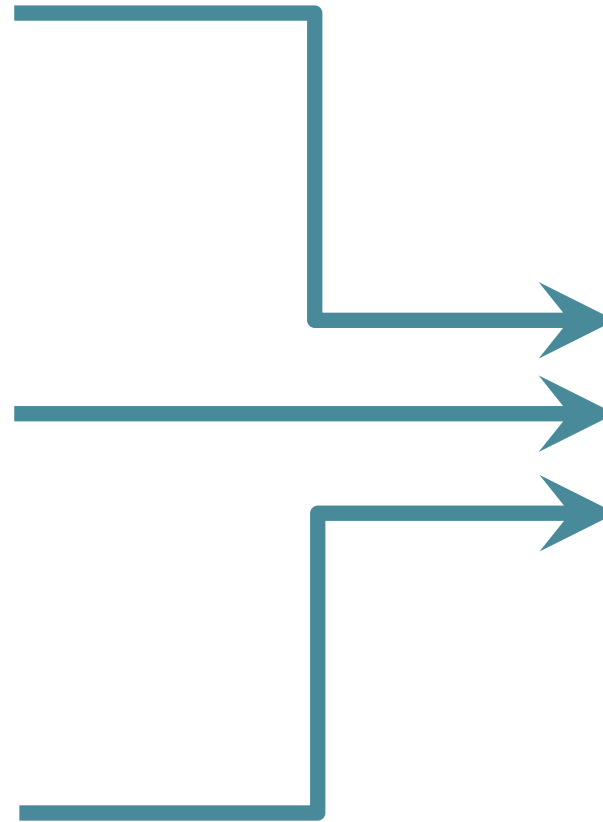
BLOCK

checkpoint inhibitor to
reverse immune tolerance
(POC completed)

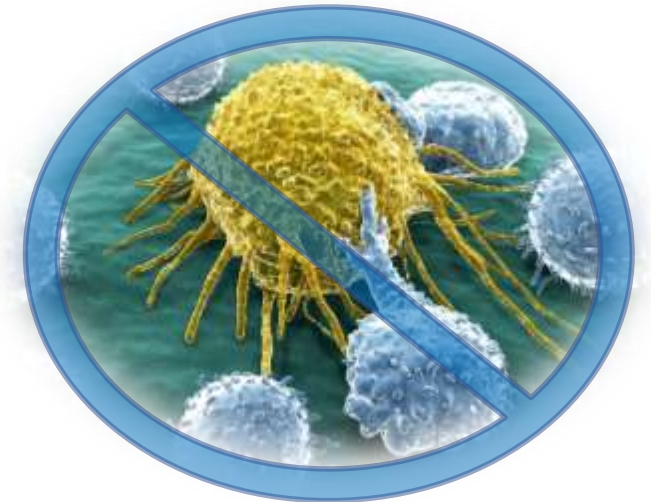


KILL

achieve oncolysis using
armed vaccinia virus



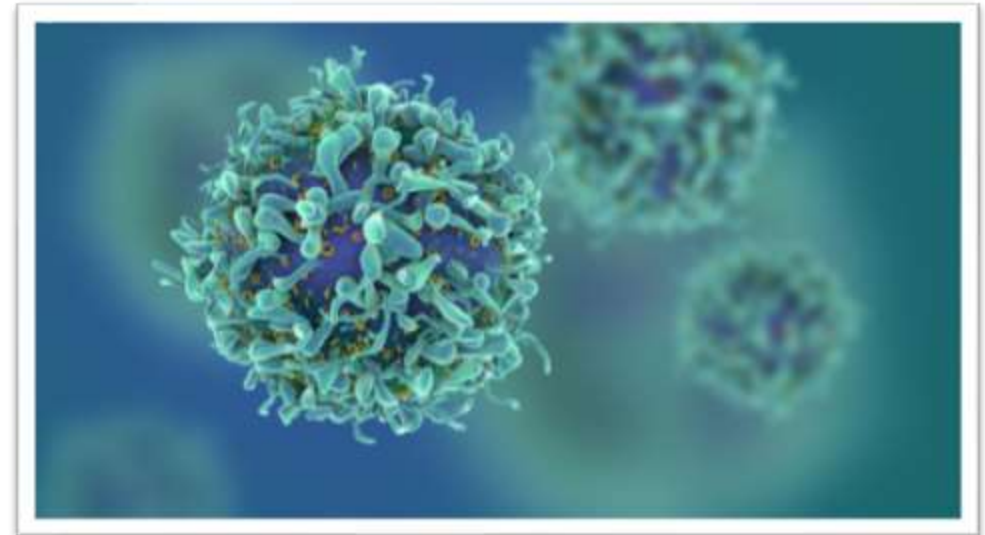
TUMOR



REGRESSION

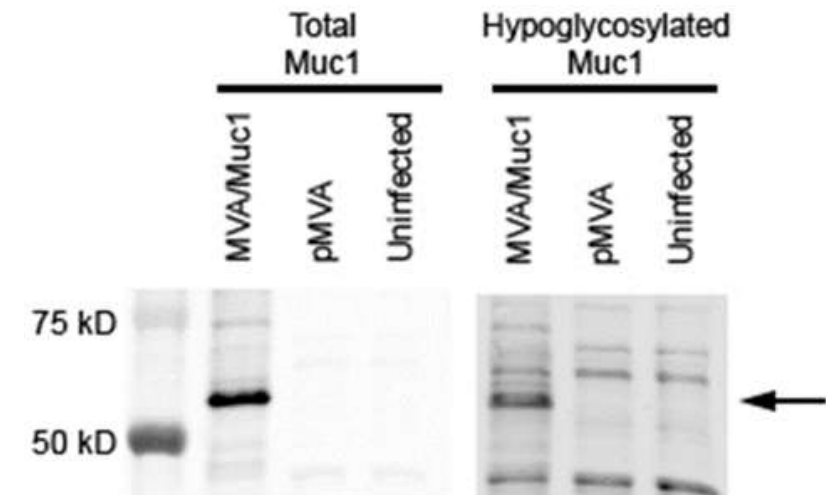
GeoVax Cancer Vaccines

- ▶ **MUC1 – aberrantly glycosylated in many cancers**
 - In collaboration with ViaMune, University of North Carolina at Charlotte & University of Pittsburgh
- ▶ **CyclinB1 – overexpressed in certain cancers**
 - In collaboration with Vaxeal
- ▶ **HPV head and neck cancers**
 - Internal
 - E6/E7 antigens

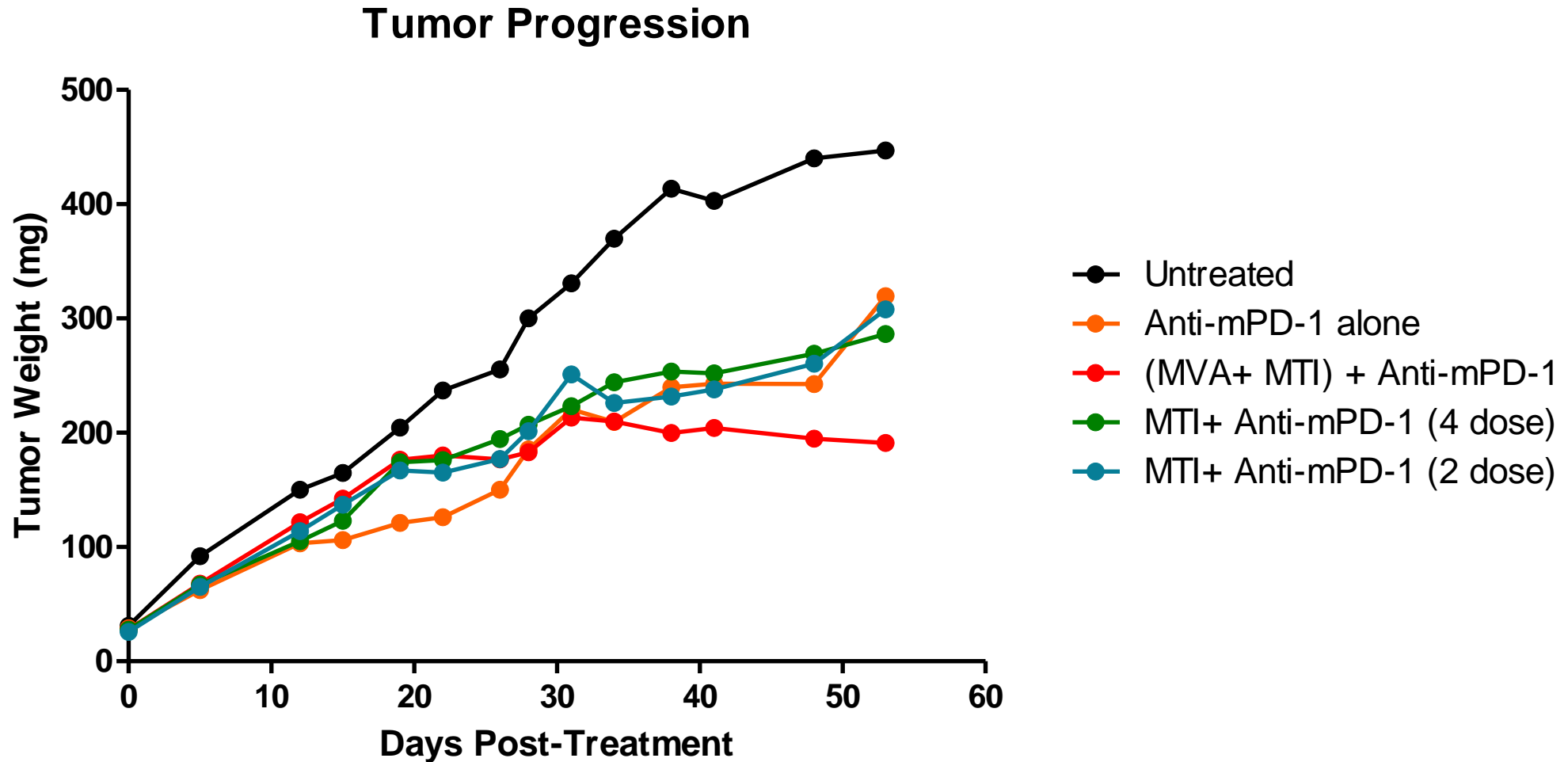


MVA-VLP-MUC1

- ▶ 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



As in the initial experiment, MVA+MTI+CPI arrested tumor growth and shrank tumors

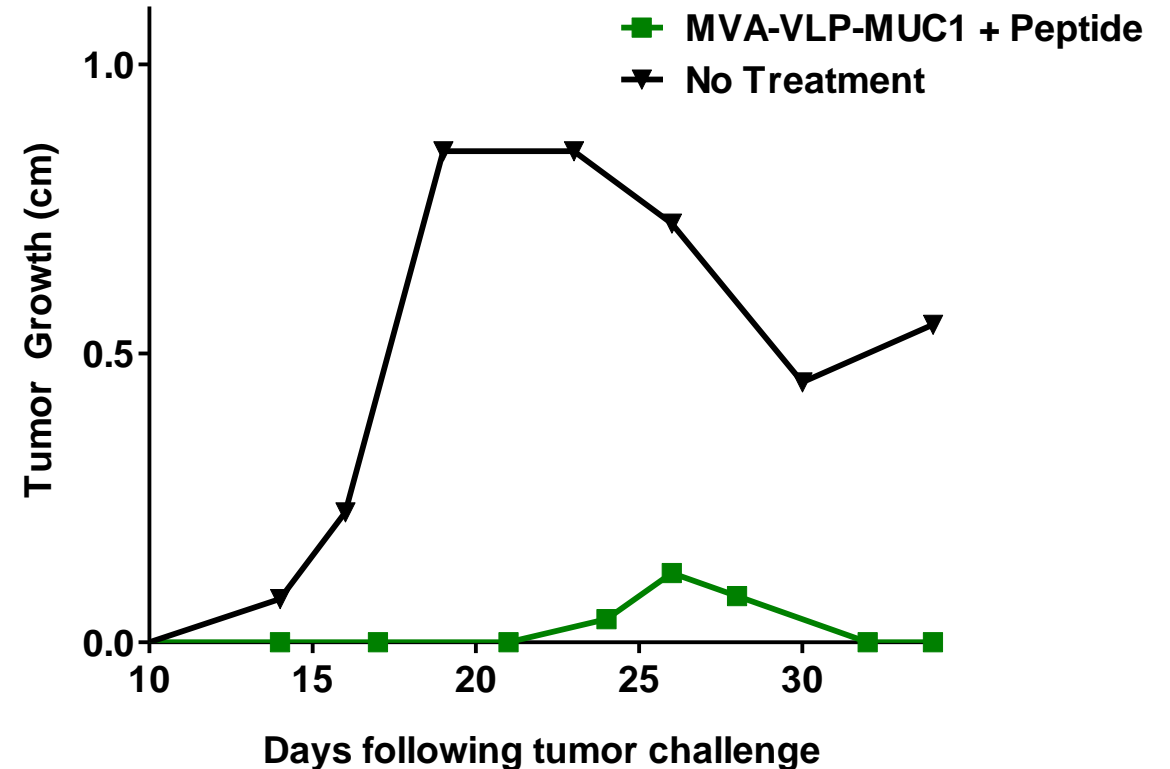
Prevention Experiment Results

▶ 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.

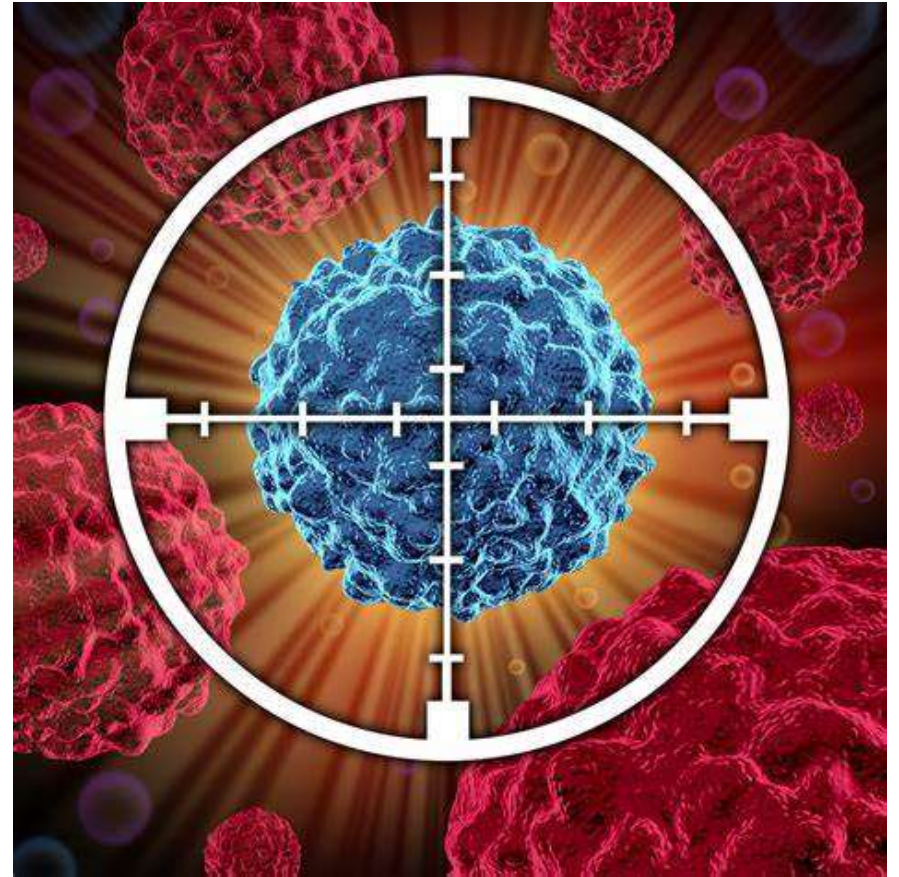


GeoVax Cancer Immunotherapy Next Steps

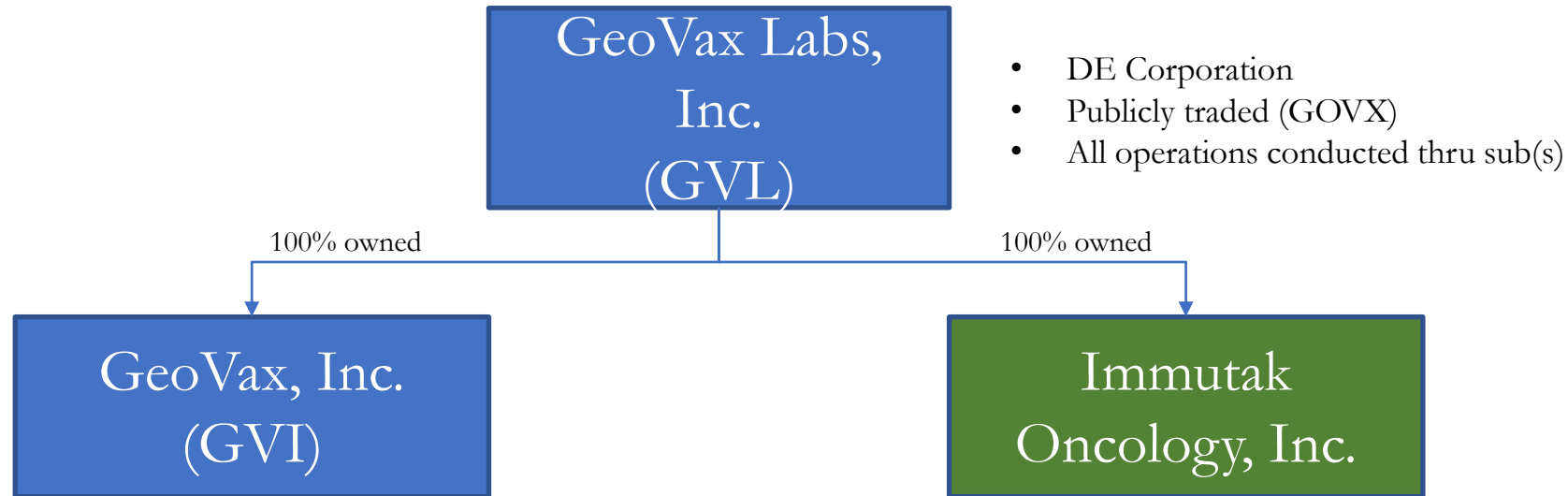
- ▶ **Further validate GeoVax novel cancer vaccine approach using other target antigens & novel check-point inhibitors that can be expressed by the vector and not administered separately**
- ▶ **Complete POC related to using oncolytic virus to achieve tumor cell lysis (e.g. KILLing the tumor)**
- ▶ **Proceed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

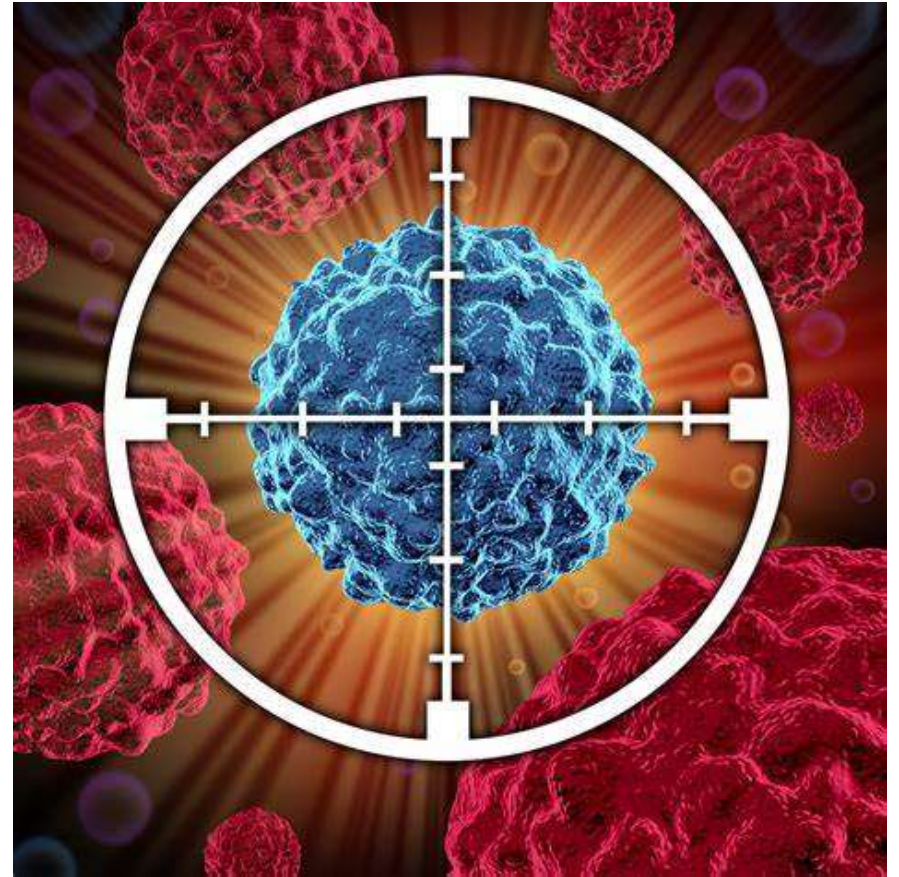
- Pure play investment in an attractive mix of oncology assets leveraging proven technology and expertise.
- Advance immuno-oncology candidates to exit/registration milestones.
- Potential to acquire/in-license clinical-stage oncology products to accelerate regulatory/exit milestone events

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).

Immutak Oncology, Inc.

Advancing Innovation in Cancer Therapy





GeoVax Developments in Infectious Disease Vaccines

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COVID-19 Vaccine Development

- ▶ **Expedited vaccine construction through proprietary single-cycle recombination technology**
 - Currently constructing 4 vaccine candidates based on SARS-CoV-2 to prevent COVID-19
- ▶ ***In vivo* proof of concept in hACE2 transgenic mouse model**
 - Preclinical investigators identified and animal study designed
- ▶ **Accelerated seed banking and Phase 1a/1b vaccine production using platform processes available at our manufacturing partner sites**
- ▶ **Early interactions with FDA;**
 - Little to no tox testing expected based on safety record of MVA platform
- ▶ **Scale up for EUA readiness during Phase 1a/1b clinical trial**

GeoVax HIV Preventive Vaccine

Advancing 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)**
- ▶ **Preventive vaccine: HVTN 132 – Scheduled start H2 2019**
- ▶ **Therapeutic vaccine: Phase 1 trial to begin H2-2019**
 - Collaboration with American Gene Technologies for “**functional cure**” effort;

Focused on Areas of Critical Healthcare Need



Hemorrhagic Fever Vaccines

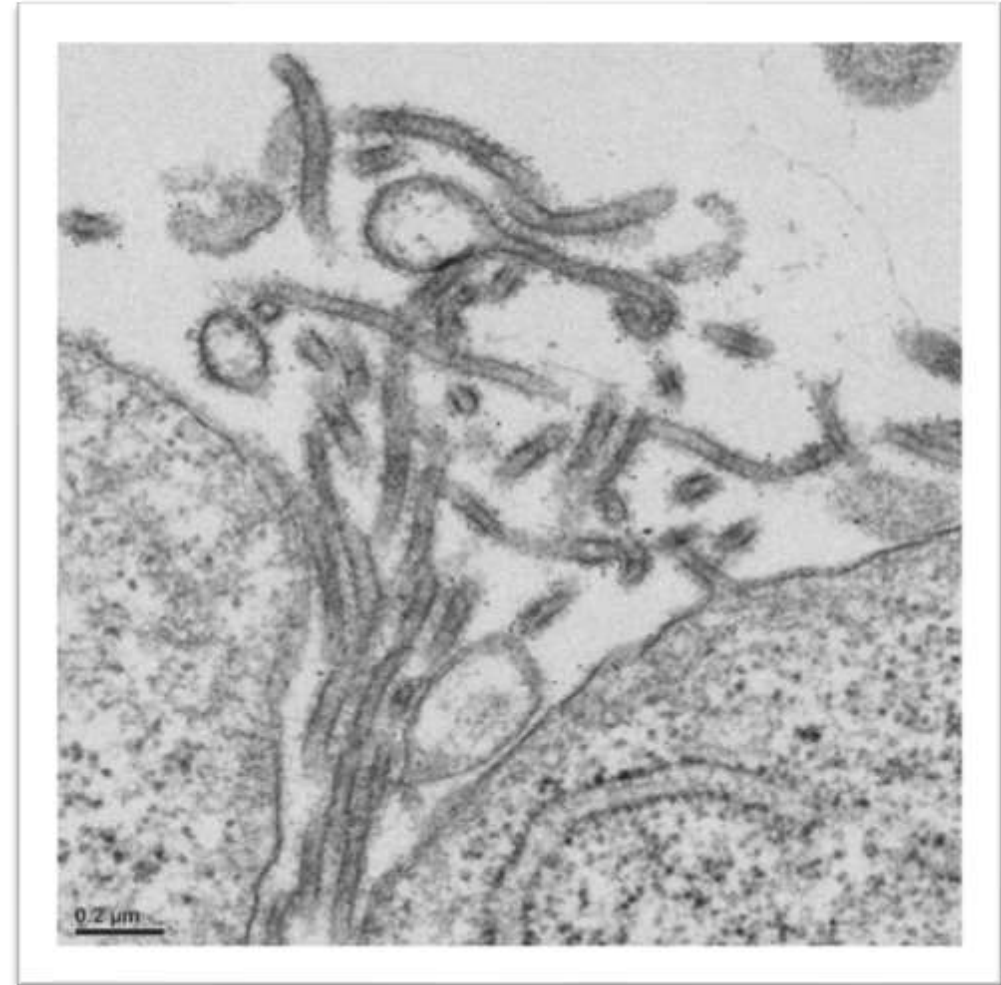
- Four vaccines covering all major hemorrhagic fevers:
 - Ebola
 - Sudan
 - Marburg
 - Lassa

Zika Vaccine (GOVX-ZM01)

- A novel vaccine candidate that removes risk of ADE

Malaria Program

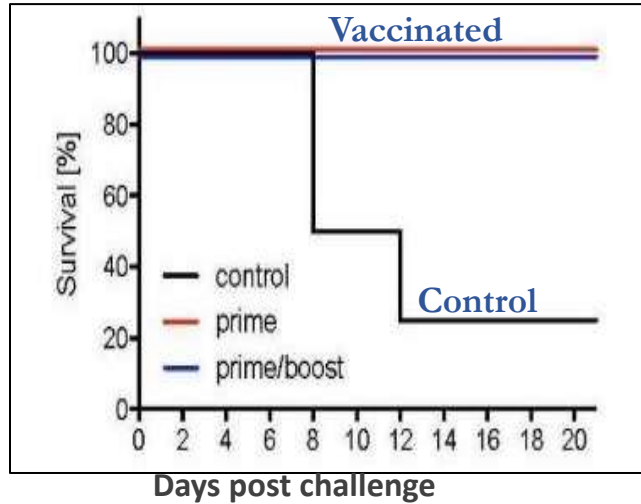
- Vaccine antigens covering all 3 stages of malaria infection



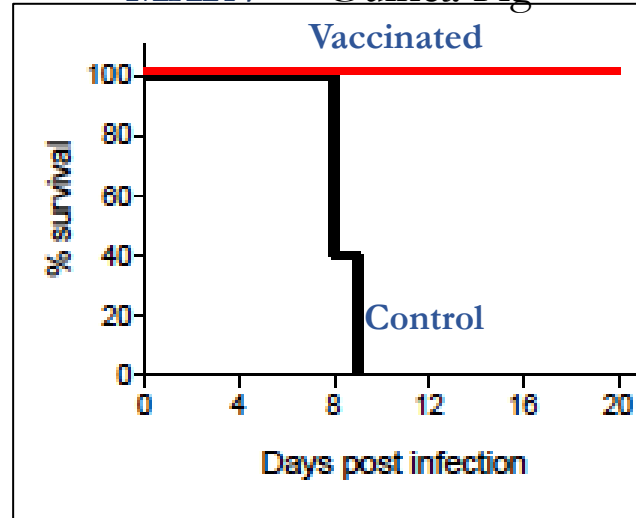
Hemorrhagic Fever Vaccines-Unparalleled Success



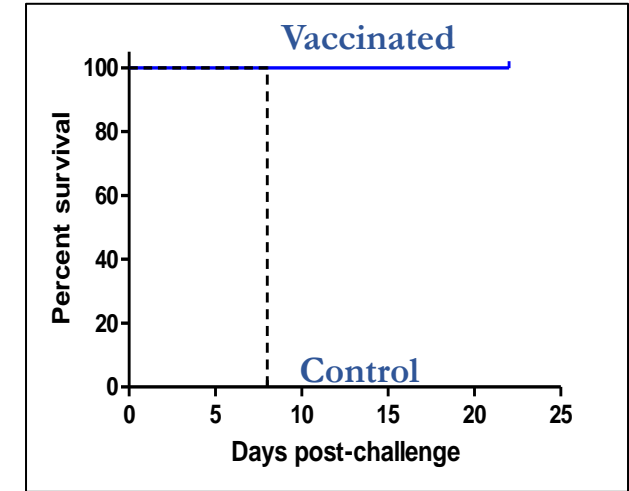
EBOLA Monkey



MARV Guinea Pig



LASSA Normal mice



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

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

▶ **Sudan Vaccine, awaiting animal testing**

▶ **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

Potential to develop a single tetravalent vaccine → Significant commercial opportunity

Zika Vaccine Program – Progressing to Clinic



▶ Novel vaccine design

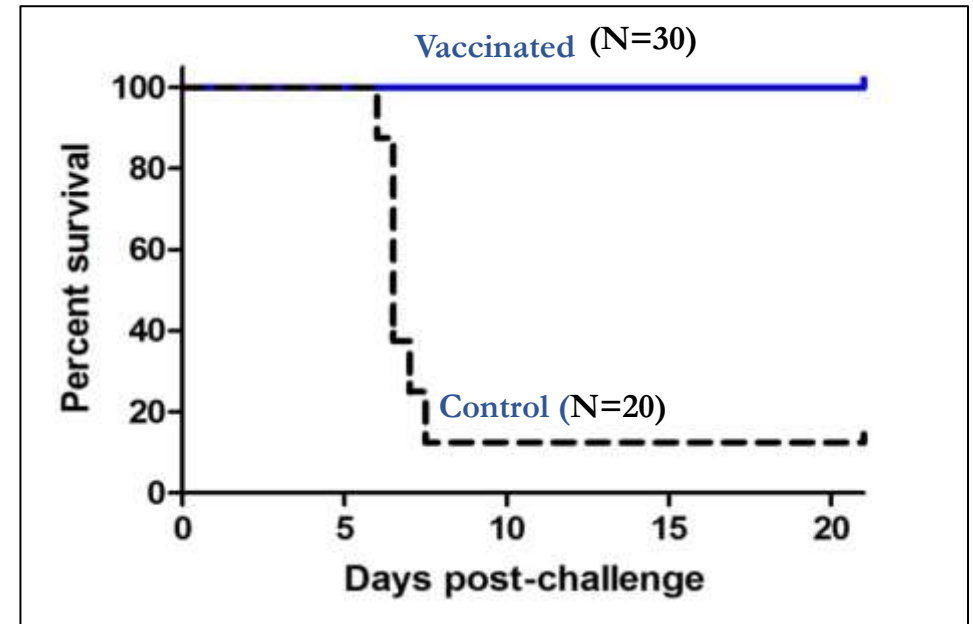
- **Competitive Advantage**
 - No risk of Antibody Dependent Enhancement (ADE) of infection against Dengue or other flaviviruses

▶ 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 Strategy on MVA-COVID-19 Vaccines



▶ GeoVax is actively pursuing patent protection covering its MVA-COVID-19-VLP vaccine strategies

- Provisional patent applications filed in Feb and Mar 2020
 - Covering GeoVax's current MVA-COVID-19-VLP vaccine candidates and backups employing enhanced antigenic VLP display strategies
- Pending patent application generally covers the GV-MVA-VLP platform
 - Chimeric Antigen-Glycoprotein Transmembrane/Matrix Protein Virus-Like Particles
- Additional applications in-process directed to:
 - Novel MVA backbones derived using unique antigen insertion strategies which allow for the rapid development of stable MVA recombinants and one-step purification, drastically reducing product design and lead optimization timelines for candidate vaccine development
 - Improved strategies for antigen presentation and processing by antigen presenting cells (APCs) using unique VLP construction strategies



Strong IP Strategy on Other Vaccine Technology

- ▶ 56 granted or pending patent applications spread over 16 patent families
- ▶ Our own and in-licensed patent estate relevant to our other vaccine programs, on a worldwide basis, includes wholly owned pending patent applications directed to our vaccine programs
 - Hemorrhagic fever (Ebola, Marburg, Sudan)
 - Zika Malaria vaccine
 - Lassa
 - HPV- associated cancer
 - Solid tumor
- ▶ In-licensed patents from Emory University (laboratory of Dr. Harriet Robinson) and the NIH (laboratory of Dr. Bernard Moss) relevant to our HIV vaccine program



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 vaccines and immunotherapies 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 pursue clinical and regulatory development**





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