



Inovio Pharmaceuticals is developing a new generation of vaccines – DNA vaccines – to prevent and treat cancers and infectious diseases

## Taking Vaccines into the Future

### Investment Highlights

**Vaccine market is growing strongly.** Vaccines have protected hundreds of millions of people from diseases such as smallpox, polio, and measles. The compelling idea of stimulating the body's immune system is resulting in new vaccine innovations, such as Gardasil®. Industry research firm Kalorama expects the \$19.2B (2008) vaccine market to double by 2013.

**Creating a new generation of vaccines to treat diseases.** Technologically advanced DNA vaccines may not only prevent but treat cancers and challenging infectious diseases by inducing important T-cell immune responses.

**Designing DNA vaccines to combat new, unknown virus strains.** Inovio universal vaccines are intended to provide cross-strain protection for rapidly evolving viruses such as HIV and influenza, an impossible challenge for conventional vaccines. Inovio DNA vaccines designed in 2007 achieved complete protection in animals against the 1918 pandemic H1N1 and recent "swine flu" strains.

**Proprietary electroporation delivery technology showing potential to overcome industry bottleneck.** Previous DNA vaccines have met numerous delivery challenges. Interim human data shows Inovio's electroporation technology is safe, well tolerated, and significantly enhances immune responses to DNA vaccines.

**Multi-indication pipeline targeting cancers and infectious diseases, with both internal and partner programs in clinical studies.** See pipeline chart next page.

**Validation and non-dilutive grants from funding organizations.** NIH's NIAID: \$23.5M: HIV; Department of Defense: biodefense; MVI Path, supported by Bill & Melinda Gates Foundation: malaria.

**Vaccine expertise and leadership.** Management has Big Pharma and biotech experience, and taken several vaccines through marketing approval. Eminent scientific advisors in vaccine and DNA vaccine fields. Board includes past senior executives from Sanofi vaccines group and Merck. Strong ties with University of Pennsylvania.

### About the Company

Listing: NYSE Amex: INO

Recent market price: \$1.09 (10/08/04)

52 week range: \$0.80-\$2.54

Shares o/s: 102.8M (10/08/10)

Market capitalization: \$111M (10/08/04)

Avg. daily volume (3 mo.): 503K

Cash & short term invest: \$22.2M (10/08/10)

### News Update

Novel gene immunoadjuvant significantly improves DNA vaccine immune responses in non-human primates

Optimized DNA vaccine demonstrates significant advantages in non-human primates compared to leading viral vector based vaccine

Scientific American article says DNA vaccines are reaching their potential

First subject immunized in U.S. Phase 1 H5N1 DNA vaccine clinical trial

Inovio named "Best Early Stage Biotech" Company at the World Vaccine Congress 2010

Inovio and collaborators receive \$2.8 million grant for hepatitis C virus research

**Significant patent portfolio encompassing synthetic consensus DNA vaccines and electroporation delivery of biopharmaceuticals.**

**Other assets.** Small molecule anti-inflammatory (rheumatoid arthritis, T1 diabetes) showed safety in phase I. 90%-owned animal health company with Australian marketing approval for swine growth hormone. 20% interest in VGX International, with DNA plasmid manufacturing plant in Texas.

**Funding.** Sufficient cash to carry the company through 2011.

## Preclinical & Clinical DNA Vaccine Pipeline

Proprietary DNA Vaccine /Electroporation Product Pipeline

Indication	Product	R&D	Pre-Clin	IND	Ph 1	Partner/Funding
Cervical Cancer Therapeutic	VGX-3100	Completed	Completed	Completed	In Progress	
Avian Influenza	VGX-3400X	Completed	Completed	Completed	In Progress	
Universal Influenza	Pandemic/Seasonal Flu	Completed	In Progress			
HIV Preventive	PENNVAX™-B	Completed	Completed	Completed	In Progress	HIV Vaccine Trials Network
	PENNVAX™-G	Completed	In Progress			NIH/NIAID
	PENNVAX™-GP	Completed	In Progress			NIH/NIAID
HIV Therapeutic	PENNVAX™-B	Completed	Completed	Completed	In Progress	University of Pennsylvania

License Partners & Collaborators Using Inovio's Electroporation Technology

Indication	Product	R&D	Pre-Clin	IND	Ph 1	Partner/Funding
Hepatitis C Virus	NS3/4A	Completed	Completed	Completed	Completed	ChronTech
Breast/Lung/Prostate	V934:hTERT	Completed	Completed	Completed	In Progress	Merck

Completed In Progress

## Upcoming Milestones

- Complete Phase I, therapeutic cervical cancer vaccine; trial enrollment complete (VGX-3100)
- Complete Phase I, preventive HIV PENNVAX-B™ vaccine (HVTN)
- Complete Phase I, therapeutic HIV PENNVAX-B™ vaccine
- Complete Phase I, avian/H5N1 flu vaccine (VGX-3400)
- Initiate Phase I, H1N1+H5N1/universal vaccine
- Ongoing Phase I enrollment, vaccine targeting multiple cancers expressing hTERT (V934, Merck)
- Ongoing corporate development to secure partnerships and scientific grants.

## Management

J. Joseph Kim, Ph.D.  
President and Chief Executive Officer  
*Ex-Merck*

Peter Kies  
Chief Financial Officer  
*Ex-Ernst & Young*

Mark L. Bagarazzi, M.D.  
Chief Medical Officer  
*Ex-Merck regulatory affairs, vaccines*

Kevin W. Rassas  
Senior VP, Business Development  
*Int'l pharma management/biz dev*

Niranjan Y. Sardesai, Ph.D.  
Senior VP, Research & Development  
*Developed/commercialized products*

## Scientific Advisory Board

David B. Weiner, Ph.D., Chairman  
Professor, University of Pennsylvania  
*DNA vaccine pioneer*

Robert S. Langer, Sc.D.  
Professor, Chem. & Biochem. Eng., MIT  
*International drug delivery expert*

Iacob Mathiesen, Dr.Philos.  
*Electroporation delivery technology expert*

Stanley A. Plotkin, M.D.  
Emeritus Professor, Wistar & UPenn  
Consultant, Sanofi Pasteur  
*Developed rubella vaccine*

## Board of Directors

Avtar Dhillon, M.D.  
Executive Chairman,  
Inovio Pharmaceuticals  
*Ex-MDS Capital Group*

Simon X. Benito  
*Retired Merck executive*

Morton Collins, Ph.D.  
*General Partner, Battelle Ventures*

J. Joseph Kim, Ph.D.  
*President & CEO, Inovio*

Keith H. Wells  
*Ex-Salk Institute, Merck*

David J. Williams  
*Former Chairman & CEO, Sanofi-Pasteur*

## Contact

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