Zacks Small-Cap Research

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GeoVax Labs Inc. (GOVX-OTC)

GOVX: Unique preventive and therapeutic HIV/AIDS vaccine development technology with candidates in efficacy studies-- Outperform

Current Recommendation	**Outperform**
Prior Recommendation	N/A
Date of Last Change	01/15/2013
Current Price (01/18/13)	$0.77
Twelve- Month Target Price	**$1.50**

OUTLOOK

GOVX is a unique developer for both preventive and therapeutic HIV vaccines. The Company's preventive HIV vaccine is among the only 5 candidates out of more than 90 vaccines entering HVTN Phase I testing chosen to progress to Phase II clinical trials.

Both HIV/AIDS vaccine and treatment markets are huge and GOVX has the potential to be a key player in the two markets. Management will continue to create shareholder value by generating new clinical data, bringing in government support and partnership.

We believe valuation is attractive with the potential for substantial returns.

SUMMARY DATA

52-Week High	**$1.20**
52-Week Low	**$0.63**
One-Year Return (%)	**-12.66**
Beta	**1.32**
Average Daily Volume (sh)	**23,027**
Shares Outstanding (mil)	**20.5**
Market Capitalization ($mil)	**$15**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**36.8**
Insider Ownership (%)	**7**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**10.5**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2012 Estimate	**N/A**
P/E using 2013 Estimate	**N/A**
Zacks Rank	**N/A**

Risk Level	**Above Avg.,**
Type of Stock	**Small-Growth**
Industry	**Med-Biomed/Gene**
Zacks Rank in Industry	**N/A**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2011	0.89 A	1.75 A	1.30 A	0.96 A	4.90 A
2012	0.86 A	0.71 A	0.64 A	0.70 E	2.90 E
2013	0.75 E	0.75 E	0.75 E	0.75 E	3.00 E
2014					2.50 E

Earnings per Share
(EPS is operating earnings before non recurring items)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2011	-$0.04 A	-$0.01 A	-$0.02 A	-$0.07 A	-$0.15 A
2012	-$0.04 A	-$0.03 A	-$0.02 A	-$0.01 E	-$0.10 E
2013	-$0.04 E	-$0.04 E	-$0.05 E	-$0.05 E	-$0.18 E
2014					-$0.20 E

Zacks Projected EPS Growth Rate - Next 5 Years % **N/A**

KEY POINTS

- We are initiating coverage of GeoVax (GOVX) with an Outperform rating. Our 12-month price target is $1.5 per share.

- GeoVax has developed the technology for both preventive and therapeutic HIV/AIDS vaccines. Based on this unique technology, the Company has established a pipeline with multiple candidates in different stage of development.

- The Company's preventive HIV vaccine is among the only 5 candidates out of more than 90 vaccines entering HVTN Phase I testing chosen to progress to Phase II clinical trials. GOVX's preventive vaccine is the only HIV vaccine for America/Europe entering efficacy trial.

- We are impressed with the data from the Company's preventive vaccine DNA/MVA, which has completed a Phase IIa clinical trial. The vaccine is safe and has demonstrated preliminary immune response data which is better in some features when compared to Sanofi's Alvac/gp120 vaccine.

- The Company's second generation of preventive HIV vaccine DNA-G/MVA has completed enrollment of Phase I clinical trial and data will be available in 2013. GOVX plans to initiate a Phase IIb clinical trial of this vaccine in mid-2014.

- GeoVax is also testing its therapeutic HIV/AIDS vaccines in Phase I/II clinical trials. Initial data will be available in 2H2013.

- Both markets for preventive and therapeutic HIV/AIDS vaccines are huge. With multiple candidates targeting both markets, GeoVax has the potential to become a key player in the two markets in our view.

- Cash burn is conservative due to generous government support. Management will continue to seek non-dilutive financing for its clinical studies. Shareholder value will be created by generating new clinical data and forming potential partnerships in our view.

- We think valuation is attractive at this time. GOVX represents a risk reward opportunity with potential for substantial positive returns.

OVERVIEW

GeoVax, Labs (GOVX) is a mid-stage biotechnology company focused on developing vaccines that prevent and fight human immunodeficiency virus (HIV), whose infections result in acquired immunodeficiency syndrome (AIDs).

The Company is developing two kinds of HIV/AIDS vaccines

- **Preventive** HIV/AIDS vaccines, which will be used before HIV infection and
- **Therapeutic** HIV/AIDS vaccines, which will be used after HIV infection to reduce need for medication

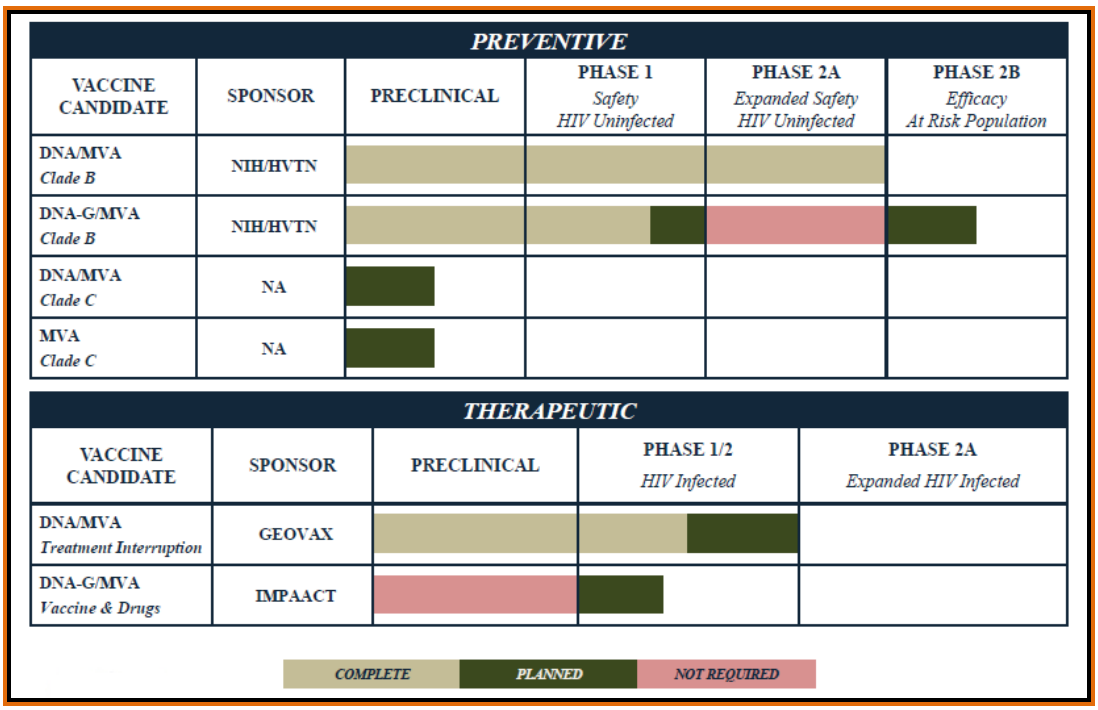
One of GeoVax's unique positions is that the Company has developed techniques to develop both **preventive** and **therapeutic** HIV vaccines. These preventive and therapeutic vaccines are currently being evaluated in clinical trials-- both in those infected with HIV and those who are not.

GeoVax's current vaccines under clinical development are designed to function against the **clade B** subtype of the HIV virus that is prevalent in the United States and the developed world. An estimated 3.5 million people are infected with clade B HIV virus and between 55,000 and 58,000 new infections occur in the U.S. every year. Worldwide market opportunity for a clade B HIV vaccine (preventive and therapeutic) is estimated to be approximately $5 billion annually.

Subject to the availability of funding support from governmental or nongovernmental organizations, GeoVax also plans to develop vaccines designed for use to combat the subtypes of HIV that predominate in the developing countries including clades A, C and an AG recombinant.

GeoVax's vaccine technology was developed in collaboration with researchers at Emory University, the U.S. National Institutes of Health (NIH), and the U.S. Centers for Disease Control and Prevention (CDC). The technology developed by the collaboration is exclusively licensed to GeoVax from Emory University. The Company also has nonexclusive licenses to certain patents owned by the NIH and exclusive license rights to certain manufacturing process patents of MFD, Inc.

Summary of GeoVax's Development Pipeline



GeoVax, Labs, Inc. is a Delaware company formed in 2001. The Company's offices and laboratory facilities are located in Smyrna, Georgia (metropolitan Atlanta).

INVESTMENT THESIS

The Unique Preventive and Therapeutic HIV Vaccine Technology

One of GeoVax's uniqueness is that the Company has the technology to develop both **preventive** and **therapeutic** HIV/AIDS vaccines.

GeoVax's vaccines were initially developed by the Company's Chief Scientific Officer, Dr. Harriet L. Robinson at Emory University in collaboration with scientists at the NIH and the CDC. The Company's vaccine technology incorporates two vaccine delivery components:

- a recombinant DNA (deoxyribonucleic acid, the primer) and
- a recombinant poxvirus, known as MVA (modified vaccinia Ankara, the booster)

Both of the genes encode inactivated HIV derived proteins to the immune system. Both the DNA and MVA vaccines contain sufficient HIV genes to support the production of non-infectious virus-like particles (VLPs) which display the native trimeric membrane-bound form of the **viral envelope glycoprotein** that appears authentic to the immune system. When used together, the recombinant DNA component is used to **prime** the immune response, which is then **boosted** by administration of the recombinant MVA component. However, in certain settings the recombinant MVA alone may be sufficient for priming and boosting the immune responses.

The Company's initial work focused on the development of a preventive vaccine for use in uninfected humans to prevent infection should they be exposed to the virus. Later, based on encouraging data in preclinical primate models, the Company undertook the development of a therapeutic vaccine for use in HIV infected humans to supplement approved drug regimens. For both preventive and therapeutic applications, the Company's current focus is on a vaccine for use against **clade B**, which is common in the United States and the developed world. However, if efficacy is documented against clade B, the Company plans to develop vaccines designed for use to combat the subtypes of HIV that predominate in developing countries, including clades A, C and an AG recombinant.

Out of more than 90 vaccines entering HVTN Phase I testing, only 5 candidates were chosen to progress to Phase II clinical trials, GeoVax's vaccine is one of them.

Current Status: Preventive HIV/AIDS Vaccines

Vaccine Sponsor	Antibody (Ab to Env)	T Cell	Comments
VaxGen gp 120	YES	NO	FAILED gp120, atypical Env
Merck Ad5	NO	YES	FAILED Ad5 seropositive participants at higher risk
NIH / VRC DNA Ad5	YES	YES	ENROLLING Limited to Ad5 seronegative, circumcised Not intended as commercial product
Aventis ALVAC / gp120	YES	LOW	TRIAL COMPLETE Prevention of infection in 31% of Participants
GEOVAX DNA / MVA	YES	YES	PHASE 2a Enrollment Complete / Planning Phase 2b

Out of more than 90 vaccines entering HVTN Phase I testing, only 5 candidates were chosen to progress to Phase II clinical trials.

GeoVax's Vaccines Can Induce Both T-cell and Antibody Immune Responses

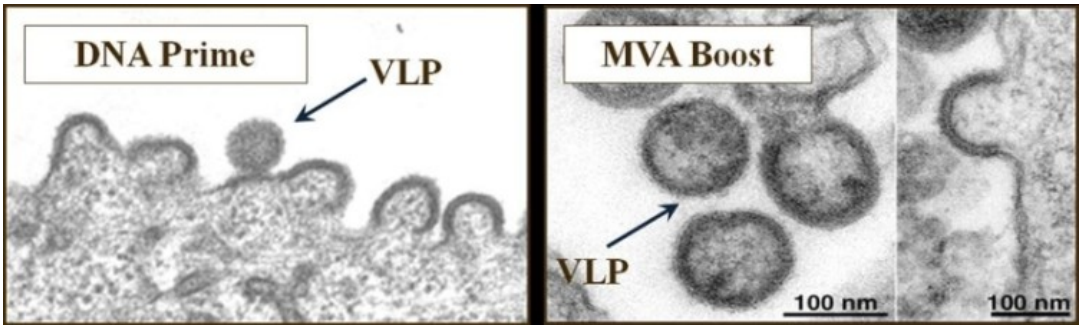
In both preclinical and clinical trials, GeoVax's vaccines induce both **anti-viral antibody** and **T-cell responses**. The induction of both antibodies and T-cells is beneficial because these immune responses work through different mechanisms. Antibodies can prevent infection by blocking viruses from infecting cells. In preclinical vaccine studies using repeated rectal challenges with moderate doses of virus, the avidity, or tightness, of antibody binding to the surface envelope glycoprotein of HIV correlates with the prevention of infection. In high dose challenges that infect all animals at the first exposure, the avidity of the antibody for envelope glycoprotein correlates with reduced levels of virus replication. These results likely reflect the tightly binding antibody both blocking infection as well as tagging the virus and infected

cells for destruction. GeoVax's vaccines elicit **CD8 T-cells**, a type of T-cell that can recognize and kill cells that become infected by virus. CD8 T-cells are important for the control of the virus that has established an infection. In its therapeutic vaccinations, its vaccines elicit high frequencies of CD8 T-cells with the functional characteristics of CD8 T-cells associated with control of viral infections in individuals termed "elite controllers". Elite controllers, who constitute less than 1% of all HIV-infected individuals, enjoy years of disease-free life without the use of drugs.

DNA as Primer and MVA as Booster

GeoVax's Chief Scientific Officer Harriet L. Robinson's early work with HIV vaccines demonstrated that DNA alone would not be sufficient to raise protective immunity for HIV. She then combined DNA with protein boosters to show that the most effective control was through a combination of DNA prime and viral-vectored boosters. Her most recent work has developed single mutiprotein expressing DNA, and working with the NIAID-NIH, a single poxvirus vector (MVA) has been developed to be used for priming and boosting. It is these vaccines that GeoVax has licensed for commercial development.

Both the DNA and MVA vaccines produce **virus-like particles (VLP)** containing the three major proteins of HIV. The virus-like particles cannot cause disease because they were designed with mutated or deleted enzymatic functions that are essential for virus replication. The virus-like particles display trimeric membrane bound forms of the HIV envelope glycoprotein (Env). This is important because the natural form of the envelope glycoprotein elicits antibody capable of recognizing incoming virus and blocking infections. Expression of multiple proteins by the vaccine is important because each protein provides targets for cytotoxic T-cells. Elicitation of a multi-target T-cell response limits immune escape, just as multi-drug therapies limit drug escape.



For the DNA Prime, VLPs are seen budding from a DNA-expressing cell. For the MVA boost, fully formed particles as well as a budding particle are shown. The VLPs display trimeric membrane-bound forms of the viral envelope glycoprotein (Env). The VLPs are immature and are rendered non-infectious by deletion of essential genes and introduction of inactivating mutations in essential viral enzymes.

VLPs are designed to elicit:

- protective antibodies – block infection
- cytotoxic T cells – type of white blood cell that kills infected cells

GeoVax selected MVA for use as the live viral component of its vaccines because of MVA's well-established safety record and because of the ability of this vector to carry sufficient HIV proteins to produce virus-like particles. MVA was originally developed as a safer smallpox vaccine for use in immune compromised humans.

The availability of DNA and MVA vaccine delivery vectors provides GeoVax with the means to use combination vaccines that induce different patterns of T-cell and antibody responses. Specifically, the use of DNA to prime immune responses and MVA to boost immune responses elicits high levels of T-cells and thus could be particularly well-suited for therapeutic uses. Alternatively, the use of MVA to both prime and boost the immune response elicits higher levels of antibodies and therefore could be well-

suited for use in prevention. The DNA prime also facilitates expressing genetic adjuvants, which are co-expressed by the vaccine vector with HIV proteins, at the site of immunization. This has proven to be particularly effective in using GM-CSF as an adjuvant in which a single DNA expresses both virus-like particles and GM-CSF. By co-expressing GM-CSF and HIV proteins in the DNA vaccine, GM-CSF is present at the site of the HIV vaccination where it enhances the ability of the vaccine to elicit blocking antibodies for the HIV virus. Blocking antibodies can stop a virus before it infects cells.

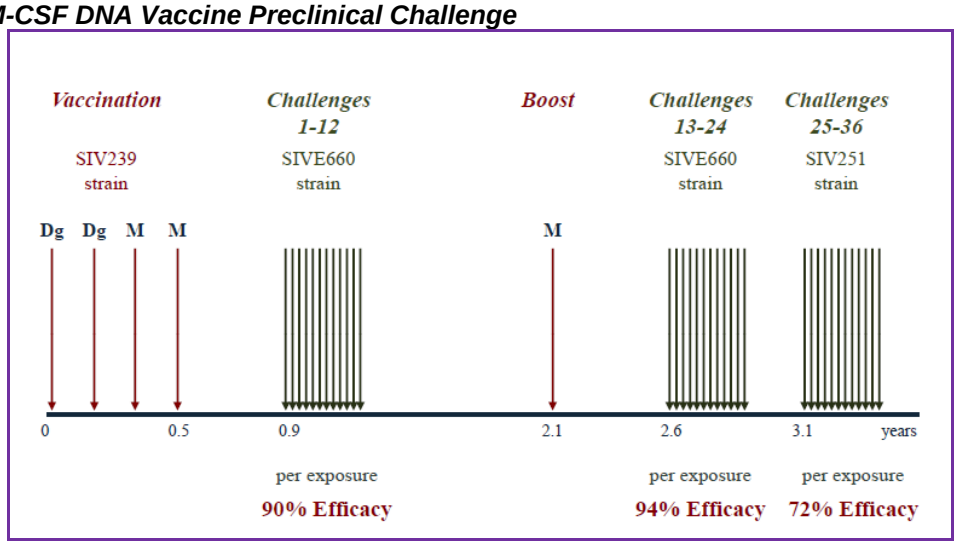
Preventive Vaccine, the Preclinical Studies

In preclinical animal studies, GeoVax conducted efficacy trials by vaccinating non-human primates with simian immunodeficiency virus prototypes of the Company's HIV vaccines and then testing them for resistance to simian immunodeficiency virus. The experimental data produced by these trials documented the ability of the simian prototypes of vaccines to induce immune responses that can prevent infection as well as reduce the levels of viral replication in those animals that become infected.

GeoVax has also developed **second generation** of HIV/AIDS vaccines by using adjuvant GM-CSF together with its DNA/MVA vaccine **(DNA-G/MVA).** When GM-CSF is co-expressed in the DNA prime for the MVA boost, the vaccine achieved 70% prevention of infection with a >90% reduction in the per exposure risk of transmission in a study employing 12 successive weekly exposures to simian immunodeficiency virus, whereas vaccinating in the absence of the co-expressed GM-CSF achieved 25% prevention of infection and a less effective 60% reduction in the per exposure risk of transmission.

Survivors from this 1st series of exposures were rested a year, boosted once with the MVA vaccine, and then exposed to a 2nd series of challenges. Greater than 90% reduction in risk of infection per exposure was achieved against the 2nd series of exposures. Survivors of this 2nd series of exposures were again rested for 6 months and are being exposed to a 3rd series of challenges. Again, 94% reduction in risk of infection per exposure was achieved. The 1st two series of exposures were to SIVE660, a virus that has neutralization characteristics like viruses undergoing transmission in the current epidemic. The 3rd series of challenges is with SIV251, a virus that is considered the most potent SIV used in nonhuman primate studies and is an outlier in its high resistance to neutralization.

GM-CSF DNA Vaccine Preclinical Challenge



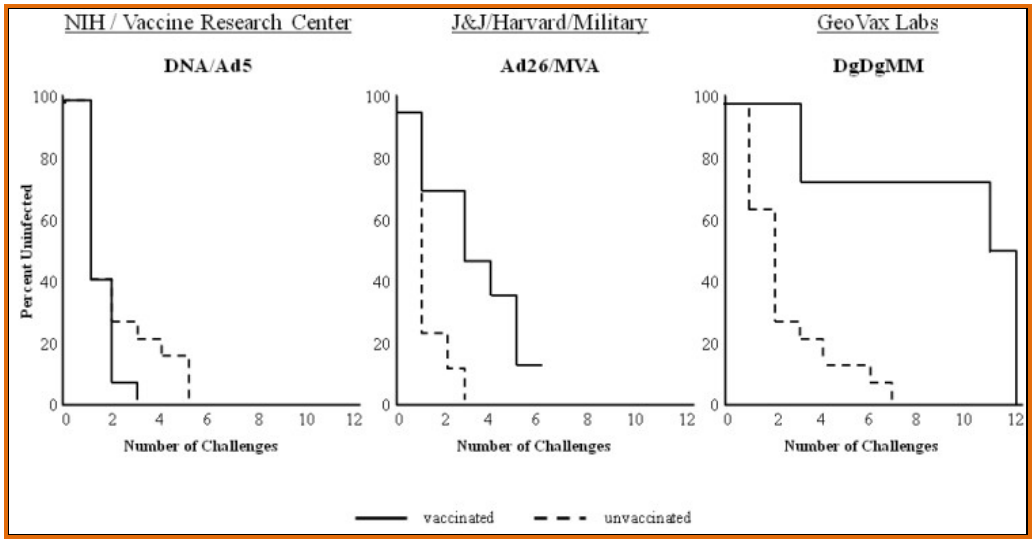
Source: Company presentation

As far as we know, the level of protection achieved by the simian prototype for the GeoVax GM-CSF-adjuvanted HIV vaccine is unprecedented and far better than has been achieved with simian prototypes of other vaccines currently in, or slated for efficacy trials (see chart below). Panel A of the chart shows prevention of serial infections by the vaccine currently in efficacy trials that was developed by the NIH

Vaccine Research Center. This vaccine consists of priming with a DNA vaccine and boosting with a recombinant Adenovirus 5 vaccine (DNA/Ad5). When challenged with SIV251, vaccinated animals were infected more rapidly than the unvaccinated animals. Panel B shows a Johnson and Johnson (Crucell) vaccine developed at Harvard and tested in conjunction with the US military. This vaccine initially provides some protection; however only 13% of the animals remained protected after 6 exposures to SIV251. Panel C shows data from serial exposures to the simian prototype for the GeoVax GM-CSF-co-expressing vaccine. This vaccine has provided a 72% per exposure reduction in risk of infection over 12 serial exposures.

We are very pleased with the reduction in risk of infection per exposure that the GeoVax prototype vaccine has achieved.

Comparison of protection against serial exposures to SIV251 induced by vaccines undergoing or slated for efficacy trials



A. Vaccine consisting of priming with a DNA vaccine and boosting with and adenovirus5 vaccine (Ad5) developed by the NIH Vaccine Research Center and currently in an efficacy trial in North America. B. Vaccine consisting of priming with an adenovirus 26 vaccine (Ad26) and boosting with an MVA vaccine developed by Harvard and the U.S. Military, owned by Johnson and Johnson (Crucell) and slated for an efficacy trial in South Africa. C. GeoVax vaccine consisting of priming with a GM-CSF co-expressing DNA and boosting with MVA.

Preventive Vaccine, the Phase I Human Clinical Trials

All of GeoVax's preventive vaccination trials in humans have been conducted by the HIV Vaccine Trials Network (HVTN), a network that is funded and supported by the NIH. The HVTN is the largest worldwide clinical trials network focused on the development and testing of HIV/AIDS vaccines. The following chart summarizes GeoVax's clinical trials conducted by the HVTN.

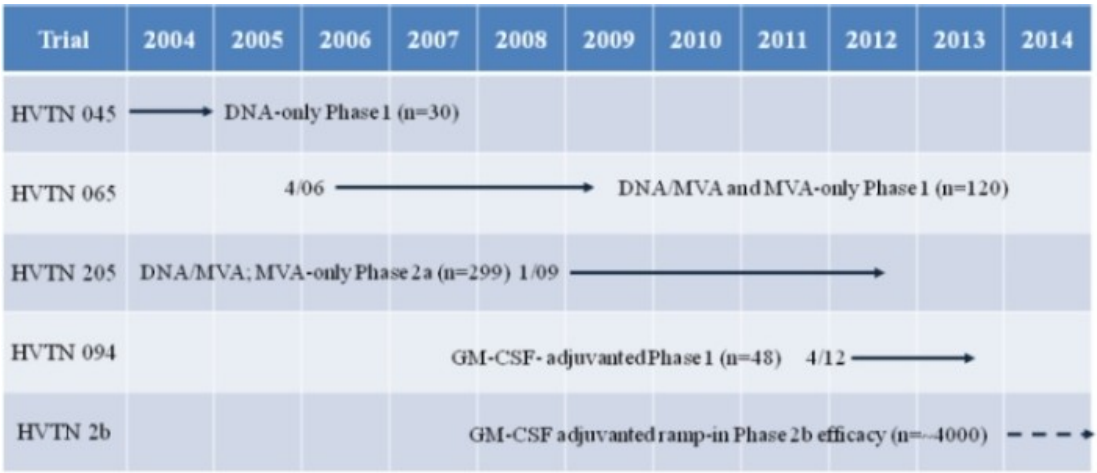
In first Phase I clinical trial, **HVTN 045**, DNA vaccine was tested without MVA boosting to document the safety of the DNA. The second Phase I clinical trial, **HVTN 065**, was designed to test the combined use of DNA and MVA and consisted of a dose escalation as well as regimen studies. The low dose consisted of 0.3 mg of DNA and $1x10^7$ tissue culture infectious doses (TCID 50) of MVA. Once safety was demonstrated for the low dose in 10 participants, the full dose (3 mg of DNA and $1x10^8$ TCID 50 of MVA) was administered to 30 participants. A single dose of DNA at time 0 followed by MVA at weeks 8 and 24, a DMM regimen, and three doses of MVA administered at weeks 0, 8 and 24, an MMM regimen, were also tested in 30 participants each. Participants were followed for 12 months to assess vaccine safety and to measure vaccine-induced immune responses.

Data from the HVTN045 and HVTN 065 trials documented the safety of the vaccine products, and also showed that the DDMM and MMM regimens induced different patterns of immune responses. The full

dose DDMM regimen induced higher response rates of CD4+ T-cells (77%) and CD8+ T-cells (42%) compared to the MMM regimen (43% CD4 and 17% CD8 response rates). In contrast, the highest response rates and highest titers of antibodies to the HIV Env protein were induced in the group that received only the MVA using the MMM regimen. Antibody response rates were documented to be higher for the MMM group using three different assays designed to measure total binding antibody levels for an immune dominant portion of the Env protein (27% for DDMM and 75% for MMM), binding of antibodies to the gp120 subunit of the envelope glycoprotein (81% for DDMM and 86% for MMM) and neutralizing antibodies (7% for DDMM and 30% for MMM). The 1/10th dose DDMM regimen induced overall similar T-cell responses but reduced antibody responses while the response rates were intermediate in the DMM group.

In both Phase I trials in uninfected people, GeoVax's vaccines had shown excellent safety profiles.

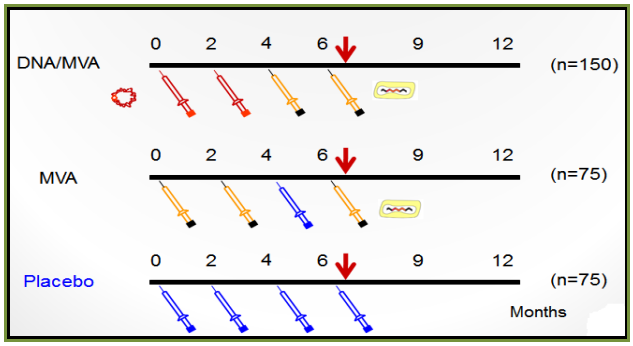
Overview of GeoVax human clinical trials supported by HVTN



Preventive Vaccine, Phase IIa Human Clinical Trials

Based on the safety and the immunogenicity results in the HVTN 045 and HVTN 065 trials, the full dose DNA/MVA **(DDMM)** and MVA-only **(MMM)** regimens were selected for testing by the HVTN in a **Phase IIa** trial (designated **HVTN 205**) which commenced patient enrollment in February 2009. Because the Merck STEP trial had recently shown the Merck adeno virus vectored vaccine increased patient susceptibility to HIV infection, HVTN undertook the trial in low risk individuals to gain additional safety and immunogenicity data. The HVTN 205 trial enrollment was completed in October 2011 and patient inoculations were completed in January 2012. Data were orally presented at the Global AIDS Vaccine Conference in September 2012.

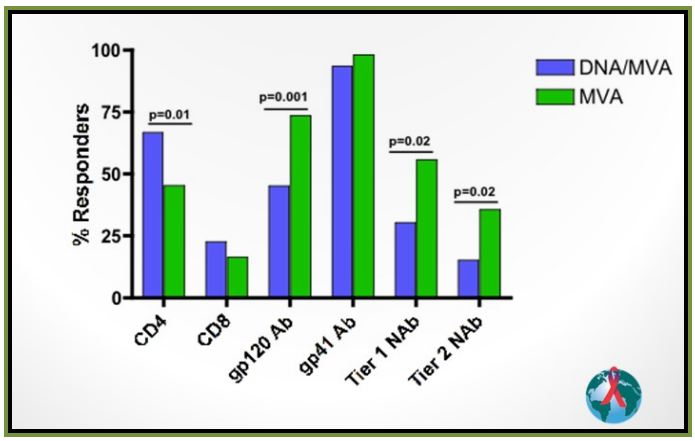
The Phase IIa clinical trial further tested safety and immunogenicity of the two most promising regimens evaluated in Phase I: (1) Priming with DNA at months 0 and 2 and boosting with MVA at months 4 and 6 and (2) priming and boosting with MVA at months 0, 2 and 6.



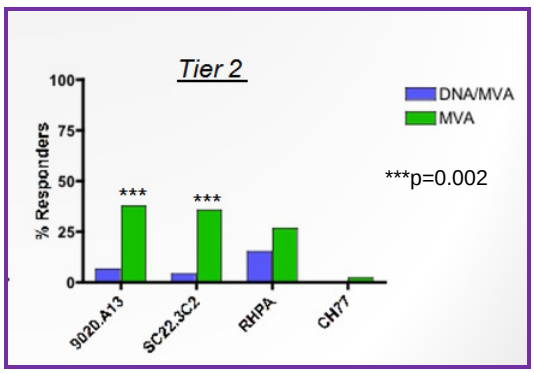
The HVTN205 Phase IIa Trial Design

A total of 300 participants are enrolled in HVTN 205. Patient enrollment for HVTN 205 was conducted at 11 clinical sites in North America and two sites in South America. Following is the summary of the Phase IIa trial results:

- Both vaccine regimens are safe and well tolerated;
- Both vaccine regimens were immunogenic;
- CD4 T cell response rates were higher with DNA/MVA;
- Antibodies to gp120 and HIV-1 neutralization were higher with MVA only;
- CD8 T cell responses and gp41 antibodies were similar;
- Safety and immune responses mirrored those seen in HVTN 065;



Data analysis for neutralizing antibody responses has shown elicitation of unexpectedly high response rates for **tier 2 isolates of HIV**. In both DNA/MVA regimen and MVA regime, high response rate of RHPA, SC22.3C2, and 9020.A3 was detected, but MVA regime had a higher rate.



Neutralizing antibodies can block virus from infecting cells by binding to regions of the virus that mediate entry into cells. The elicitation of neutralizing antibody for tier 2 viruses is an important result because tier

2 viruses represent viruses that undergo the most frequent transmission from an infected person to an uninfected person. Therefore, elicitation of neutralizing antibody is a much sought goal for an HIV/AIDS vaccine.

When compared to Sanofi's Phase III data, GeoVax's vaccine seems performing better. This is especially encouraging. In October 2009, Sanofi reported the results from a **Phase III** community-based clinical trial in **Thailand** using a recombinant canarypox (designated ALVAC) as a priming vaccine and a bivalent mixture of the gp120 subunit of Env from HIV clades B and C as a protein booster vaccine. In this clinical trial, protection against HIV infection at the rate of 31% was reported. The results of the Sanofi Phase III clinical trial are encouraging because they represent the first success of an AIDS vaccine in humans and demonstrate that a vaccine can provide protection against HIV infections.

	GeoVax *Phase 2a*	Sanofi-Aventis *Rv144 – Phase 3*
	DNA/MVA	Alvac/gp120
Helper T cell – CD4+ *	66%	30%
Cytotoxic T cell – CD8+ *	22%	0%
Anti-Env Binding Ab **	94%	100%
Tier 2 Neutralizing Antibody ***	Up to 50% *depending on isolate*	RARE
Protection	TBD	31%

** Responding T cells, intracellular cytokine staining*
*** Anti-Env binding AB, ELISA*
**** A3R5 assay, 2 of 3 tested isolates susceptible to neutralization*

Preventive Vaccine, Adjuvanted Vaccine – Phase I to Phase IIb Efficacy Trials

The HVTN is also sponsoring and conducting clinical testing in humans of a **new version** of the Company's preventive vaccine **DNA-G/MVA** that has substantially enhanced prevention of infection in non-human primates. This vaccine co-expresses GM-CSF as an adjuvant and achieved a much higher level of prevention of infection than unadjuvanted vaccine in non-human primate testing. Prevention of infection is seen for serial challenges with tested animals being protected against more than 34 challenges administered over two and one-half years in a >3 year vaccine trial. The co-expressed GM-CSF enhances antibody responses with the enhanced prevention of infection correlating with enhanced tightness of binding of the antibody to the viral envelope glycoprotein that mediates HIV entry into cells.

The **Phase I clinical trial (HVTN 094)** began enrollment in May 2012, and GeoVax announced the full enrollment of the trial on December 18, 2012. The study enrolled 48 volunteers and will assess safety and immunogenicity of the adjuvanted vaccine at low-dose and full-dose regimens.

We think the GeoVax use of the GM-CSF adjuvant is unique in that instead of co-inoculating with the GM-CSF protein, the GM-CSF adjuvant is encoded in the same DNA that expresses HIV non-infectious virus-like-particles. This ensures that GM-CSF is immediately present at every site where vaccine responses are being initiated and allows very low levels of GM-CSF to have a profound effect on the vaccine responses.

In non-human primate studies, the co-expression of GM-CSF in simian prototypes of GeoVax's HIV vaccine achieved a 90% per exposure rate of protection against twelve serial rectal challenges with the

heterologous SIVE660 virus, which translated to 70% of vaccinated animals being protected against all twelve challenges. Based on these outstanding results, the 2nd generation adjuvanted form of the GeoVax vaccine is being advanced in human trials.

GeoVax anticipates the **completion of the HVTN 094 Phase I trial in mid-2013**. Pending successful outcome of this trial, the Company expects to carry forward this new version of preventive vaccine into **Phase IIb** efficacy testing in early 2014. The Phase IIb trial is anticipated to have approximately 4000 participants equally divided between placebo and vaccine groups and to be conducted in the Americas. GeoVax is currently manufacturing product to support the Phase IIb clinical trial so that progression through the development path can proceed as soon as results are available from Phase I testing in HVTN 094. GeoVax has already begun talks with the HVTN regarding protocol development for efficacy testing of the GeoVax vaccine.

Therapeutic Vaccine, Phase I/II Human Clinical Trials

Based on preclinical data, the Company is also testing its DNA/MVA vaccine for the ability to supplement, or even supplant, the need for antiretroviral therapeutic drugs in HIV-infected individuals in **Phase I/II clinical trials**. Antiretroviral therapeutic drugs, which are taken for life by individuals once infected with HIV, have side effects and are expensive, costing $10,000 - $20,000 per year.

According to a 2010 study by the CDC, of those individuals in the United States who are diagnosed with HIV, only 35% ultimately achieve stable viral load suppression through drug treatment. Thus, even in the United States where the availability of drugs and treatment are good, there is still a compelling need for therapies that complement drugs.

The rationale of these trials is based on promising preclinical data from therapeutic trials in HIV-infected non-human primates. In 2007-2008, data were generated in **three pilot studies** on therapeutic vaccination in simian immunodeficiency virus-infected non-human primates. The vaccine used in these pilot studies was specific for simian immunodeficiency virus but with the design features of the Company's HIV/AIDS vaccine. In these pilot studies, non-human primates were infected, drug-treated, vaccinated and then drug-interrupted. Following treatment interruption, median levels of virus in blood, measured as viral RNA, were 10 to 1000-times lower (overall median of 100-times lower) than those measured prior to drug and vaccine treatment. The therapeutic reductions in virus levels were associated with the vaccination regimen eliciting T-cells with functional characteristics known to successfully control viral infections.

On Jan 10, 2013, the Company completed the enrollment in the nine-patient **Phase I/II** clinical trial testing the safety, immunogenicity and ability of its DNA/MVA vaccine to elicit protective immune responses in HIV-infected individuals.

The primary goal of this study is to document the safety and immunogenicity of GeoVax's vaccine in HIV-positive patients with well-controlled infections using oral HIV drug medication. Following vaccination, the trial includes a short period of drug-interruption to evaluate the ability of the vaccine to control the infection in the absence of continuing drug therapy. The Phase I/II trial (designated **GV-TH-01**) consists of priming with a recombinant DNA vaccine followed by boosting with a recombinant modified vaccinia Ankara (MVA) vaccine. The vaccine regimen elicits both antiviral antibody that can block infection and antiviral T cells that can recognize and kill infected cells. The trial is being conducted at the AIDS Research Consortium of Atlanta, the Alabama Vaccine Research Center at the University of Alabama, Birmingham and the AIDS Research Alliance of Los Angeles.

This study is the Company's first trial investigating use of a therapeutic vaccine to address the need for a treatment that is better tolerated and less costly than the HIV oral medications currently available. **Data from the program will be available later this year.**

GeoVax also plans to conduct a **Phase I** clinical trial to investigate the use of the vaccine **in combination** with standard-of-care drug therapy in young adults. This trial will likely be conducted by the International Maternal Pediatric Adolescent AIDS Clinical Trial Group (IMPAACT).

The NIH has recently prioritized searching for a cure for those individuals who are HIV positive. Because of the mechanisms by which current oral drugs work, if the virus is in a latent phase these drugs are not effective, thus it is impossible to totally eradicate the virus. The combination of a vaccine and oral drugs could provide an approach to more effectively eradicate virus. This trial is planned to have two groups of 20 participants, one of which will remain on drugs while being vaccinated and the second of which will remain on drugs but receive placebo. The participants will be monitored for vaccine-associated reductions in viral reservoirs. This trial has been assigned a clinical study number (P-1082) and, pending successful committee reviews and FDA approvals, **should initiate in early 2013**.

Cash Burn is Conservative due to Support from the Government

GeoVax has a relatively modest cash burn rate ($4-$5 million, annually) due to government support.

With the exception of the Phase I/II therapeutic trial, all of the Company's clinical trials have been conducted by the HVTN and funded by NIH. The Company's responsibility for these clinical trials has been to provide sufficient supplies of vaccine materials and technical expertise when necessary.

In September 2007, GeoVax was the recipient of an NIH Integrated Preclinical-Clinical AIDS Vaccine Development (IPCAVD) grant to support its HIV/AIDS vaccine program, which was subsequently amended such that the total award now totals approximately $20.4 million. The project period for the grant covers a five-year period that commenced October 1, 2007. Only meritorious HIV/AIDS prevention vaccine candidates are considered to receive an IPCAVD award. Candidate companies are highly scrutinized and must supply substantial positive AIDS vaccine data to support their application. IPCAVD grants are awarded on a competitive basis and are designed to support later stage vaccine research, development and human trials.

The IPCAVD award not only provided much needed cash for the development of GeoVax's HIV/AIDS vaccines, but is also a validation of GeoVax's technology.

GeoVax will continue to seek government and non-government support for its vaccines development down the road, which will keep the Company's cash burn low, therefore shareholder base won't be diluted dramatically by equity financing.

The Company will also seek strategic collaborations to accelerate the development of its vaccines. The Company intends to establish strategic licenses and collaborations, partnerships, alliances or enter into other transactions in the future with pharmaceutical or biopharmaceutical companies with greater clinical development, manufacturing and commercialization capabilities. These partnerships not only provide non-diluting financing for the Company, but also will accelerate the development and/or commercialization of its vaccine candidates.

GeoVax Targets the large HIV/AIDS Market

HIV/AIDS is a global epidemic. Over 40 million people are living with HIV/AIDS in the world and among them over 25 million in Sub-Saharan Africa. In the United States, more than one million people are living with HIV and about 56,300 Americans become infected with HIV each year. More than 18,000 people with AIDS still die each year in the US. Therefore, prevention and new treatments are of significant interests.

According to GlobalData's estimates, global HIV/AIDS market was worth $12 billion in 2009. It is forecast to grow at a compound annual growth rate (CAGR) of 2% to reach $13.7 billion by 2016. The global HIV infection market will continue to grow between 2009 and 2016 at a slower rate due to a series of patent

expiries during this period. The growth rate is likely to decline from 2012 onwards due to the impact of the patent expiry of key drugs. The market is characterized by a high unmet need of drugs which can cure the disease.

Clearly, HIV/AIDS market is huge. There are currently over two dozen drugs approved for the treatment of HIV-infection by the FDA. The three primary classes of treatment are **Non-nucleoside** Reverse Transcriptase Inhibitors, **Nucleoside Analog** Reverse Transcriptase Inhibitors, and **Protease Inhibitors**. **Fusion or Entry Inhibitors** are a newer class of anti-HIV medications. Current antiviral treatments for HIV/AIDS are drug combinations that are expensive, difficult to access in many areas of the world, and accompanied by a number of complications, including moderate to severe side effects, onerous dosing regimens, multiple drug interactions, and the development of drug resistant strains of the HIV virus.

The treatment of HIV/AIDS has evolved in the last 20 years since the beginning of the epidemic from no treatment to treatment with a single drug (AZT) to dual-drug therapy and, now, to highly active antiretroviral therapy (**HAART**). Currently, HAART is the **standard of care** for HIV/AIDS treatment. HAART is defined as treatment with at least three active anti-retroviral medications (ARV's), typically two nucleoside reverse transcriptase inhibitors (NRTI's) plus a non-nucleoside reverse transcriptase inhibitor (NNRTI) or a protease inhibitor (PI) or another NRTI called abacavir (Ziagen).HAART is often called the drug **"cocktail**" or **triple-therapy**. HAART affords a potent way of suppressing viral replication in the blood while attempting to prevent the virus from rapidly developing resistance to the individual ARV's. Suppressing viral replication with HAART allows the body time to rebuild its immune system and replenish the destroyed CD4 T cells. HAART has been clearly shown to delay progression to AIDS and prolong life.

However, HAART drug regimens are complex, often requiring 10 or more pills a day; expensive, costing upwards of $10,000-$20,000 per patient per annum in the United States; and are associated with moderate to severe gastro-intestinal, neurological, and hematological side effects that adversely impact the patient's quality of life. Furthermore, HIV patients who use the drugs for a long period of time tend to develop resistance to the drugs, resulting in the drugs becoming less effective and engendering resistant strains of the HIV virus. Many patients receiving standard HAART are resistant to one or more of the primary classes of HIV/AIDS drugs.

GeoVax's therapeutic HIV/AIDS vaccines have the potential to be used in combination with routine anti-viral drugs to reduce the dosages of the drugs therefore reduce the side effects of these drugs, while at the same time boost the efficacy of these antiviral drugs.

GeoVax's Vaccine Can Be Both Preventive and Therapeutic

The world market for preventive HIV/AIDS vaccines alone is huge. According to a paper published on Vaccine July 2010, the authors estimated that total market of preventive HIV/AIDS vaccines will reach over $10 billion. Market size and value will vary across market segments with the majority of the value in high income countries and the majority of the demand in low income countries.

Worldwide market opportunity for a clade B HIV vaccine (preventive and therapeutic) is estimated to be approximately $5 billion annually.

However, there currently is no FDA approved and commercialized HIV/AIDS vaccine available in the world market. GeoVax's preventive HIV/AIDS vaccines have the potential to be the market leader if it is finally approved by the FDA. This will help the vaccine command a majority of the market share.

Experienced Management Team

Robert T. McNally, Ph.D., President and CEO

Dr. Robert McNally graduated with a Ph.D. in Biomedical Engineering from the University of Pennsylvania and has over 28 years of experience in academic and corporate clinical investigations, management, research, business, quality and regulatory affairs.

Dr. McNally is the President and CEO of GeoVax. Previously, he served as President as well as VP of Quality Assurance of Cell Dynamics, a company he co-founded. Cell Dynamics worked with organ and tissue procurement organizations for the recovery of human tissue processing these tissues into cellular components necessary for research and development, pharmaceuticals and cell therapy. In 1984, Dr. McNally co-founded CryoLife, Inc., a company specializing in the cryopreservation of human tissue for transplant. During his 14 year association with CryoLife, it grew to $50M in revenue, became a public company on NYSE and received world recognition as a leader in transplant technology.

Dr. McNally is a Fellow of the American Institute of Medical and Biological Engineers, serves on the board of the Petit Institute for Tissue Engineering at Georgia Tech and is Past Chairman of the Georgia Biomedical Partnership and recipient of its 2005 Biomedical Industry Growth Award.

Mark W. Reynolds, CPA, CFO
Mr. Reynolds is an experienced financial manager and business advisor with an in depth knowledge of SEC reporting and compliance. Having spent the past seventeen years working in both high growth and restructuring environments, Mr. Reynolds has worked with a number of start-up companies designing financial systems and procedures from the ground up.

Most recently, Mr. Reynolds served as the Chief Financial Officer, Company Secretary, and Controller at Cytrx Corporation, a publicly held biomedical firm based originally in Atlanta Georgia. He also served as the CFO and Controller for three of the company's wholly owned subsidiaries. During his tenure at Cytrx, he maintained relationships with the Board of Directors, Investors, NASDAQ Representatives, Management Team and Staff.

Mr. Reynolds is a Certified Public Accountant and earned a Master's Degree in Accounting from the University of Georgia.

Harriet L. Robinson, Ph.D., CSO
Dr. Robinson is the developer of GeoVax' HIV-1 AIDS vaccine technology. One of the world's leaders in AIDS vaccine research, she currently serves as Chief Scientific Officer for GeoVax. Previously, she was Chief of the Division of Microbiology and Immunology at the Yerkes National Primate Research Center and the Asa Griggs Candler Professor of Microbiology and Immunology at Emory University.

Dr. Robinson has published extensively on HIV-AIDS vaccine research as well as viral-induced cancers. Her pioneering studies on the development of DNA vaccines demonstrated not only that DNA could raise protective immunity for viral infections, but also identified methods of DNA delivery that could be used to control the type of immune responses raised by DNA vaccines.

Her early work with HIV vaccines demonstrated that DNA alone would not be sufficient to raise protective immunity for HIV. She then combined DNA with protein boosters or live viral-vectored boosters to show that the most effective control was through a combination of DNA prime and viral-vectored boosters. Her most recent work has developed single mutiprotein expressing DNA, and working with the NIAID-NIH, a single poxvirus vector (MVA) has been developed to be used for priming and boosting. It is these vaccines that GeoVax has licensed for commercial development.

Dr. Robinson has published extensively on HIV-AIDS vaccine research with more than 130 referred scientific journal publications, 45 monograph reviews and 6 book chapters authored. She has consulted for the US National Institutes of Health, the US Food and Drug Administration, the Bill and Melinda Gates Foundation, and the World Health Organization.

Dr. Robinson received her B.A. from Swarthmore College and took her PhD in Microbiology from Massachusetts Institute of Technology. She has been elected to the American Academy of Microbiology.

VALUATION AND RECOMMENDATION

We are initiating coverage of GeoVax with an Outperform rating. Our 12-month price target is $1.50.

GeoVax has developed the technology for the development of both **preventive** and **therapeutic** HIV/AIDS vaccines. The Company's vaccine candidates have completed Phase IIa and will enter into Phase IIb clinical trials soon, which are the only HIV vaccines for America/Europe entering efficacy trial.

The Company has a modest cash burn rate ($4 to $5 million annually) due to generous government support. Down the road, we believe GeoVax will continue to seek non-dilutive government and non-government support for its HIV vaccine development. If the Phase IIb trial proves to be positive, we believe it would be likely for the Company to find a partner from big pharma or biotech companies who seek to boost or enter into the anti-HIV/AIDS market.

GeoVax has a strong position in intellectual property. The excellent relationship with Emory University put the Company in a better position to get the most advanced vaccine technology in the first hand, therefore providing a sustainable growth engine for the Company.

Based on the current fundamentals of the Company, we believe current valuation is attractive. With a decent pipeline and mid-stage candidates, GeoVax is only valued at $14 million in market cap. This is a huge discount in our view. We understand that HIV/AIDS vaccines have been tough to develop and that this is a high risk area for any biotech company especially for smaller ones with limited resources. However, we think GeoVax has done great job so far in the HIV/AIDS vaccine area and is well positioned to continue to create shareholder value down the road.

We see GeoVax as a risk reward opportunity with significant long term positive returns. Our price target of $1.50 represents a market cap of $29 million.

But Keep in Mind the Risks

Risk must be taken into account when investors add positions.

One major risk is **development/regulatory risk**. We remind investors that GeoVax's HIV/AIDS vaccines are still in mid-stage development and the Company still needs to navigate through the regulatory process in the US and around the world, which proves to be long and tough. When it comes to HIV/AIDS vaccine, investors should be aware that this has been a tough area to tackle considering the failed developments already.

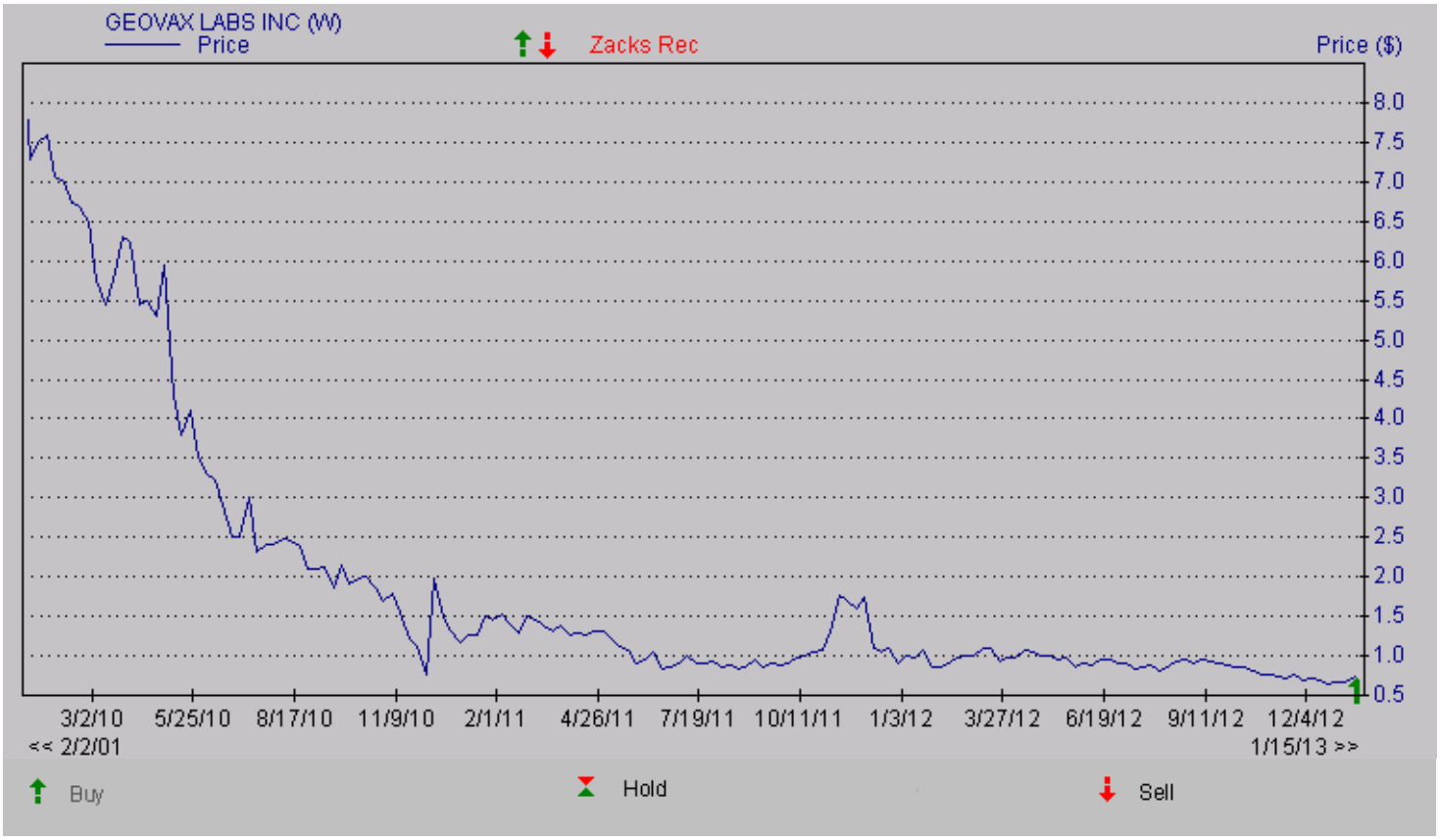
Cash burn is still a concern. Although most of GeoVax's clinical trials have been supported by the government grants, there is no guarantee that the Company will continue to get enough support to continue late stage clinical studies. In such a case, the Company needs alternative financing measures, which include equity or debt financing. Current cash as of September 30, 2012 stood at $1.6 million, which can only last through the 4Q2013. We remind investors that equity financing will dilute existing shareholder base.

PROJECTED INCOME STATEMENT

	2012E (Dec)					2013E (Dec)					2014E (Dec)	2015E (Dec)	2016E (Dec)	2017E (Dec)	2018E (Dec)
$ in million except per share data	Q1	Q2	Q3	Q4E	FYE	Q1E	Q2E	Q3E	Q4E	FYE	FYE	FYE	FYE	FYE	FYE
Grant revenue	$0.85	$0.71	$0.64	0.70	$2.90	$0.75	$0.75	$0.75	$0.75	$3.00	$2.50	$1.00	$1.00	$1.00	$1.00
Product Revenue	$0.00	$0.00	$0.00	0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$5.00	$10.00	$15.00	$25.00
Total Revenues	**$0.86**	**$0.71**	**$0.64**	**$0.70**	**$2.90**	**$0.75**	**$0.75**	**$0.75**	**$0.75**	**$3.00**	**$2.50**	**$6.00**	**$11.00**	**$16.00**	**$26.00**
YOY Growth	-4.2%	-59.6%	-50.7%	-26.6%	-40.9%	-12.4%	5.8%	17.3%	6.8%	3.5%	-16.7%	140.0%	83.3%	45.5%	62.5%
CoGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gross Income	**$0.86**	**$0.71**	**$0.64**	**$0.70**	**$2.90**	**$0.75**	**$0.75**	**$0.75**	**$0.75**	**$3.00**	**$2.50**	**$6.00**	**$11.00**	**$16.00**	**$26.00**
Gross Margin	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
R&D	$1.07	$0.71	$0.60	$0.65	$3.04	$1.05	$1.10	$1.20	$1.20	$4.55	$5.00	$6.50	$7.50	$9.00	$11.00
% R&D	125.3%	100.5%	94.1%	92.6%	104.8%	140.0%	146.7%	160.0%	160.0%	151.7%	200.0%	108.3%	68.2%	56.3%	42.3%
SG&A	$0.51	$0.49	$0.33	$0.30	$1.64	$0.45	$0.50	$0.50	$0.50	$1.95	$2.00	$2.50	$4.00	$7.50	$10.00
%SG&A	60%	69%	52%	-	-	-	-	-	-	-	-	-	-	-	-
Operating Income	**($0.7)**	**($0.5)**	**($0.3)**	**($0.2)**	**($1.8)**	**($0.8)**	**($0.9)**	**($1.0)**	**($1.0)**	**($3.5)**	**($4.5)**	**($3.0)**	**($0.5)**	**($0.5)**	**$5.0**
Operating Margin	-	-	-	-	-	-	-	-	-	-	-	-	-	-3.13%	19.23%
Other Net	$0.0	$0.0	$0.0	$0.0	$0.0	($0.0)	($0.0)	($0.0)	($0.0)	($0.0)	($0.0)	($0.1)	($0.1)	($0.1)	($0.1)
Pre-Tax Income	**($0.7)**	**($0.5)**	**($0.3)**	**($0.2)**	**($1.8)**	**($0.8)**	**($0.9)**	**($1.0)**	**($1.0)**	**($3.5)**	**($4.5)**	**($3.1)**	**($0.6)**	**($0.6)**	**$4.9**
Income taxes(benefit)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.5
Tax Rate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reported Net Income	**($0.7)**	**($0.5)**	**($0.3)**	**($0.2)**	**($1.8)**	**($0.8)**	**($0.9)**	**($1.0)**	**($1.0)**	**($3.5)**	**($4.5)**	**($3.1)**	**($0.6)**	**($0.6)**	**$4.4**
YOY Growth	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-892.9%
Net Margin	-	-	-	-	-	-	-	-	-	-	-	-			
Diluted Shares Out	16.7	17.8	18.5	18.7	17.9	19.0	19.5	20.0	20.5	19.8	22.5	25.0	30.0	35.0	40.0
Reported EPS	**($0.04)**	**($0.03)**	**($0.02)**	**($0.01)**	**($0.10)**	**($0.04)**	**($0.04)**	**($0.05)**	**($0.05)**	**($0.18)**	**($0.20)**	**($0.12)**	**($0.02)**	**($0.02)**	**$0.11**
One time charge	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*	*$0.00*
Non GAAP Net Income	**($0.7)**	**($0.5)**	**($0.3)**	**($0.2)**	**($1.8)**	**($0.8)**	**($0.9)**	**($1.0)**	**($1.0)**	**($3.5)**	**($4.5)**	**($3.1)**	**($0.6)**	**($0.6)**	**$4.4**
Non GAAP EPS	**($0.04)**	**($0.03)**	**($0.02)**	**($0.01)**	**($0.10)**	**($0.04)**	**($0.04)**	**($0.05)**	**($0.05)**	**($0.18)**	**($0.20)**	**($0.12)**	**($0.02)**	**($0.02)**	**$0.11**

Source: Company filings and Zacks Research estimates

HISTORICAL ZACKS RECOMMENDATIONS



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