INOVIO

Corporate Presentation

March 2026

Forward-Looking Statements

This presentation includes statements that are, or may be deemed, “forward-looking statements,” within the meaning of Section 27A of the Securities Act of 1933, as amended. All statements, other than statements of historical facts, included in this presentation regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans and objectives of management are forward-looking statements. In some cases, you can identify forward-looking statements by terms such as “may,” “might,” “will,” “objective,” “intend,” “should,” “could,” “can,” “would,” “expect,” “believe,” “anticipate,” “project,” “target,” “design,” “estimate,” “predict,” “opportunity,” “proposition,” “strategy,” “potential,” “plan” or the negative of these terms and similar expressions intended to identify forward-looking statements.

You should not place undue reliance on these forward-looking statements. Forward-looking statements include, but are not limited to, statements about: the timing and success of preclinical studies and clinical trials; the ability to obtain and maintain regulatory approval of our product candidates; the FDA's acceptance of our BLA for INO-3107 with a PDUFA target action date set for October 30, 2026; and yet-to-be scheduled meeting with the FDA to discuss eligibility for the accelerated approval program; the scope, progress, expansion and costs of developing and commercializing our product candidates; our expectations regarding the amount and timing of our expenses and revenue; the sufficiency of our cash resources; our expectations regarding competition; the size and growth of the potential markets for our product candidates and the ability to serve those markets; the rate and degree of market acceptance of any of our product candidates; our anticipated growth strategies; the anticipated trends and challenges in our business and the market in which we operate; our ability to establish and maintain development partnerships; our expectations regarding federal, state and foreign regulatory requirements; regulatory developments in the United States and foreign countries and other factors that are described in the “Risk Factors” and “Management's Discussion and Analysis of Financial Condition and Results of Operations” sections of our Annual Report on Form 10-K for the year ended December 31, 2025, which has been filed with the Securities and Exchange Commission (SEC) and are available on the SEC's website at www.sec.gov.

In addition, the forward-looking statements included in this presentation represent INOVIO's views as of the date hereof. INOVIO anticipates that subsequent events and developments may cause its views to change. However, while INOVIO may elect to update these forward-looking statements at some point in the future, the company specifically disclaims any obligation to do so, except as may be required by law. These forward-looking statements should not be relied upon as representing INOVIO's views as of any date subsequent to the date of this presentation.

Third-party industry and market information included herein has been obtained from sources believed to be reliable, but the accuracy or completeness of such information has not been independently verified by, and should not be construed as a representation by, INOVIO. The information contained in this presentation is accurate only as of the date hereof. “INOVIO” and the INOVIO logo are trademarks and service marks of INOVIO. All other trademarks, service marks, trade names, logos and brand names identified in this presentation are the property of their respective owners.

Company Overview

- Focused on developing and commercializing DNA medicines to treat and protect people from HPV-related diseases, cancer, and infectious diseases
- Biologics License Application (BLA) for lead program (INO-3107) accepted for review by FDA
  - Potential treatment for rare disease: Recurrent Respiratory Papillomatosis (RRP)
  - Review under Accelerated Approval program with a PDUFA target date of October 30, 2026
  - Granted Orphan Drug and Breakthrough Therapy designations in US; Orphan Drug in EU
  - FDA agreed to meeting to discuss preliminary comments included in file acceptance letter related to eligibility for accelerated approval pathway; not currently planning to seek approval under traditional pathway
- Significant remaining unmet need and market opportunity
- Established commercial-scale manufacturing for plasmids; device manufacturing in-house
- Deep clinical pipeline with multiple potential near- and mid-term catalysts
  - Advancing programs via partnerships, such as recent clinical collaboration with Akeso and Dana-Farber Cancer Institute to evaluate combination immunotherapy to treat GBM in the Phase 2 INSIGhT trial
  - Next-gen therapeutics in earlier stage development poised to further unlock potential of DNA medicine technology
- $58.5 M in cash, cash equivalents & short-term investments as of 12/31/25

Advancing a Diversified Clinical Pipeline

PRECLINICAL	PHASE 1	PHASE 2	PHASE 3	REGISTRATION
DMAbs Various Targets	INO-5401 BRCA 1/2 Mutation	VGX-3100 Anal Dysplasia		INO-3107 * RRP
DPROTs Various targets	INO-4201 Ebola Booster	INO-3112 Head & Neck Cancer		
DLNPs Various targets	INO-6172 HIV	INO-5412 + cadonilimab for Glioblastoma		
	INO-6160 HIV	INO-5401 + cemiplimab for Glioblastoma		
	DMAbs COVID-19			

OUT-LICENSED

			VGX-3100 ** Cervical Dysplasia (HSIL)	

HPV-RELATED DISEASES IMMUNO-ONCOLOGY INFECTIOUS DISEASES VARIOUS DISEASE TARGETS

*BLA accepted for review under accelerated approval program in Dec 2025 with a target PDUFA date of Oct 2026 **VGX-3100 to Apollo Bio for China

DNA Medicine Platform

Harnessing the power of in vivo protein production

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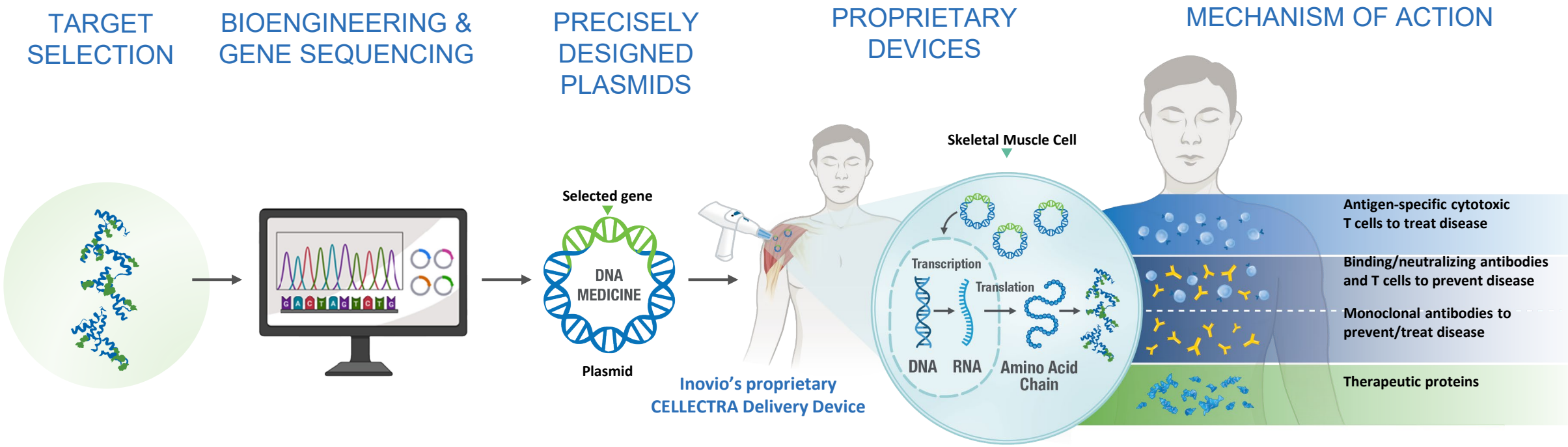
DNA Medicines: Customized *In Vivo*-Generated Proteins



Inovio's DNA medicines platform enables tailored and sustained in vivo protein expression that can:

- Induce cytotoxic T cells to target specific cancers or viral infections
- Produce monoclonal antibodies for both prevention and treatment of diseases
- Achieve therapeutic levels of protein expression to support disease control in enzyme/protein replacement diseases

Key Features of our DNA Medicines Platform

Strengths include versatility & immunogenicity

Induces antigen/protein-specific immune responses offering **therapeutic and prophylactic protection**

Well tolerated in nearly 19,000 administrations (~6k clinical trial participants)

Ability to be re-dosed and sustain immune responses

Ability to drive antibody and CD8+ T cell responses against multiple indications

Allows rapid plasmid construct design and manufacture

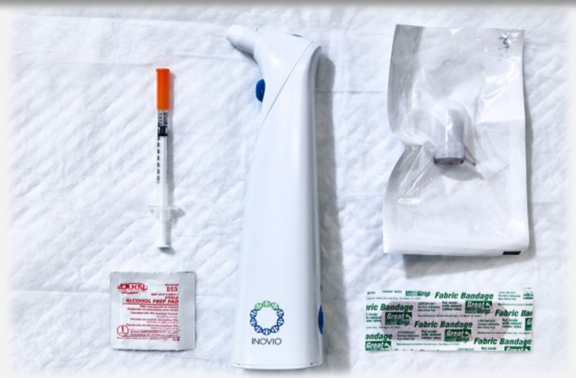
No frozen storage or shipping required

CELLECTRA® Delivery Device Enhances Uptake of DNA Medicine

CELLECTRA 5PSP

- Intramuscular (IM) injection
- Delivers DNA plasmid contained in cartridge
- Utilized in INOVIO's therapeutic programs

CELLECTRA 3PSP



- Intradermal (ID) injection
- Primarily used for prophylactic programs with potential to broaden use in pediatrics and other indications

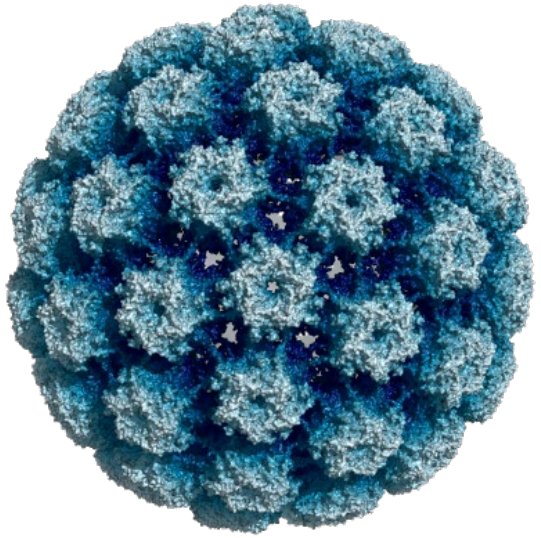
Track record of success in the clinic:

- Nearly 6,000 subjects & 19,000 doses given by both investigational/ commercial-ready CELLECTRA devices
- 2 generations: CELLECTRA 2000, followed by CELLECTRA 5PSP & 3PSP developed to support commercial launch
- 2000 & 5PSP are CE Marked in the EU
- Clinical trials conducted in 36 countries across 6 continents (N.S. America, Europe, Africa, Asia, Australia)

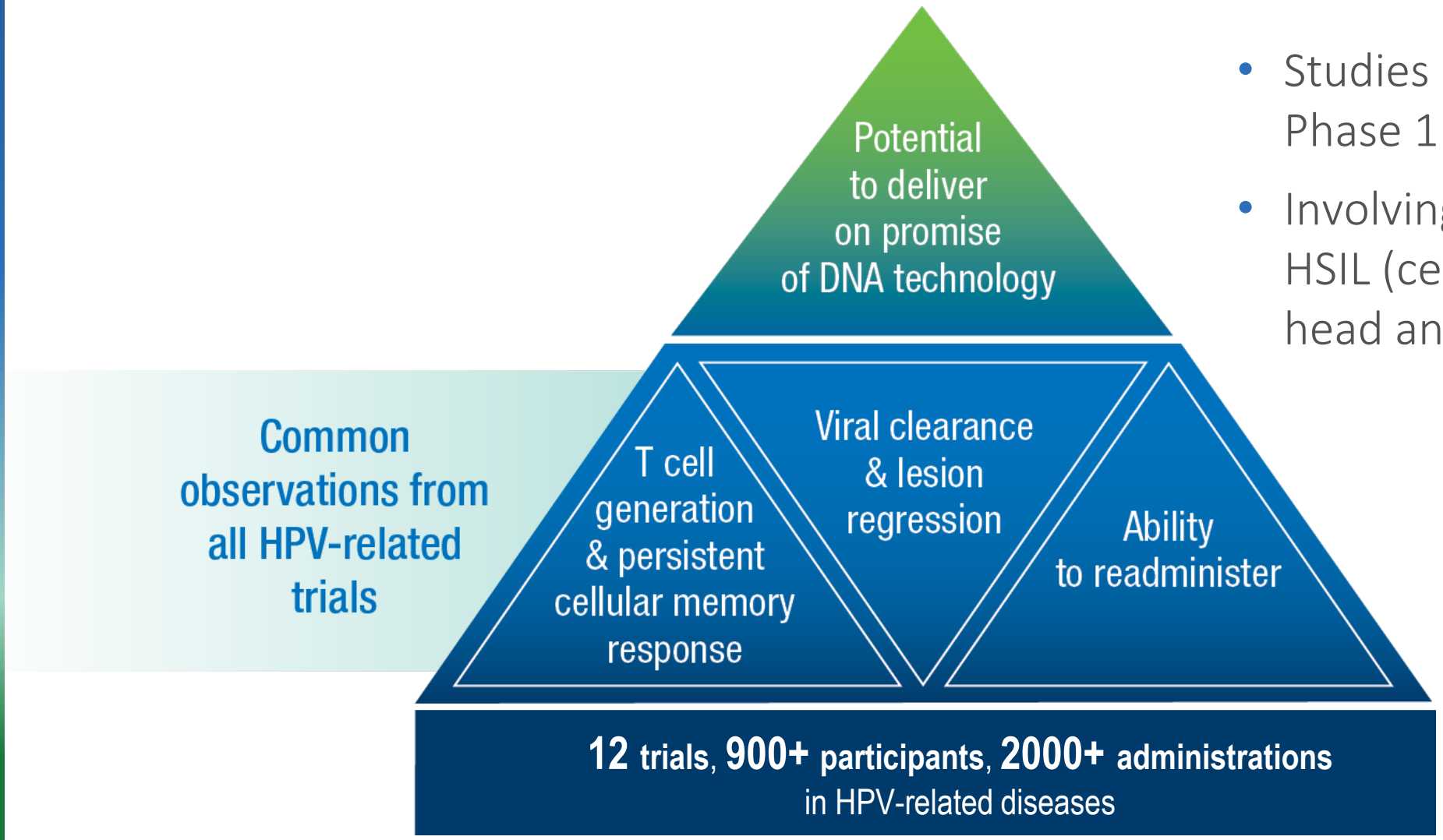
Focus on HPV-Related Diseases

Human Papillomavirus: A Global Concern

- HPV is a group of viruses with approximately 200 types
- Nearly everyone will become infected with some HPV type in their lifetime
  - The good news: ~90% of all infections clear naturally and don't result in disease
  - The bad news: persistent infection can lead to cancer and other debilitating, life-threatening diseases affecting quality of life
- HPV types fall into 2 groups:
  - Low-risk HPV (e.g., HPV-6 and HPV-11) often lead to benign growths (warts or papillomas) that can develop into conditions such as RRP
  - High-risk HPV (e.g., HPV-16 and HPV-18) often lead to cell changes and lesions (precancerous dysplasia) that can become malignant, such as cervical HSIL, which can lead to cervical cancer
- Preventative HPV vaccines have reduced the prevalence of HPV infections, but have not eliminated them – nor can they clear or treat established infections
- Some HPV related diseases such as HPV related OPSCC are rapidly increasing in high income countries



INOVIO's Development Experience Across HPV Spectrum



- Studies ranging from Phase 1 to Phase 3
- Involving patients with RRP, HSIL (cervical, anal & vulvar), head and neck cancers

Lead Candidate: INO-3107 for Recurrent Respiratory Papillomatosis (RRP)

- BLA accepted by FDA for review under Accelerated Approval program
- PDUFA target date of **Oct. 30, 2026**

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INO-3107 for Recurrent Respiratory Papillomatosis (RRP)

RRP is a rare disease characterized by small, wart-like growths (papillomas) in the respiratory tract

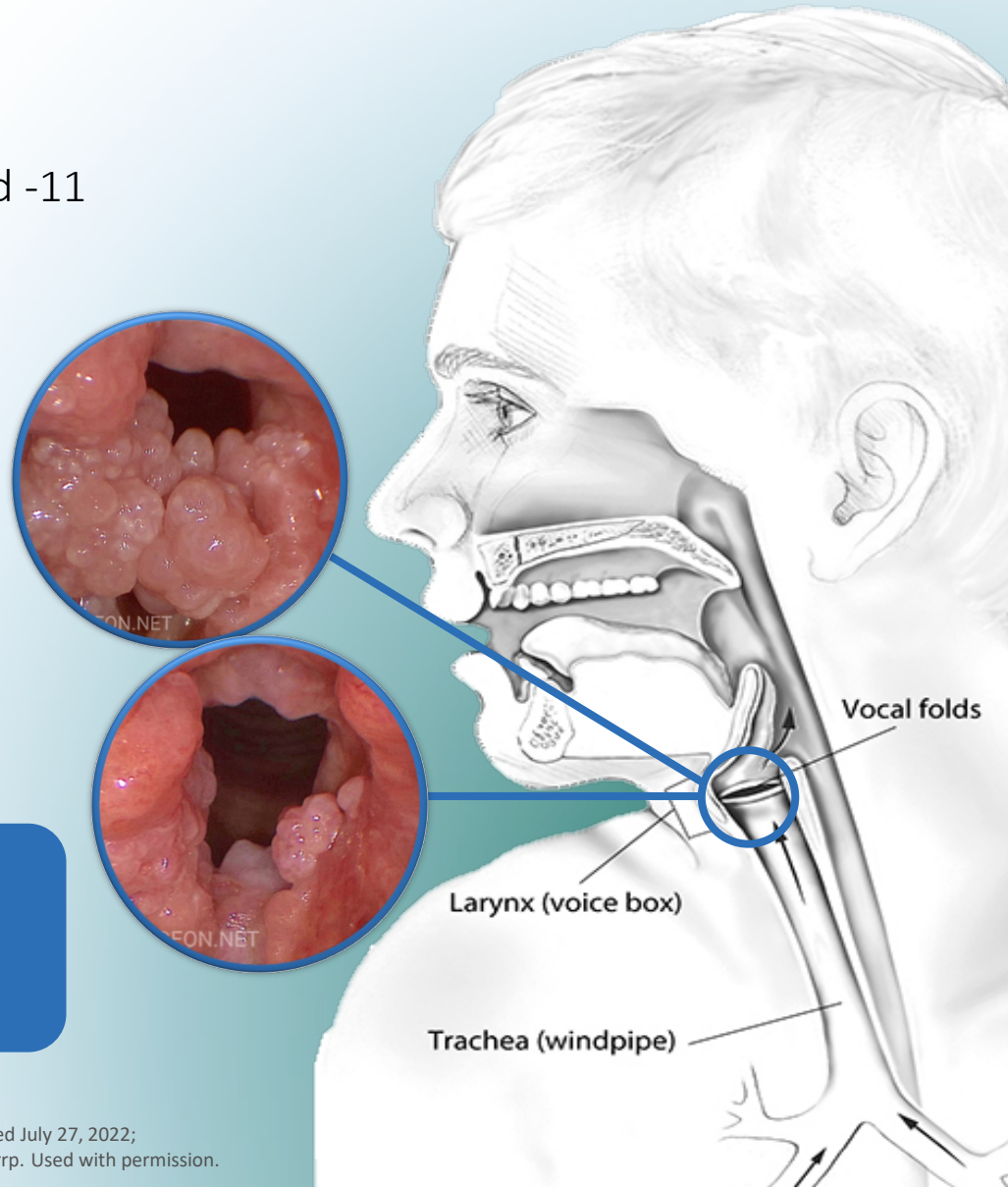
- Insufficient immune response that fails to prevent and clear HPV-6 and -11 infection leads to RRP

Affects ~14,000 people in U.S., 1.8 per 100,000 new adult cases annually

- Repeated surgery is standard of care
- Severe RRP may require hundreds of surgeries over a lifetime

Every surgery entails:

- Risk - potential of irreversible damage to vocal cords
- Cost - impact to quality of life, financial



INO-3107

DNA immunotherapy designed to generate an antigen-specific T-cell response against HPV-6 and -11, targeting the underlying cause of RRP

Image Source: National Institute on Deafness and Other Communication Disorders; Available at www.nidcd.nih.gov/health/recurrent-respiratory-papillomatosis; accessed July 27, 2022;
Photographs courtesy Aaron Friedman MD, University of Cincinnati College of Medicine https://voicesurgeon.net/voice-disorders/recurrent-respiratory-papillomatosis-rrp. Used with permission.

Why every surgery matters to RRP patients:

> “The cumulative risk for injury increases with every surgery, but ultimately it only takes 1 surgical misadventure to permanently damage the larynx.”

Factors Associated with Iatrogenic Laryngeal Injury in RRP
Otolaryngology, 2024 Apr;170(4):1091-1098. doi: 10.1002/ohn.629. Epub 2023 Dec 20

Phase 1/2 Multi-Center Clinical Trial at 8 Clinical Sites

RRP-001 PHASE 1/2 OPEN-LABEL STUDY | **RRP-002 DURABILITY EXTENSION / FOLLOW-UP**

Baseline: DAY 0 ····· **52 WEEKS** ····· **104 WEEKS** ····· **156 WEEKS**

Patients Enrolled

N=32

4 Doses of INO-3107

Day 0. Weeks 3, 6, 9

Completed Study

N=32

Consented to Follow Up

N=28

N=4 Lost to Follow Up

Median Follow Up

Completed Follow Up

Enrollment criteria: Patients who required at least two surgical interventions in the past year for the removal of HPV-6/11-related papilloma(s)

Study Design

- Surgeries: Up to 14 days before Day 0, patients had RRP tissue surgically removed and any surgery performed after Day 0 during the dosing window was counted against the efficacy endpoint

Secondary endpoint: efficacy - Change in number of surgical interventions pre- vs. post-treatment

- Primary Endpoint: Safety of INO-3107
- Limited symptom assessment

Patient Population: Intent-to-treat (ITT): all patients (32)

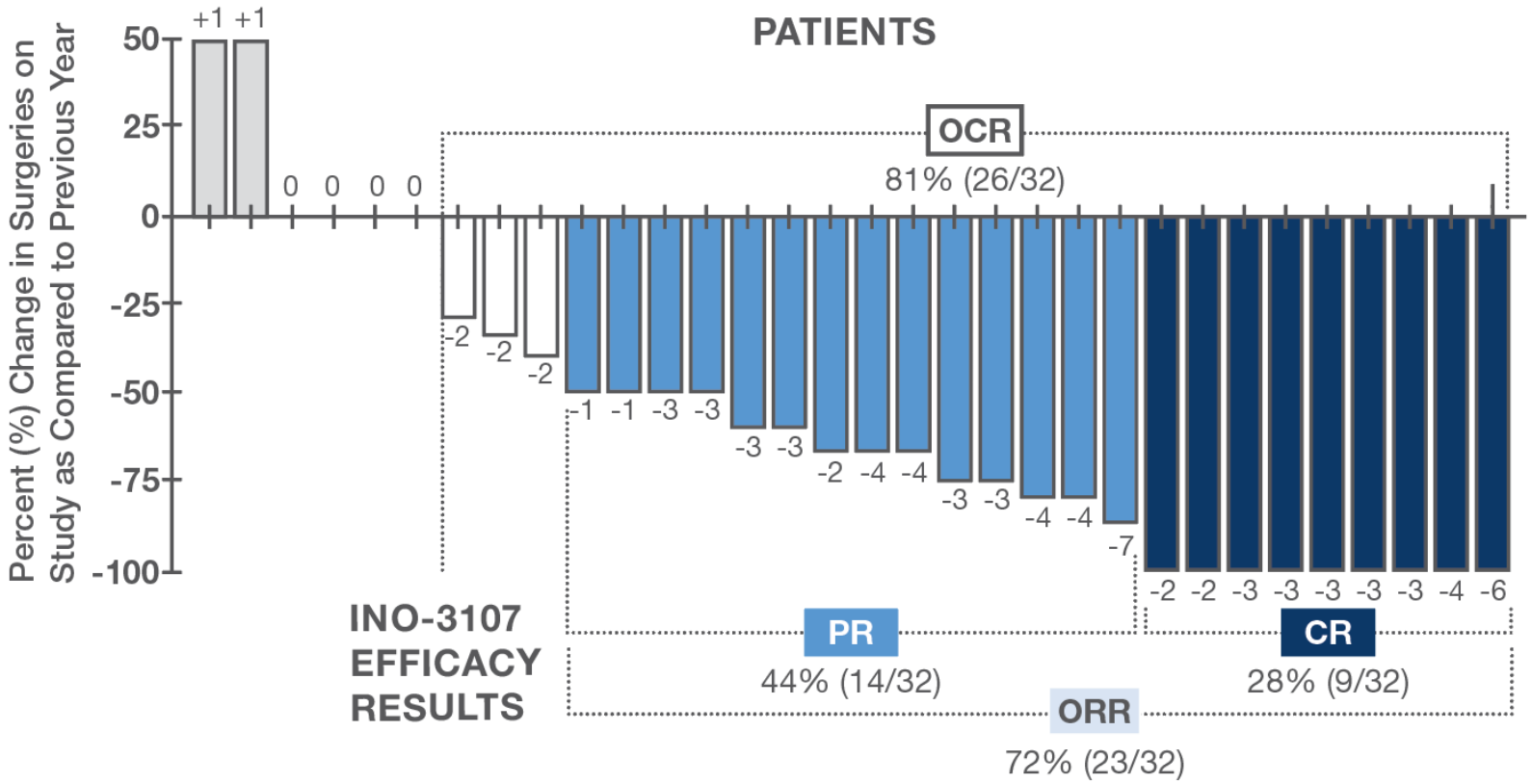
Extension Study: Retrospective assessment of treatment effect up to 3-years after initial dose of INO-3107

- Four patients were lost to follow-up (n=28)
  - Two refused consent, two not able to be contacted
- Median follow up ~1025 days, or 2.8 years

Statistically Significant Reduction in Surgeries*

Vast Majority of Patients Saw a Reduction in Surgery

Data published in Nature Communications February 12, 2025[1]



PARAMETERS

CR **Complete Response:** no surgeries during a 52-week treatment phase

PR **Partial Response:** a ≥ 50% reduction and less than 100% in surgeries compared to previous year

ORR **Overall Response Rate = CR+PR:** Patients with complete or partial response to treatment

OCR **Overall Clinical Response:** reduction of ≥ 1 surgery compared to previous year

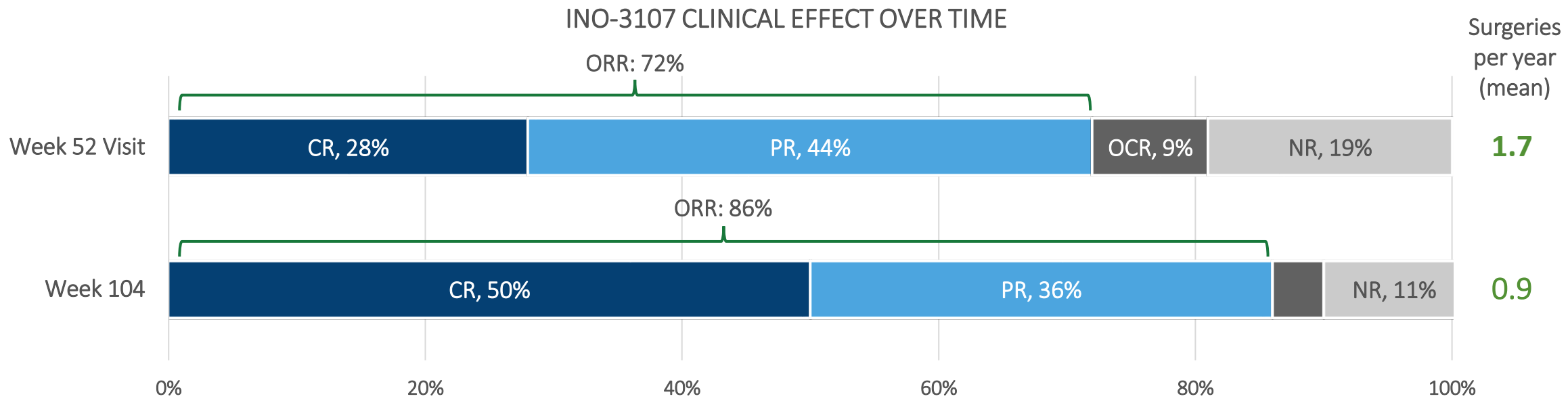
*Median decrease of 3 surgeries (95% Confidence Interval of 2 to 3) when comparing the year before treatment to the year following Day 0 of treatment.

1 Morrow, M.P., Gillespie, E., Sylvester, A. *et al.* DNA immunotherapy for recurrent respiratory papillomatosis (RRP): phase 1/2 study assessing efficacy, safety, and immunogenicity of INO-3107. *Nat Commun* **16**, 1518 (2025). https://doi.org/10.1038/s41467-025-56729-6

Reduction in Surgeries Continued to Improve After Year 1

ORR was 72% at Week 52, improving to 86% by Week 104 for second twelve-month period

The pre-treatment mean for surgeries in the year prior to start of INO-3107 was 4.1 (range 2-8) *vs. 1.7 in Year 1 and 0.9 in Year 2*



PARAMETERS

CR **Complete Response:** no surgeries during a 52-week treatment phase

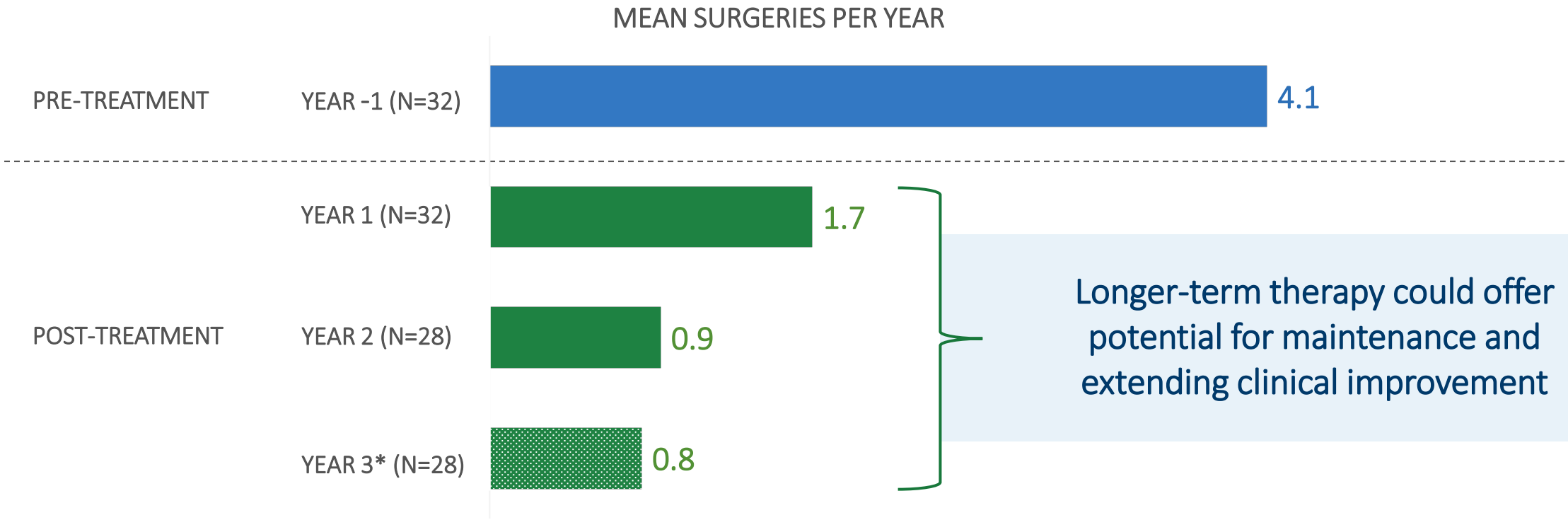
PR **Partial Response:** a ≥ 50% reduction and less than 100% in surgeries compared to previous year

OCR **Overall Clinical Response:** reduction of ≥ 1 surgery compared to previous year

NR **Non-Responders:** No reduction in surgeries vs. baseline

M. R. Amin, P. C. Belafsky, S. R. Best, et al., " DNA Immunotherapy (INO-3107) Results in Long-Term Surgery Reduction in RRP," *The Laryngoscope* (2025): 1–9, https://doi.org/10.1002/lary.32416.

Over 75% Fewer Surgeries 2 Years After Initial Treatment Regimen*



Longer-term therapy could offer potential for maintenance and extending clinical improvement

*Median follow up Year 3: 0.8 years

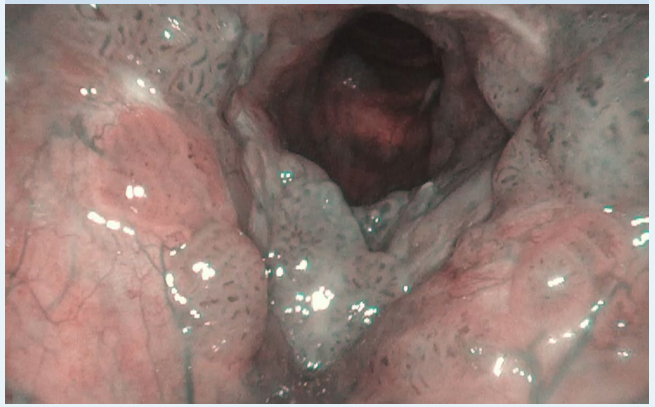
M. R. Amin, P. C. Belafsky, S. R. Best, et al., " DNA Immunotherapy (INO-3107) Results in Long-Term Surgery Reduction in RRP," *The Laryngoscope* (2025): 1–9, https://doi.org/10.1002/lary.32416.

*Compared to baseline

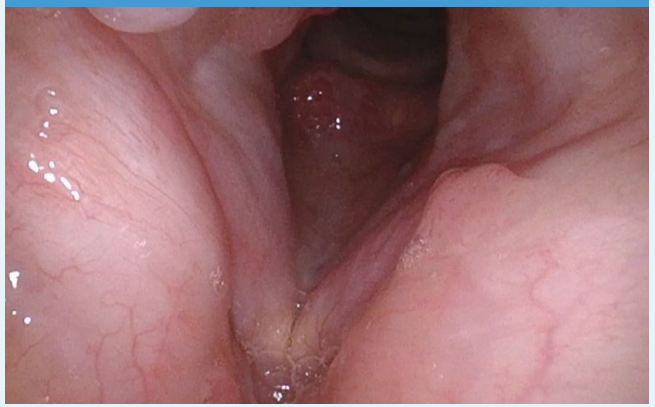
Immunology Data Correlates with Clinical Response

- Right kind of immune responses generated to fight HPV in all 32 patients (antigen specific cytotoxic T cell response)
- T cells observed to infiltrate the papilloma/airway tissue
- Created an anti-viral immune response in papilloma/ airway tissue that was observed to reduce or eliminate the need for surgery
- Papilloma microenvironment did not appear to restrict clinical benefit
- Immune responses in clinical responders were different than in non-responders

PRIOR TO INO-3107



ONE YEAR FOLLOWING INO-3107

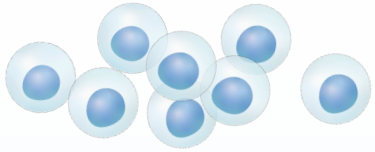


Images courtesy of A Friedman. RRP is a highly individualized disease and results of treatment with INO-3107 may vary

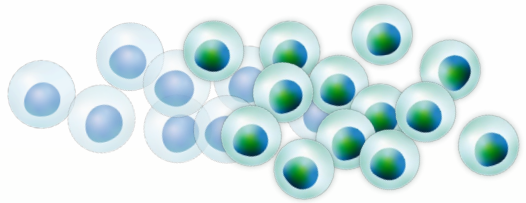
Morrow, M.P., Gillespie, E., Sylvester, A. et al. DNA immunotherapy for recurrent respiratory papillomatosis (RRP): phase 1/2 study assessing efficacy, safety, and immunogenicity of INO-3107. Nat Commun. 2025;16(1):1518.

Proposed Mechanism of Action

- Induce HPV antigen-specific T cell responses in periphery
- Track to/infiltrate papilloma/airway tissue
- Eradicate HPV infected cells to control/eliminate disease



CIRCULATION



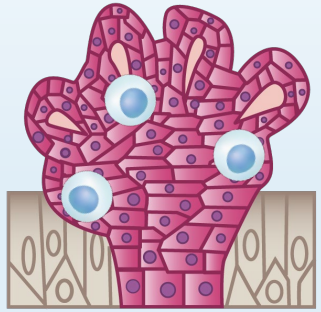
Pre-existing T cells in blood

Treatment with INO-3107 Immunotherapy

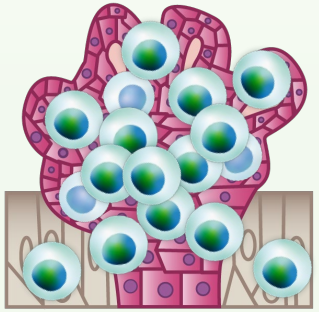
Expansion of pre-existing T cells and Induction of novel T cells in blood

Low T cell trafficking

Mass trafficking by INO-3107 induced T Cells



PAPILLOMAS



- Poorly infiltrated papillomas
- Low Inflammatory signatures
- Low cytokine and chemokine production
- Uncontrolled and/or progressive disease

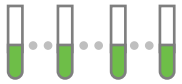
- Increased Inflammatory signatures
- Increased cytokine and chemokine production
- Elimination of HPV-infected cells = Controlled disease, reduction/elimination of surgical interventions

Surgery Should Be a Last Resort, Not a First-line Treatment

INO-3107: RRP-001 PHASE 1/2 OPEN-LABEL STUDY AT 8 SITES
PATIENTS WITH 2+ SURGERIES IN YR PRIOR TO TREATMENT

Baseline: DAY 0 ····· **WEEK 52**

Patients Enrolled
N=32

4 Doses of INO-3107

Day 0. Weeks 3, 6, 9

Completed Study
N=32

- **Initial Surgery:** up to 14 days before first dose
- **Efficacy:** All surgeries performed after Day 0 counted against the efficacy endpoint through week 52

PAPZIMEOS: PHASE 1/2 OPEN-LABEL STUDY AT 1 SITE*
PATIENTS WITH 3+ SURGERIES IN YR PRIOR TO TREATMENT

Baseline: DAY 0

Efficacy Assessment Begins: Week 12 ····· **WEEK 64**

Patients Enrolled
N=35*

4 Doses of PAPZIMEOS

Day 0. Weeks 2, 6, 12

Completed Study
N=35

- **Initial surgery:** prior to first dose of PAPZIMEOS, a surgical debulking of visible papilloma performed to establish minimal residual disease (MRD)
- **Prior to third and fourth doses:** **remove visible papilloma**, if present, to maintain MRD during treatment with PAPZIMEOS
- **Efficacy:** Surgeries conducted between Day 0 and Week 12 **not included against efficacy endpoint**

*Source: package insert

Accelerated Approval: We Believe INO-3107 Meets FDA Criteria*

Meaningful therapeutic benefit over existing treatments

EFFICACY

- **50% - 100% reduction in surgeries**:
  - 72% in YR 1
  - 86% in YR 2
- No surgeries (Complete Response):
  - 28% in YR 1
  - 50% in YR 2

(YR 1 = first 12-month treatment period,
YR 2 = second 12-month treatment period)

SAFETY

- **No required minimal residual disease (MRD) surgery** during dosing window
- PAPZIMEOS™: 72% of complete responders had surgery in dosing window

Potential to meet remaining critical unmet need

DIFFERENTIATED MOA

- **Ability to treat patients who are not served by existing therapy**
- No impact from pre-existing neutralizing antibodies to the adenoviral platform or immunosuppressive factors within papilloma microenvironment

*Guidance for Industry on Expedited Programs for Serious Conditions-Drugs and Biologics - May 2014; Expedited Program for Serious Conditions — Accelerated Approval of Drugs and Biologics Guidance for Industry DRAFT GUIDANCE -December 2024

Market Research Continues to Support Preferred Product Profile

EFFICACY

Improving response over time

- Overall Response Rate (50% to 100% reduction in surgeries): 72% in year 1; 86% in year 2*
- Complete response (no surgeries): 28% in year 1; 50% in year 2*

The complete response rate of 50% is good... but a 50-100% reduction in surgeries in ~8 out if 10 patients, that's the most compelling. The vast majority see significant benefit from treatment."

– Laryngologist, manages ~50 RRP patients

*YR 1 = first 12-month treatment period,
YR 2 = second 12-month treatment period

TOLERABILITY

Well tolerated

- 41% (13/32) reported treatment-related AEs grade 2 or lower
- Most common AEs: transient injection site pain (31%) and fatigue (9%)
- No discontinuations

The tolerability profile looks good – 31% with pain, fatigue 9%. This suggests patients can go back to work... this is important, especially when patients receive multiple doses over a relatively short timeframe."

– Laryngologist, manages ~15 RRP patients

SIMPLICITY

Patient-centric treatment

- Office-based administration that leaves doctor in control
- CELLECTRA device easy to use by HCPs
- No requirement for scoping/surgeries during dosing window

Sending my patients on a referral is not always the best thing. You're defeating yourself by handing off care. I prefer to treat patients in my clinic, so I can maintain control."

– Laryngologist, manages ~30 RRP patients

Advancing Launch Preparations

Key Market Research and Planning:

- Continued critical research with payers and completed research supporting a positively differentiated product profile
- Developed pricing strategy with price optimization research ongoing
- Completed targeting, segmentation and product positioning work - supporting positive differentiation

300-400 laryngologists
treat the majority of RRP patients

Operational:

- Selected key commercial partners, including third–party logistics provider, specialty distributor, a specialty pharmacy, patient services HUB and our Agency of Record
- Finalizing GTM model and advancing build-out of commercial organization

Late-Stage Pipeline Candidates

Designed to address high unmet needs,
multiple near- and mid-term catalysts

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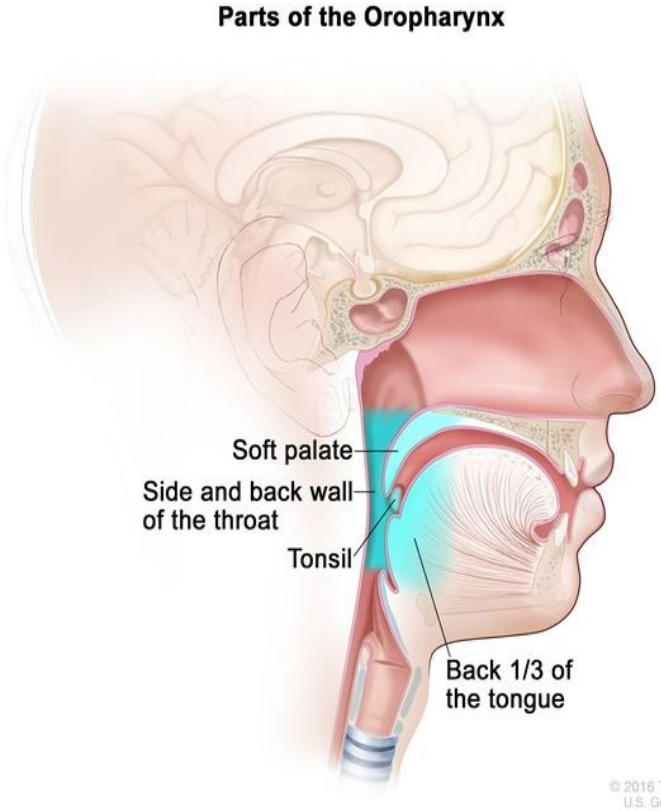
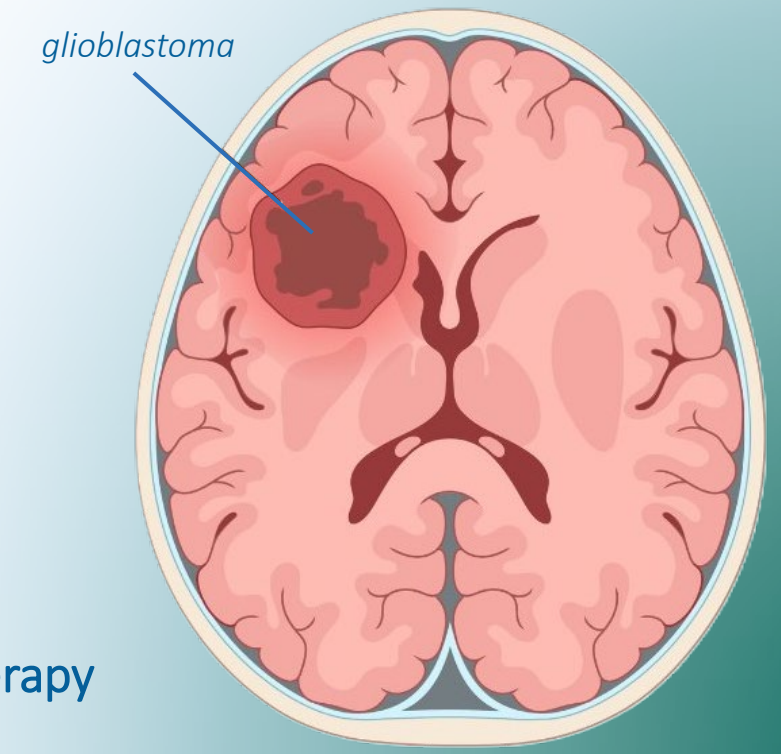
Opportunity to Impact HPV-Related Locoregionally Advanced Oropharyngeal Squamous Cell Carcinoma (Throat Cancer)

- **Throat cancer: high unmet need in fast-growing indication**
  - Surpassed cervical cancer as most common HPV-related cancer diagnosed in the U.S. (~ 20,000 new cases/yr)
  - Estimated 3k - 4k high-risk new patients per year in US: poor clinical outcomes, <1 year mean survival
- **INO-3112: Strong case for combination therapy based on previously completed trials**
  - Existing trial data highlights strong rationale and potential benefit of combining INO-3112 to generate T cells targeting the HPV E6 & E7 oncogenes with a PD-1 checkpoint inhibitor in HPV-16/18 related OPSCC
- **Partnership with Coherus Biosciences**
  - Next steps: Phase 3 trial to evaluate INO-3112 + LOQTORZI, a PD-1 checkpoint inhibitor, FDA approved for treatment of NPC



Innovative DNA Immunotherapy for Glioblastoma (GBM)

- **GBM: most common and aggressive form of brain cancer, desperate need for new treatments**
  - ~ 15,000 people diagnosed with GBM each year
  - Poor prognosis, with a typical life expectancy of 15 to 18 months and a 5-year survival rate of less than 10%
- **INO-5412 + cadonilimab: Potential to further improve patient outcomes**
  - INO-5412 is comprised of INO-5401 + T cell immune activator INO-9012
  - Previous data showed potential of INO-5401 + INO-9012 and a PD-1 checkpoint inhibitor to improve patient outcomes
  - Cadonilimab, Akeso's first-in-class PD-1/CTLA-4 bi-specific antibody, could potentially provide additional checkpoint inhibition through CTLA-4 binding
- **Partnership with Dana-Farber & Akeso to evaluate novel combination therapy**
  - INO-5412 + cadonilimab will be studied in Phase 2 INdividualized Screening trial of Innovative Glioblastoma Therapy (INSIGhT), **s**ponsored by Dana-Farber Cancer Institute



INO-5401 + INO-9012 for Newly Diagnosed GBM

Completed Phase 1/2 Combination Trial with LIBTAYO®

- INO-5401 + INO-9012 with LIBTAYO and 40 Gy radiation/TMZ were observed to have favorable tolerability and immunogenicity
  - INO-5401 is a DNA medicine composed of plasmids that encode for 3 tumor-associated antigens: human telomerase (hTERT), Wilms tumor-1 (WT-1), and prostate-specific membrane antigen (PSMA)
  - INO-9012 is a DNA plasmid that encodes for human IL-12
  - LIBTAYO is a high-affinity, highly potent, human, hinge-stabilized IgG4 mAB to the PD-1 receptor
- Trial results:

Median OS; unmethylated (A)	17.9 mo. (14.5 – 19.8)	*Historical 14.6-16 mo.*
Median OS; methylated (B)	32.5 (18.4 – NR)	*Historical 23.2-25 mo.*
Median OS; combined (A+B)	19.5 (16.9 – 23.3)	-

NR: not reached.

Gilbert et al. J Clin Oncol 2013; Gilbert et al. N Eng J Med 2014; Comparison to historical results do not represent head-to head comparisons and are limited due to differences in trial population and other factors; Data was presented at 2022 ASCO Annual Meeting; Libtayo® is owned, developed, and marketed globally by Regeneron

Boosts Binding & Neutralizing Antibodies Against Ebola

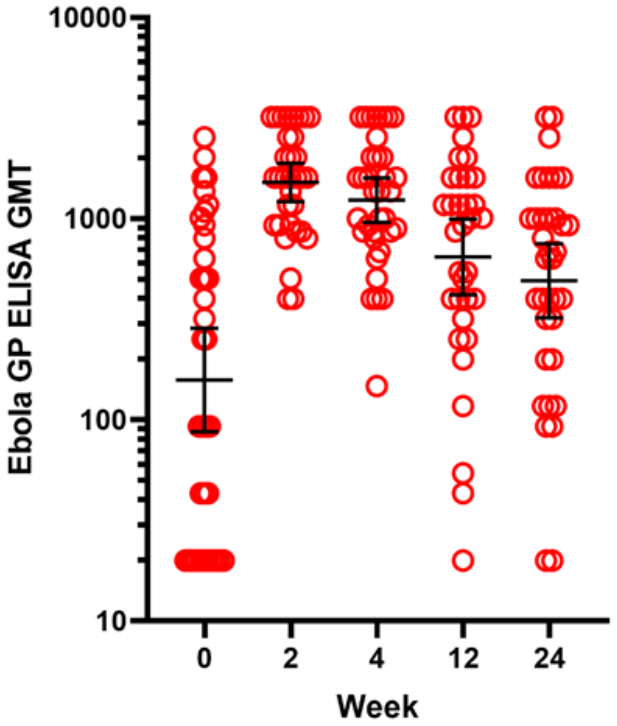
Recent progress:

- Re-submitted Ph 2 trial design to FDA
- Preparing to submit Phase 1b trial data to peer-reviewed journal with collaborators
- New FANG assay data: indicates INO-4201 elicits antibody response comparable to Ervebo® primary series vaccination

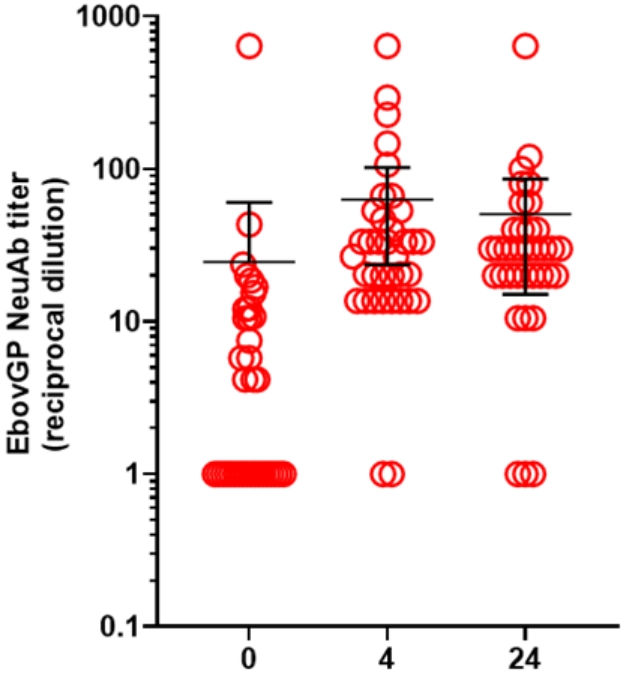
Phase 1b trial data as booster for Ervebo

- Safety & immunological data presented at ECCMID 2023
- Robust immune response, potential to extend vaccine protection

BINDING ANTIBODIES



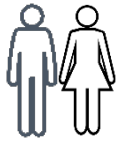
NEUTRALIZING ANTIBODIES



Completed Phase 2 Trial in HIV-Negative Participants

Precancerous Anal Dysplasia:

Phase 2 open-label trial



N=24

3 or 4 dose regimen at Months 0, 1, 3 and Week 36 (optional)

Final findings (6 months after start of treatment)

Clearance of HPV-16/18+ lesions: 50% of patients

The Spontaneous Rate is estimated to be less than 27%

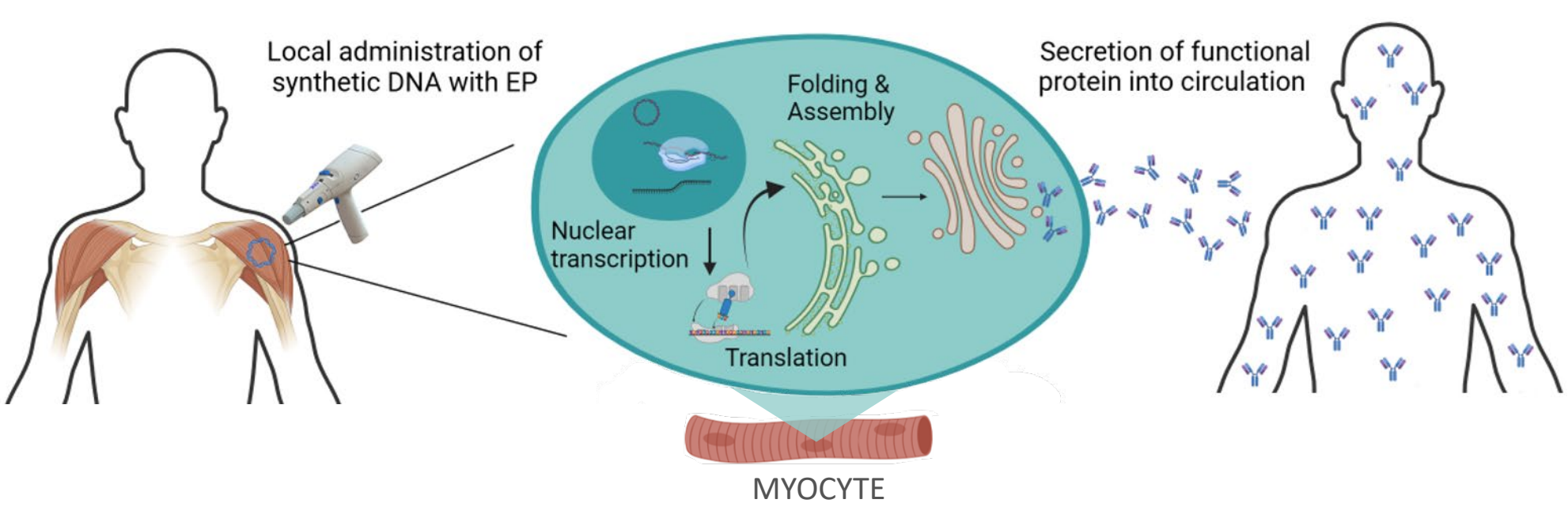
- VGX-3100: composed of plasmids encoding for HPV-16 and HPV-18 subtypes; E6 and E7 oncogenes
- Open-label trial of VGX-3100 in 24 HIV-negative participants with HPV-16 and/or -18-positive anal HSIL
- 50% (11/22 evaluable) of participants showed no evidence of HPV-16/18-positive HSIL at Week 36
- 46% (10/22) of participants showed no evidence of HPV-16/18 virus at Week 36
- Adverse events were predominantly mild or moderate, and were in general associated with injection site reactions

Ongoing Phase 2 Trial in HIV-Positive Participants

- Trial initiated in September 2018
- 80-participant, open-label Phase 2 trial
- 4 doses at week 0, 4, 12, and 24
- Primary endpoint: overall response rate at 48 weeks – defined as regression of anal HSIL to LSIL or normal
- Sponsored by AIDS Malignancy Consortium

AMC
AIDS Malignancy Consortium

The Next Generation of DNA Medicine

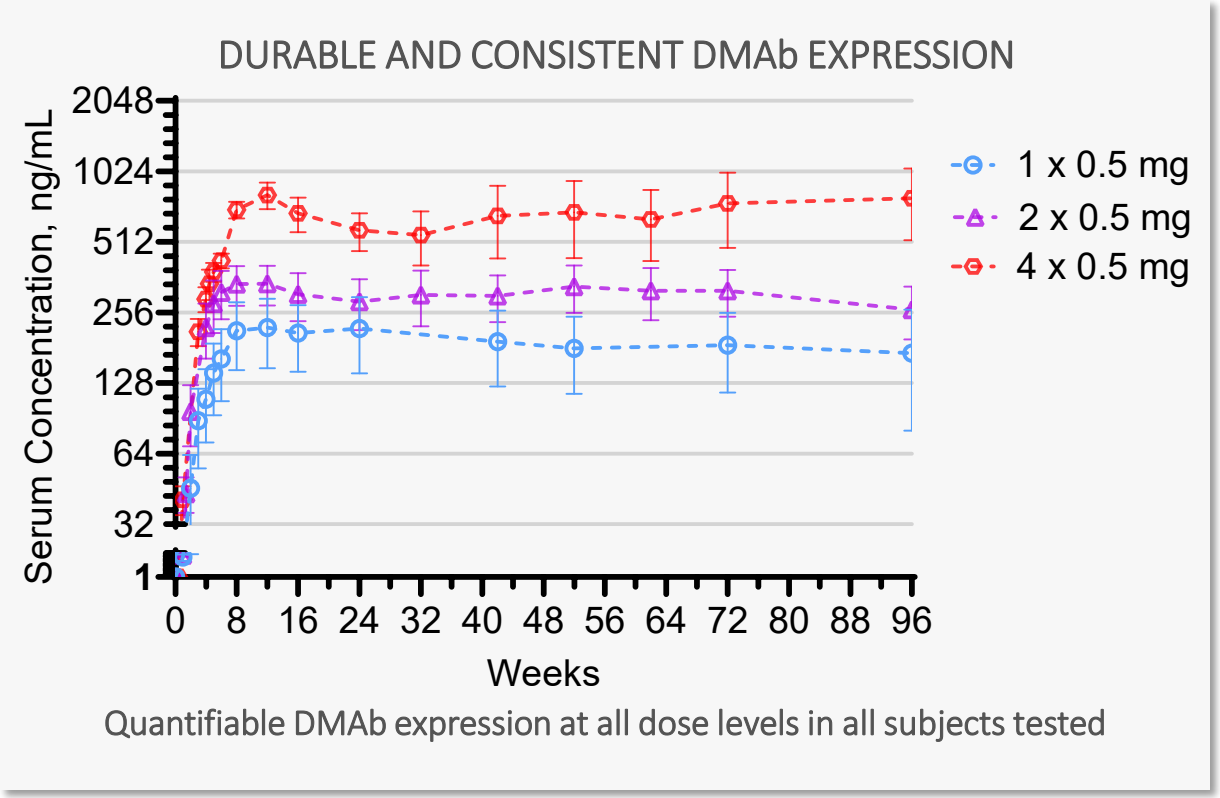


DMAb technology enables in vivo production of monoclonal antibodies (mAbs)

- DNA is administered via CELLECTRA device to enable local expression of the genes coding for the antibodies in the deltoid muscle.
- DMAbs are expressed and assembled in myocytes and secreted into the blood where they can circulate in the body.

Ongoing Phase 1 Trial: Data Published in *Nature Medicine*

- Long-lasting in vivo antibody production: DMAb levels remained stable for 96 weeks in all participants reaching that timepoint
- No anti-drug antibodies (ADA): no immune rejection of the DMAbs detected across ~1,000 blood samples
- Effective target binding: expressed DMAbs successfully bound to SARS-CoV-2 Spike protein receptor-binding domain, confirming functional activity through week 72
- Re-dosing at days 28 & 31 achieved DMAb levels over 1 µg/ml: Redosing appeared to be more effective at increasing DMAb concentrations compared with escalating single doses
- Well-tolerated: most common side effects were mild, temporary injection site reactions; no SAEs related to study drug



David Weiner, Pablo Tebas et al. Phase 1, dose-escalation trial of the safety and pharmacokinetics of SARS-CoV-2 DNA-encoded monoclonal antibodies (DMAb) in healthy adults. *Nature Medicine.* https://www.nature.com/articles/s41591-025-03969-0

Potential to Address Challenges of Conventional mAbs

Challenges with mAbs[1]

- Stability: susceptible to a variety of chemically- and temperature-induced structural changes
- Limited prophylactic use due to biologic half-life and complexities if mAb is not administered SC
- Even with half-life extension, repeated administration is required
- Production of recombinant mAbs in bioreactors is time intensive and costly
- Limited use in low resource settings

vs

INOVIO's DMAb technology

- Rapid manufacturing, low cost of production, and temperature-stable storage and distribution
- DNA is a non-live, non-integrating, non-replicating platform, with ability to be redosed
- Have exhibited prolonged expression in preclinical models with maintenance of serum levels >15µg/ml for over a year[2]
- Shortened development time compared to classic mAbs and re-administration due to lack of serological interference

Source: (1). Development issues: antibody stability, developability, immunogenicity, and comparability. In Woodhead Publishing Series in Biomedicine, Therapeutic Antibody Engineering, Woodhead Publishing, 2012, Pages 377-595, ISBN 9781907568374, https://doi.org/10.1533/9781908818096.377. (2). Duperret EK, Trautz A, Stoltz R, Patel A, Wise MC, Perales-Puchalt A, Smith T, Broderick KE, Masteller E, Kim JJ, Humeau L, Muthumani K, Weiner DB. Synthetic DNA-Encoded Monoclonal Antibody Delivery of Anti-CTLA-4 Antibodies Induces Tumor Shrinkage In Vivo. Cancer Res. 2018 Nov 15;78(22):6363-6370. doi: 10.1158/0008-5472.CAN-18-1429. Epub 2018 Oct 4. PMID: 30287678; PMCID: PMC6239932.

Potential Shown in Multiple Disease Models

PCSK-9

- **Delivery of anti PCSK-9 in mice lowers LDL cholesterol** (*Khoshnejad et al Mol Ther 2018*)

Influenza A & B viruses

- **Broadly neutralizing pan-influenza A & B approach**
- **Delivery of multiple antibodies** (*Elliott et al NJV 2017*)
- **Demonstrated disease protection in pig model** (*McNee et al. JI 2020*)

Cancer Antigens

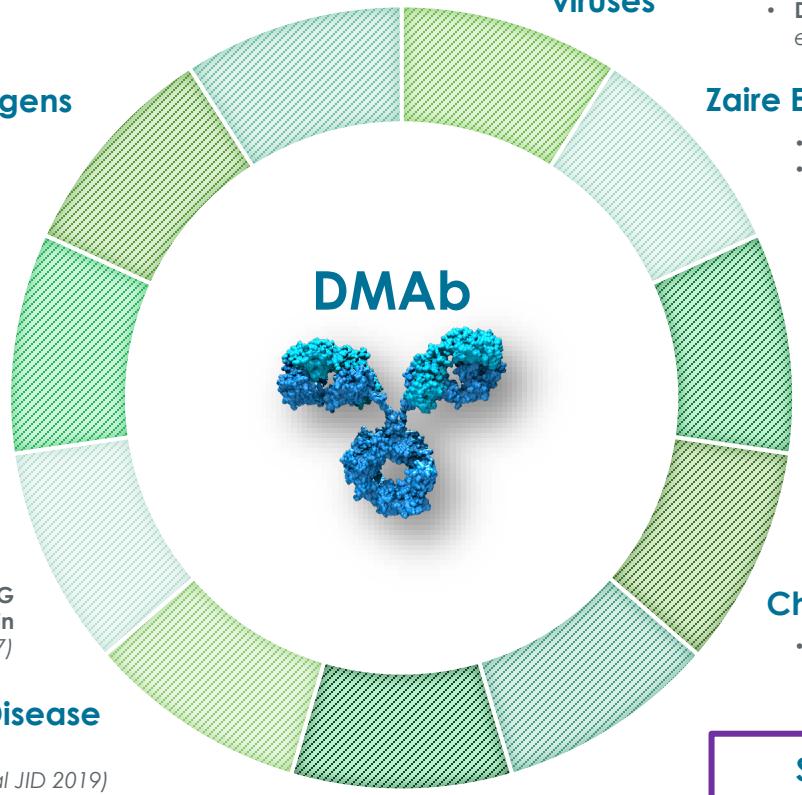
- **Demonstrated HER2/CD3 dBTEs can reduce tumor burden in mice** (Perales-Puchalt et al. JCI Insight. 2019)
- **Delivery of anti PSMA in mice impacted tumor challenge** (*Muthumani et al Cancer Immuno 2017*)

Zaire Ebolavirus

- **DMAb modifications and mouse model development**
- **Pre-exposure protection against highly lethal challenge in mice** (*Patel et al Cell Reports 2018*)

Checkpoint Inhibitors

- **Delivery of CPI in mice impacted and protected against tumor challenge** (Perales-Puchalt et al. *Oncotarget. 2019, Duperret et al. Cancer Res 2018*)



Dengue virus (DENV)

- **Protection against ADE** (*Flingai et al. Sci Rep 2015*)

Zika virus

- **scFV approach**
- **Protection from disease in NHPs** (*Esquivel et al. Mol Ther. 2019*)

Multi-drug resistant Pseudomonas aeruginosa

- **Multiple forms of DMAbs: monospecific, bispecific IgG**
- **Lowering pathogen burden and complementation in antibiotic resistant model** (*Patel et al Nat Comm. 2017*)

Chikungunya virus (CHIKV)

- **Rapid protection & complementarity with a vaccine** (*Muthumani et al., JID 2016*)

Lyme Disease

- **DMAb modifications** (*Yang et al JID 2019*)

SARS-CoV-2 – In P1 clinical trial

- **Highly potent DMAbs expressed in vivo** (candidates under clinical evaluation)

HIV

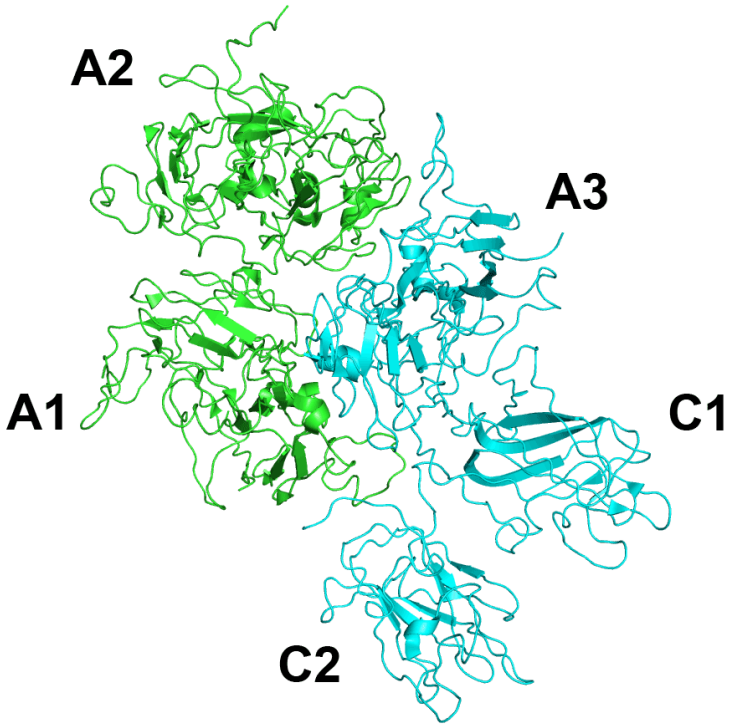
- **Delivery of multiple DMAbs to**
- **a single animal**
- **>10ug/ml in NHPs** (*Wise et al JCI 2020*)
- **DNA encoded post translational modifications** (*Xu, Wise et al EbioMed 2018*)

THE WISTAR INSTITUTE

Potential as a New Treatment Paradigm in Rare Diseases

- **Builds on DMAb technology**: targets long-term complex protein expression with ability to re-dose due to lack of anti-vector immunity
- **Aims to address shortcomings of conventional therapeutic protein/enzyme replacement**
- **Promising preclinical data on DPROTs targeting Hemophilia A presented at World Federation of Hemophilia Global Forum**
  - Expression of FVIII achieved in skeletal muscle cells with activity reaching 50%
  - Confirms complex proteins such as FVIII can be effectively produced, assembled in myocytes and secreted into circulation
  - Treated mice showed significantly reduced bleeding time and blood loss compared to control
- **Actively seeking partnerships to advance this technology in multiple rare disease targets**

Factor VIII Protein Structure



INOVIO Pipeline

PRODUCT	INDICATION	PHASE	SPONSOR	FUNDERS/COLLABORATORS
VGX-3100	Cervical Dysplasia (HSIL) – China	3	INOVIO	Apollobio
VGX-3100	Anal Dysplasia (HSIL) – HIV+	1	AMC AIDS Malignancy Consortium	NIH National Cancer Institute; AMC AIDS Malignancy Consortium
INO-5401	Glioblastoma	1/2	INOVIO	REGENERON
INO-5412	Glioblastoma	2	Dana-Farber Cancer Institute	Akesobio; Dana-Farber Cancer Institute
INO-5401	BRCA 1/2 Mutation	1	Penn	Penn
INO-4800	COVID-19 (Solidarity)	3	World Health Organization	World Health Organization
INO-6172	HIV	1	NIH National Cancer Institute	HIV Vaccine Trials Network; The Wistar Institute
INO-6160	HIV	1	NIH National Cancer Institute	HIV Vaccine Trials Network; The Wistar Institute
DMAbs	COVID-19	1	Penn	DARPA; AstraZeneca; The Wistar Institute

Progressing Strategy to Unlock the Promise of DNA Medicine

NEAR TERM

Working to Deliver INO-3107 to Patients

- BLA accepted for review under accelerated approval program in Dec 2025
  - Standard review schedule, PDUFA date Oct 30, 2026
  - FDA to schedule meeting to discuss preliminary comments in file acceptance letter regarding accelerated approval eligibility
- Potential to be preferred first-line treatment, if approved, based on:
  - Efficacy
  - Tolerability
  - Simple & patient-centric treatment regimen
- 1st DNA Medicine in U.S. if approved

MID TERM

Advancing Diversified Clinical Pipeline

- Additional clinical candidate partnerships, including:*
  - INO-5412: collaboration with Akeso to evaluate combination with cadonilomab in GBM (February 2026)
  - DMAb: 1st proof-of-concept clinical data published in Nature Medicine (October 2025)
  - INO-3112: clinical collaboration with Coherus to evaluate combination with LOQTORZI™ in HPV-related throat cancer (January 2024)

*Wholly-owned & in collaboration with 3rd parties

NEXTGEN

Innovating NextGen DNA Medicines

- DMAbs:
  - Applicable to diseases that can be targeted with mAbs & other proteins
  - Potential to overcome traditional mAb limitations
- DPROTs: targeting protein replacement diseases
  - Promising preclinical data presented at World Federation of Hemophilia Global Forum (November 2025)

Thank you

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