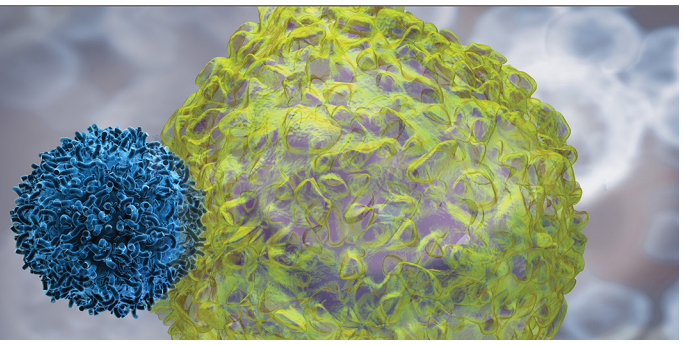
Inovio

Taking Immunotherapy to the Next Level



Advances in 1st half of 2017 set up Inovio for multiple efficacy data outcomes!

With successful phase 2 and multiple immune response data outcomes, Inovio has initiated phase 3 study for HPV-related cervical dysplasia, phase 2 for HPV-related vulvar neoplasia, and three immuno-oncology combination programs with checkpoint inhibitors from MedImmune, Regeneron, and Genentech.

Investment Highlights

Inovio started phase 3 program for VGX-3100 HPV immunotherapy in cervical pre-cancer in June 2017.

- VGX-3100 has the potential to be the first treatment for HPV infection of the cervix and the first non-surgical treatment for pre-cancerous cervical lesions.
- Two phase 3 REVEAL studies will each enroll 198 patients in more than 100 study centers globally; designed to complete around same time. They are prospective, randomized (2:1), double-blind, placebo-controlled trials evaluating adult women for regression of cervical high-grade squamous intraepithelial lesions (HSIL), a precursor to cervical cancer, and virologic clearance of HPV 16 or 18 in the cervix six months after the third and last treatment.
- VGX-3100 demonstrated in a phase 2b study its ability to clear HPV-16 and HPV-18 infection and pre-cancerous lesions, achieving the primary endpoint and demonstrating correlation of antigen-specific CD8+ T cells (generated in the body) to clinical efficacy. This industry-first data was published in *The Lancet.*
- There are no treatments available for HPV infection and surgery is the only approved treatment for cervical HSIL. While surgery is effective at removing dysplastic lesions, it cannot treat underlying HPV and increases risk of cervical incompetence and pre-term birth, which can result in fetal morbidity and mortality. VGX-3100 stimulates a specific immune response to HPV-16 and HPV-18, targeting the infection and destroying pre-cancerous cells.
- HPV is also a major cause of HSIL and cancer in the entire anogenital region and oropharynx. Inovio has initiated a phase 2 study of vulvar neoplasia and is planning a phase 2 study for anal neoplasia.

Inovio launches **three unique immuno-oncology combination studies** with checkpoint inhibitors in 2017, all evaluating safety, immune responses, and pertinent efficacy endpoints.

- In major partnership, MedImmune/AstraZeneca acquired exclusive rights to MEDI0457 (previously INO-3112) for the treatment of HPV-related cancers**.** Upfront payment of $27.5 million; paying all development costs; development and commercial milestone payments amounting to $700 million; up to double-digit tiered royalties on MEDI0457 product sales. Joint research to develop two additional DNA-based cancer vaccine products**.**
- Medi has combined MEDI0457 with durvalumab, an investigational PD-L1 checkpoint inhibitor, in a phase 1b/2a study of 50 patients with metastatic HPV-related squamous cell carcinoma of the head & neck with persistent or recurrent disease after chemotherapy treatment.
- In a clinical collaboration with Genentech (Roche Group), Inovio will conduct a phase 1b/2 trial for advanced bladder cancer, evaluating Genentech's PD-L1 inhibitor

About the Company

NASDAQ	INO
Recent market price[1]	$8.12
52-week range	$5.83-$11.00
Shares outstanding[2]	74.6M
Market capitalization[1]	$605.8M
Avg. daily vol. (3 mo.)[1]	1.5M
Cash & short term investments[2]	$89.7M
Debt[2]	$0

[1] June 27, 2017 [2] March 31, 2017

Recent Advances

06/15/17 Fully enrolled 160 subjects in Zika vaccine phase 1 trial in Puerto Rico

06/08/17 Begins phase 3 clinical trial of VGX-3100 for HPV-related cervical dysplasia

06/07/17 GLS-5700 protected against Zika virus-induced damage to testes and sperm, and prevented persistence of virus in reproductive tract of vaccinated mice

06/01/17 Collaboration with Genentech (Roche) for phase 1b/2 study in advanced bladder cancer of atezolizumab (TECENTRIQ®) in combination with INO-5401

05/24/17 PENNVAX®-GP produces almost 100% immune response rates, among highest ever by an HIV vaccine in humans

05/10/17 MedImmune to start phase 1b/2a combo study for MEDI0457 (INO-3112) and durvalumab (PD-L1) inhibitor in HPV-associated head and neck cancer

05/08/17 Collaboration with Regeneron for phase 1b/2a study in newly diagnosed glioblastoma multiforme of REGN2810 in combination with INO-5401

04/24/17 Inovio initiates P2 efficacy trial with VGX-3100 for vulvar neoplasia

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atezolizumab (TECENTRIQ®) in combination with Inovio's INO-5401, a T cell activating immunotherapy encoding multiple tumor-associated antigens. The multi-center open-label trial will evaluate approximately 80 patients with advanced unresectable or metastatic urothelial carcinoma, the most common type of bladder cancer.

- In a collaboration with Regeneron, Inovio will conduct a phase 1b/2a clinical trial combining Regeneron's PD-1 inhibitor REGN2810 and Inovio's immunotherapy INO-5401 in approximately 50 patients with newly diagnosed glioblastoma multiforme (GBM).

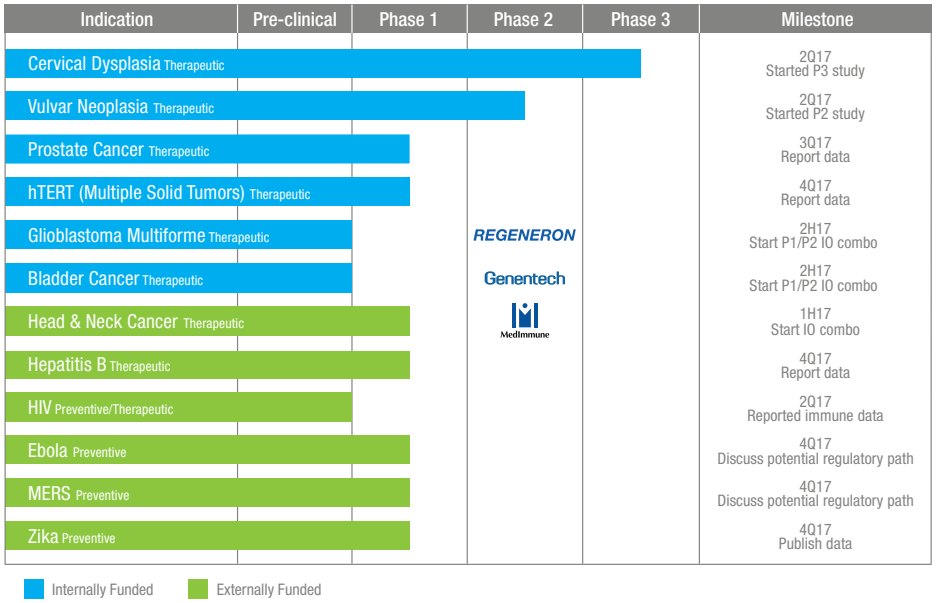
Inovio's immunotherapies are designed to treat as well as prevent diseases.

- DNA-immunotherapy platform uses genetic code to enable the body to produce target antigens relating to a cancer or infectious disease, inducing antigen-specific preventive antibody and therapeutic T cell immune responses most similar to the body's natural immune response.
- The genetic code is designed to create two strategic capabilities: break the tolerance of the immune system to cancerous cells or generate universal immune responses against multiple unmatched pathogen strains. These novel SynCon® DNA sequences are patentable.
- Proprietary CELLECTRA® delivery technology and devices are integral to generating powerful immune responses using Inovio's immunotherapies.
- Robust antigen-specific T cell responses correlated to statistically significant efficacy in phase 2 validates technology platform. Favorable safety profile established in over 1400 subjects.
- In vivo T cell activation positions technology for combination immuno-oncology strategies. Checkpoint inhibitors' 15%-20% response rates (as monotherapies) in most cancers have created recognition of the need to generate a stronger presence of killer T cells in the target tumor before using checkpoint inhibitors to overcome cancer cells' ability to switch off T cells. Inovio's technology has been shown to generate significant levels of antigen-specific killer T cells in the tumor microenvironment.
- Using the same core DNA plasmid technology, genetic code enables the body to produce monoclonal antibodies able to provide rapid protection against infectious disease or fight cancers with checkpoint inhibition, tumor blocking pathways, or other cytotoxic mechanisms.

Targeting multiple challenging infectious diseases with unmet needs including Ebola, MERS, Zika, HIV, and hepatitis.

~$150M (since 2009) in third party grants, including NIH & DARPA.

Product Milestones



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