

Barinthus Biotherapeutics Corporate Presentation

Guiding the Immune System to Cure Disease

August, 2024



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Certain information contained in this presentation and statements made orally during this presentation relate to or are based on studies, publications, surveys and other data obtained from third-party sources and our own internal estimates and research. While we believe these third-party studies, publications, surveys and other data to be reliable as of the date of this presentation, it has not independently verified, and makes no representations as to the adequacy, fairness, accuracy or completeness of, any information obtained from third-party sources. In addition, no independent source has evaluated the reasonableness or accuracy of our internal estimates or research and no reliance should be made on any information or statements made in this presentation relating to or based on such internal estimates and research.

Our Mission

To advance the next generation of immunotherapies that lead T cells to gain control over disease and improve patients' lives.



Company Overview

About Us

- **Barinthus Bio** (Nasdaq: BRNS) is a biotechnology company with a specific focus on immunotherapies for chronic diseases.
- **Our approach** is to **use antigen-specific immunotherapies to guide T cells to cure disease.**

Disease Areas

- A **focused pipeline** with anticipated **near-term clinical milestones.**
 - **Hepatitis B:**
 - **2 Phase II data readouts expected in Q4 2024.**¹
 - **Celiac Disease:**
 - Novel nanoparticle platform moving into the clinic: **trial initiation anticipated in Q3 2024.**¹

Financials

- **Strong balance sheet:**
 - **Cash of \$118 million.**²
 - **Outstanding ordinary shares: 39.4 million.**⁴
 - **Estimated cash runway into Q2 2026.**³
 - **No debt or outstanding warrants.**

¹ Based on management's current estimates on expected clinical data milestones.

² Including cash, cash equivalents and restricted cash as of June 30, 2024, as reported on Form 10-Q on August 8, 2024.

³ Based on management's current estimate of status and strategy. Any changes could be material.

⁴ As of August 1, 2024, as reported on Form 10-Q on August 8, 2024

Focused Pipeline With Anticipated Near-Term Clinical Milestones

Harnessing the power of antigen-specific immunotherapies to target large market opportunities in areas of high unmet need.

Key Programs	Product Candidate*	Therapeutic For	Preclinical	Phase 1	Phase 2	Phase 3	Status/Anticipated Upcoming Milestones ¹
<i>Infectious Disease</i>	VTP-300 ◆ ✓	Chronic Hepatitis B Virus (HBV) infection					Phase 2b interim analysis & Phase 2a interim results (Q4 2024)
<i>Autoimmune</i>	VTP-1000	Celiac disease					IND clearance Phase 1 initiation (Q3 2024)

◆ Data supporting proof-of-concept announced ✓ Existing human clinical data

ChAdOx + MVA

SNAP-TI

Potential for over \$1.5B in Annual Sales across US, China and EU.

*Barinthus Bio has worldwide rights for all product candidates.
These are estimated timelines only and our pipeline may be subject to change.

¹ Based on management's current estimates on expected clinical data milestones.



Our Approach: Antigen-specific Immunotherapies

Chronic infectious & autoimmune diseases occur when there is an imbalance in the immune system leading to its inability to control the disease.

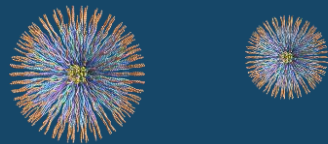
Our antigen-specific immunotherapies aim to address this imbalance by guiding T cells to cure disease.

Antigen Delivery Platforms



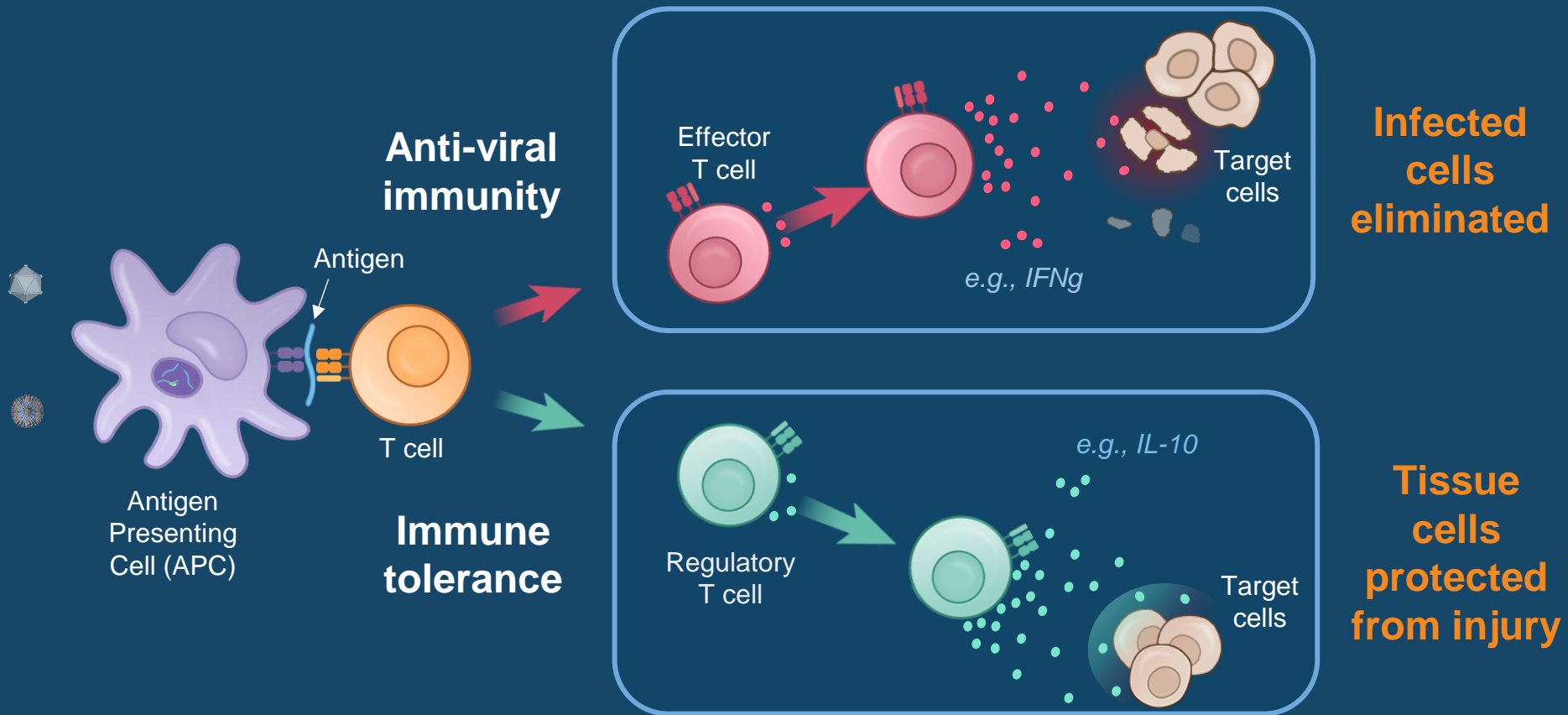
VTP-300

Vectors induce a high magnitude and disease-specific, durable immune response



VTP-1000

Self-assembling, modular nanoparticle co-delivering multiple antigens and immunomodulators



VTP-300

Hepatitis B Virus (HBV) Therapeutic



Guiding the immune system to cure disease



Chronic HBV Infection Represents a Large Market Opportunity

There is an urgent need to develop effective therapeutic strategies to cure chronic HBV infection.



~254M

Patients are **chronically infected** with HBV.¹



1.2M

New HBV infections per year.¹



~ 13%

Patients are **diagnosed**.¹

Limitations of Current Treatments

- Existing therapies typically require **chronic treatment**.
- Standard of care nucleos(t)ide analogs (NUCs) are **slow-acting with low cure rates**.²
- Pegylated interferon has **significant side effects**.³
- **Less than 10% of patients achieve a functional cure with existing therapies**.⁴

HBV: hepatitis B virus

¹ WHO, Global hepatitis report, 2024- ² Broquetas T and Carrion JA, *Hepat Med*. 2002;14:87-100. ³ Van Zonneveld M, et al, *Aliment Pharmacol Ther*. 2005;21(9):1163-71. ⁴ Boyd A, et al, *Viruses*. 2021 Jul 11;13(7):1341

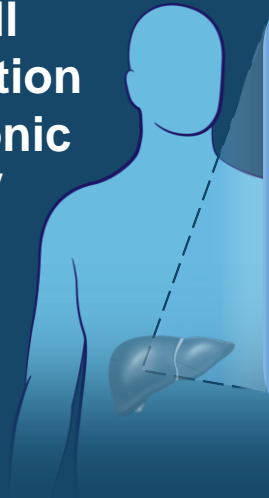
Chronic HBV Infection Leads to T Cell Exhaustion

1. Chronic exposure to HBV and HBsAg can lead to **T cell exhaustion**.

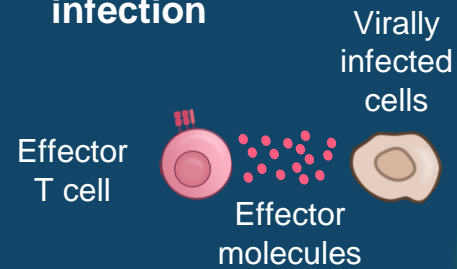
2. Exhausted T cells **lose their functions**, resulting in decreased secretion of cytokines and killing molecules.

3. In **severe stages of exhaustion**, HBV specific T cells can be deleted, leading to the **loss of HBV-specific T cell response and no control of the disease**.

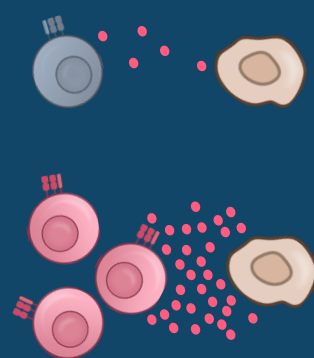
T Cell Exhaustion In Chronic HBV



1. Chronic HBV infection



2. Exhaustion



3. Deletion



Loss of control over disease

Regain control over disease

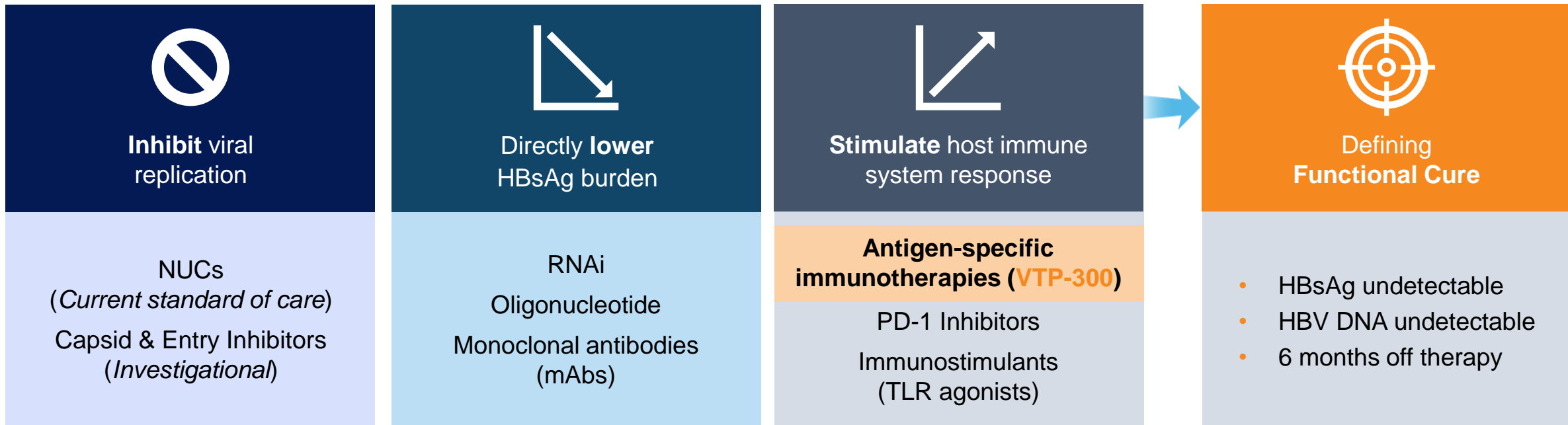
4. VTP-300

4. VTP-300 is designed to overcome exhaustion by inducing a pool of highly efficacious HBV-specific effector T cells to gain control over the disease.

A Combined Approach is Needed for Functional Cure

Experts agree that a functional cure will likely require a combination of agents with complementary mechanisms of action. **VTP-300** is an investigational antigen-specific immunotherapy that is being evaluated as a critical component to enhancing rates of functional cure in combination with other therapies in two ongoing Phase 2 trials: **HBV003** & **IM-PROVE II**.

Three potential components to a functional cure



VTP-300 is designed to engage the host immune system and has been shown to induce sustained HBsAg reduction in ongoing trials.¹

¹ Based on interim data, data cut off date: April 15, 2024.

HBsAb: Hepatitis B surface antibody

HBV003: Phase 2b Study – Currently Enrolling Patients

VTP-300 + Low-Dose (LD) nivolumab (N=120) - Initiated in Q4 2022

Objective: **Evaluating Additional Dosing and PD-1 Inhibition Timing**



Inclusion Criteria

- HBV DNA ≤1,000 IU/mL.
- HBsAg ≤200 IU/mL.
- On NUCs for ≥6 months.

Primary Endpoint

- % participants with a greater than 1 log HBsAg reduction at 6 months after initiation of therapy.

Secondary Endpoints

- Safety: incidence of AEs and SAEs.
- T cell response.

HBV003 results will inform treatment dosing regimen

Group 1: Mirrors Group 3 in HBV002 to further support response effect observed.

Group 2: Assesses if additional dose of MVA-HBV with LD nivolumab at Day 85 further reduces HBsAg.

Group 3: Assesses if delaying LD nivolumab until after MVA-HBV is more optimal (plus adds option of 2nd MVA-HBV dose).

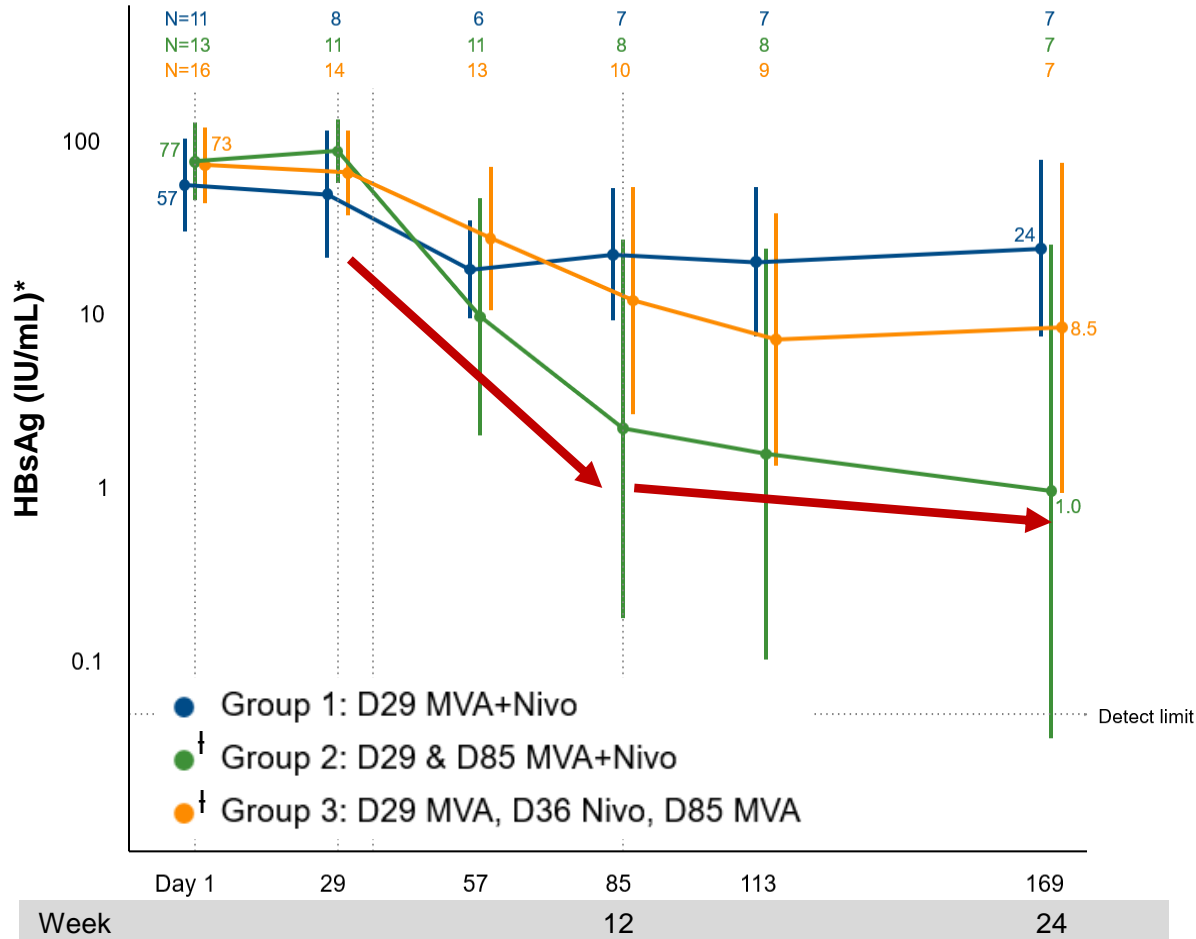
Study Reference: NCT05343481

ALT: Alanine aminotransferase; LLOQ: lower limit of quantitation; ULN: upper limit of normal; HBeAg: Hepatitis B e Antigen.



HBV003: Sustained HBsAg Declines Observed in All Groups

Participants with screening HBsAg ≤200 IU/mL



	Group 1 (N=7)	Group 2 (N=7)	Group 3 (N=7)	Total (N=21)
≥0.5 log reduction at Day 169 (Week 24)	2 (29%)	5 (71%)	6 (86%)	13 (62%)
≥1 log reduction at Day 169 (Week 24)	0	5 (71%)	1 (14%)	6 (29%)

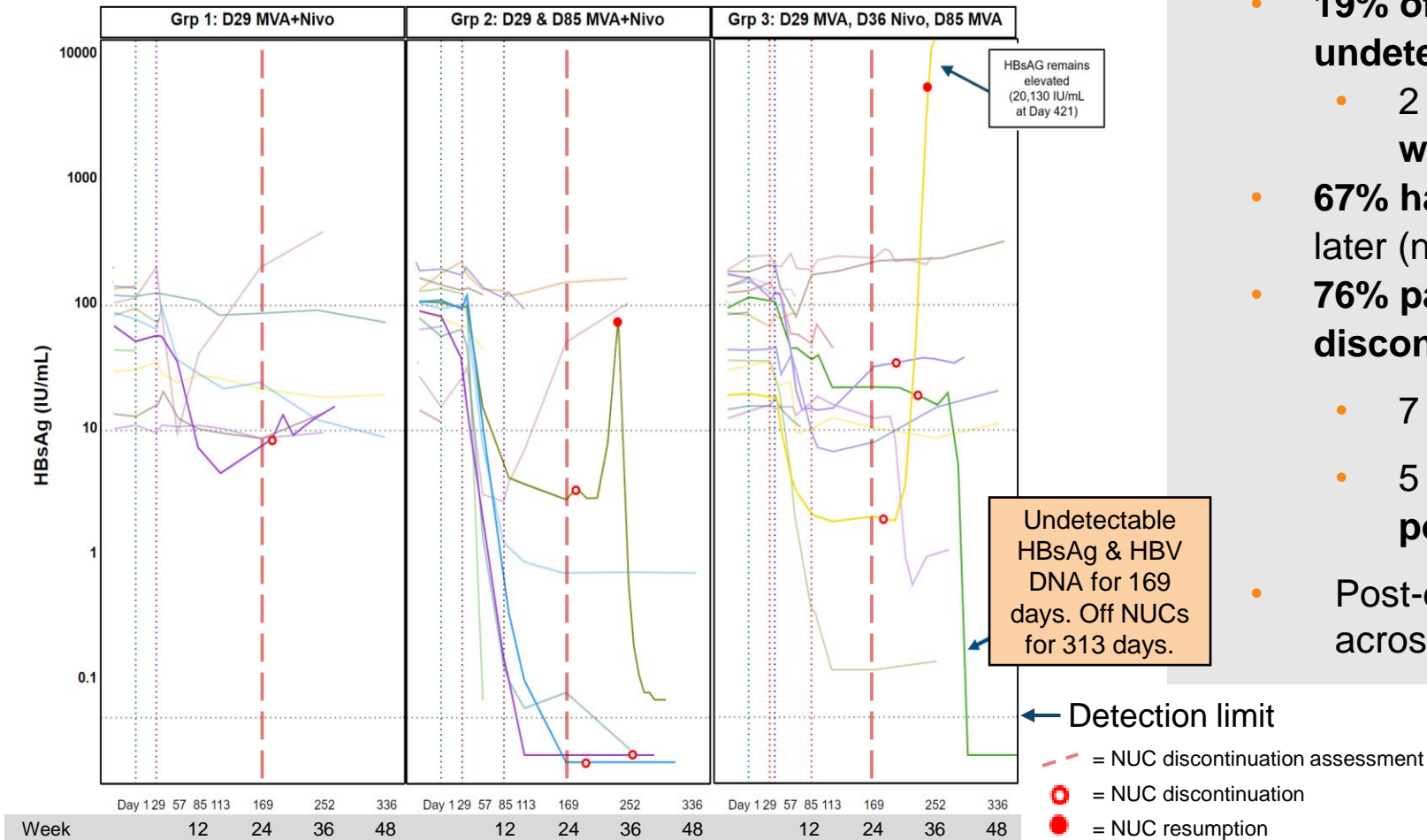
- Robust HBsAg declines observed soon after Day 29 administration.
- HBsAg declines after Day 85 maintained in all Groups.
- VTP-300 and LD nivolumab were both generally well-tolerated.
 - Thyroid dysfunction was reported in 8 of 91 (9%) participants; normal TFTs reported in 7 of 8 (88%) at last recorded visit.
 - ALT elevations >2xULN occurred in 14 participants through Day 169 (2.1-6.7xULN); Most occur soon after first nivolumab and most revert to <2x ULN by Day 85.

*Geometric mean (95% CI) † Participants received a Day 85 dose only if HBsAg ≥10 IU/mL; 7 of 18 in Groups 2 and 3 received the Day 85 dose.



HBV003: Undetectable HBsAg Reached in Some Participants

Individual HBsAg declines in participants with HBsAg ≤ 200 IU/mL at baseline



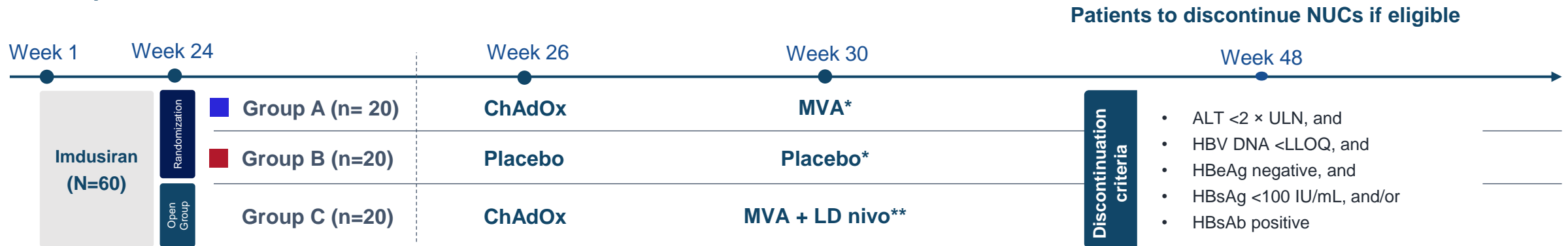
- **19% of participants became HBsAg-undetectable, across all groups (n=4/21).**
 - 2 cases have maintained this for **≥ 16 weeks.**
- **67% had HBsAg < 10 IU/mL at Day 169 or later (n=14/21).**
- **76% participants were eligible for NUC discontinuation (n=16/21).**
 - 7 of these discontinued NUCs.
 - 5 remain off NUCs, **up to 44 weeks post-discontinuation** in 1 case.
- Post-dose T cell responses were observed across the three HBV antigens.

IM-PROVE II: Phase 2a – Collaboration with Arbutus



Imdusiran (RNAi) + VTP-300 +/- low-dose nivolumab (N=60)

Trial expanded in Q4 2022 to include an arm with low-dose nivolumab



Inclusion Criteria

- HBV DNA ≤ 20 IU/mL.
- HBsAg ≥ 100 to $< 5,000$ IU/mL.
- On NUCs for at least 1 year.

LD: Low-dose ALT: Alanine aminotransferase; LLOQ: lower limit of quantitation; ULN: upper limit of normal.

* Additional MVA/Placebo to be dosed at Week 38, if patients have experienced a ≥ 0.5 log drop in HBsAg from Week 26 to Week 34.

** Additional MVA+nivo to be dosed at Week 38, if patients have HBsAg ≥ 10 IU/mL at Week 34.

Primary Endpoints

- Safety: incidence of AEs and SAEs.

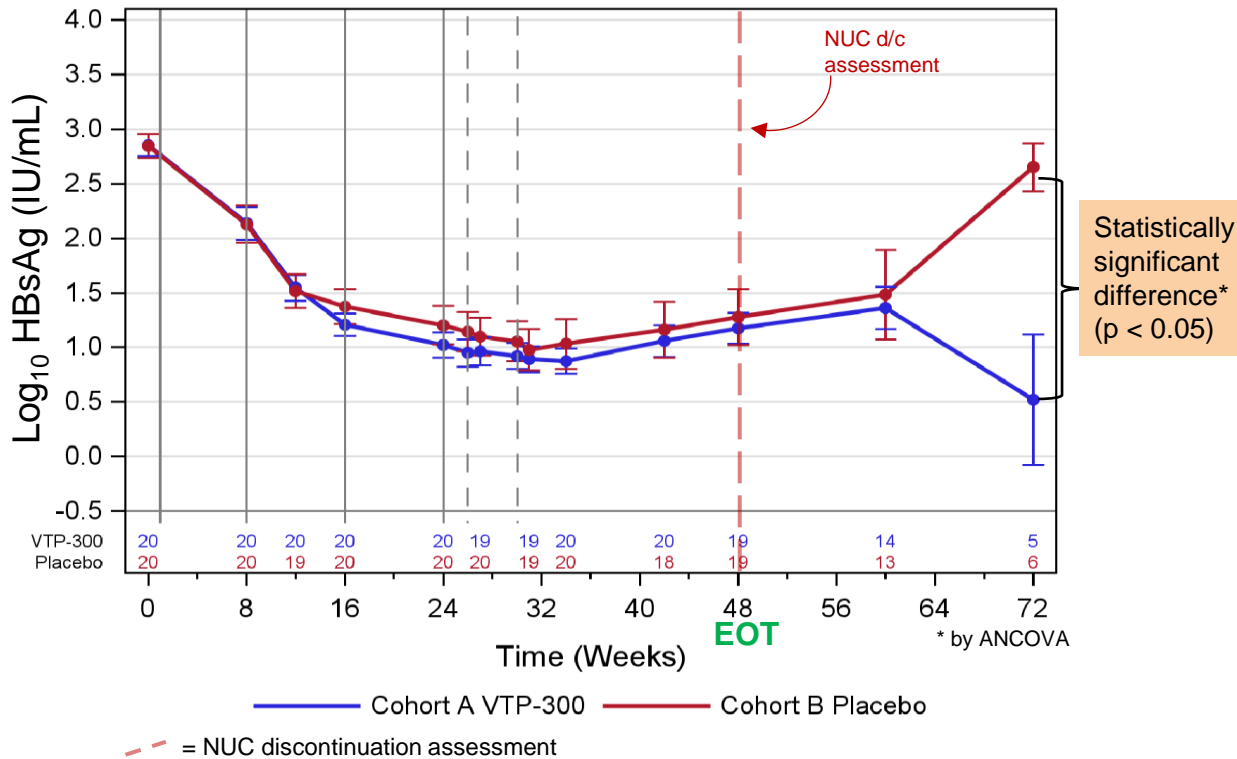
Secondary Endpoints

- Change in HBsAg concentration from baseline.
- Proportion of participants with a change in HBsAg from baseline meeting response criteria (≥ 0.5 , 1, 2, or 3 log₁₀ reduction).
- Change in HBV DNA, RNA, core-related antigen, HBsAg antibody, HBsAg e-antibody from baseline.



IM-PROVE II: VTP-300 Maintained Statistically Significant Lower HBsAg Levels

Mean [SE] Log₁₀ HBsAg Level by Visit



More subjects on VTP-300 have maintained low HBsAg levels after end of treatment (Wk 72):

Study Wk	HBsAg <100 IU/mL N, (%)		HBsAg <10 IU/mL N, (%)		HBsAg <LLOQ N, (%)	
	VTP-300 ^Δ	PBO	VTP-300 ^Δ	PBO	VTP-300 ^Δ	PBO
Week 72	4/5 (80)	1/6 (16.7)	3/5 (60)	0/6 (0)	1/5 (20)	0/6 (0)

^Δ subjects who remain off NUCs at Week 72.

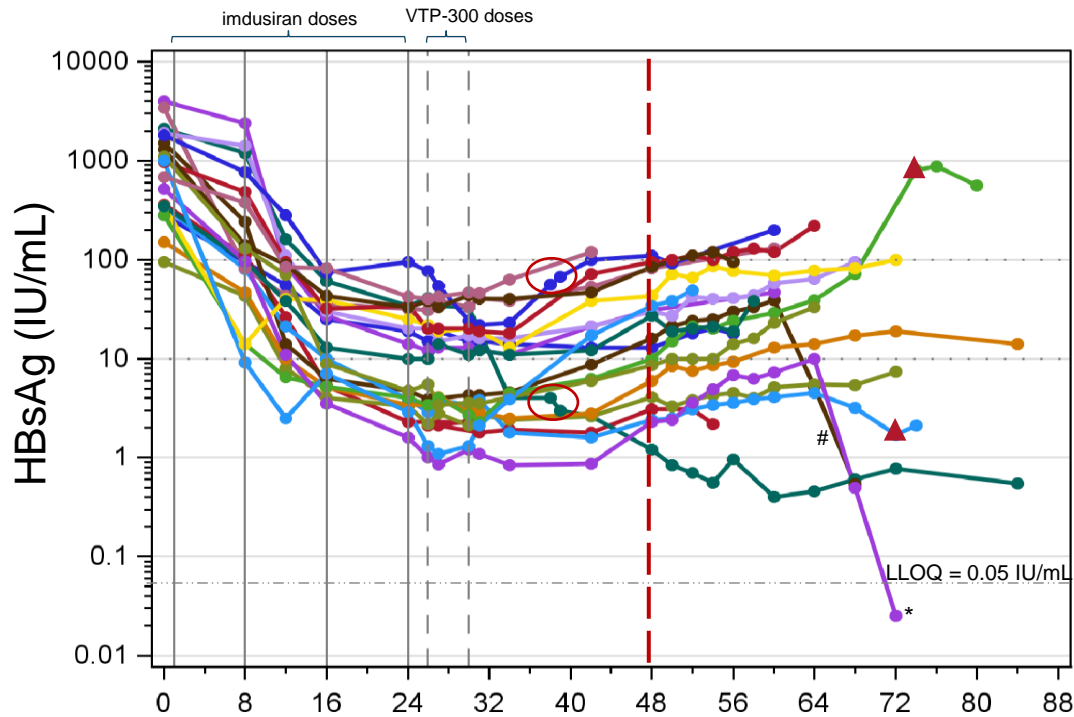
- More subjects achieved HBsAg thresholds of <100 IU/mL and <10 IU/mL when administered VTP-300 vs placebo.
- At Week 72 (N=11), there was a **significant difference observed in HBsAg levels between the groups.**

EOT=end of treatment; * 2 subjects did not reach timepoint by data cut; † subjects who remain off NUCs at Week 72.

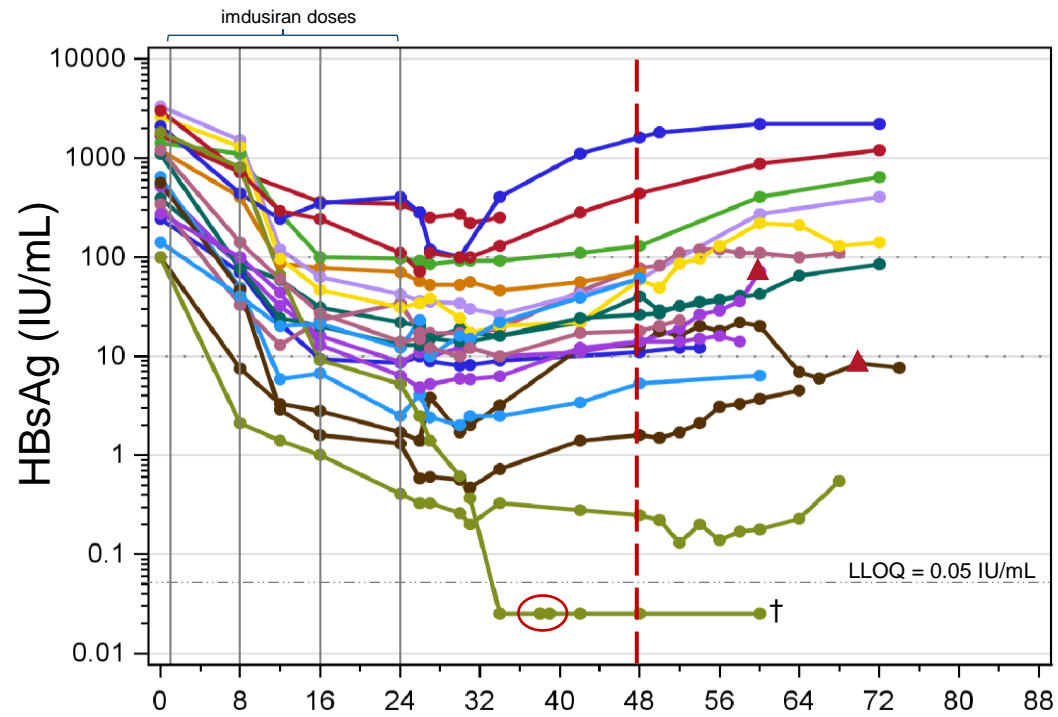
IM-PROVE II: VTP300 Maintained Lower HBsAg Levels Over Time



Group A (VTP-300) Individual Subject HBsAg Declines



Group B (placebo) Individual Subject HBsAg Declines



* subject off NUC therapy reached HBsAg <LLOQ at W72.

subject off NUC therapy with > 1.5 log₁₀ decline between W60 and W68.

- - - = NUC discontinuation assessment

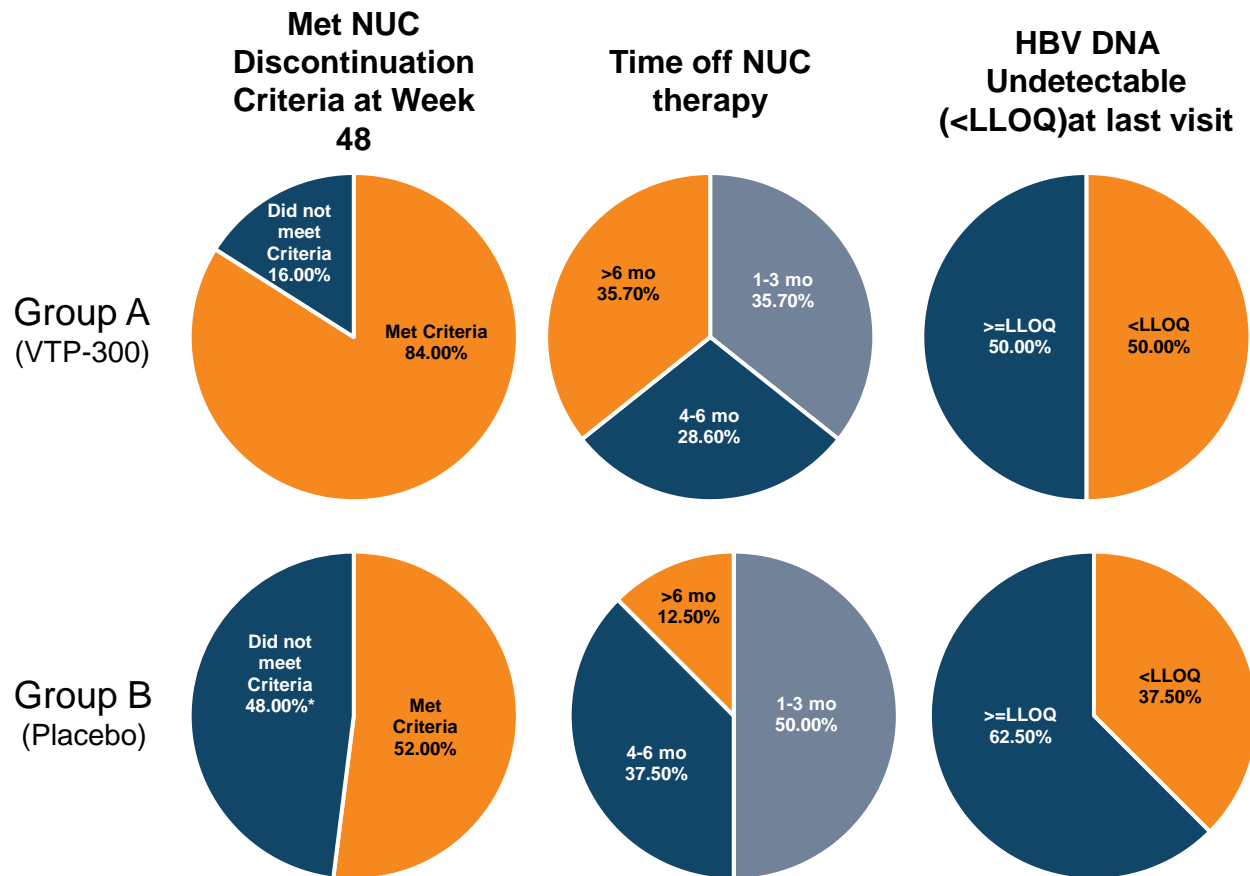
○ = 2nd MVA-HBV (Group A) or placebo (Group B) boost dose

▲ = NUC resumption

† HBsAg <LLOQ for > 6 months (on NUC therapy).



IM-PROVE II: VTP-300 Group More Likely to Meet NUC Discontinuation Criteria



- **More subjects with VTP-300 (84%) met NUC discontinuation criteria vs. placebo:**
 - All subjects eligible to discontinue NUCs did so, 2 subjects in each group restarted NUCs.
 - More VTP-300 subjects have maintained HBV DNA undetectable (50%) than placebo subjects (38%).
 - 1 VTP-300 subject (20%) reached HBsAg undetectable at Week 72 after > 2 log decline between Week 64 and 72, another has > 1 log decline between Week 60 & 68.
- Imdusiran and VTP-300 was generally well-tolerated when administered sequentially.
- No SAEs or treatment discontinuations have been reported.
- Most common treatment-related TEAEs in 2 or more subjects (all Grade 1 or 2):
 - VTP-300: injection site-related (redness, pain or reaction in 3 events in 2 subjects).
 - Imdusiran: injection site-related (bruising or swelling in 2 subjects), ALT increased in 2 subjects.

Trials Summary: Evaluating a Functional Cure Regimen

How our trials align with the components for a potential functional cure regimen:

	Inhibit viral replication	Directly lower HBsAg burden	Stimulate host immune system response	Post-NUC discontinuation
HBV003¹	Participants on background NUCs	Participants included have low baseline HBsAg (≤ 200 IU/mL)	<p>VTP-300 + PD1 inhibitor stimulates immune response</p> <ul style="list-style-type: none"> 19% of participants became HBsAg undetectable. ≥ 0.5 log HBsAg reduction was observed in 62% of participants. 	<ul style="list-style-type: none"> 76% of participants were eligible for NUC discontinuation. 5 of 7 patients who discontinued are still off NUC therapy, up to 44 weeks in 1 case.
IM-PROVE II¹	Participants on background NUCs	siRNA (imdsiran) lead-in treatment to lower HBsAg	<p>VTP-300 stimulates immune response vs placebo</p> <ul style="list-style-type: none"> 20% of participants achieved undetectable HBsAg in VTP-300 group at 24-weeks post-EOT. Imdsiran and VTP-300 led to maintenance of lower HBsAg levels during the follow-up period. 	<ul style="list-style-type: none"> NUC discontinuation achieved in 84% of VTP-300 Group.

Next anticipated readout for both trials:
Q4 2024

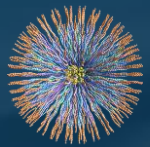
NUC discontinuation

¹ Based on interim data; HBV003 data cut-off date: April 15, 2024; IM-PROVE II data cut-off date: April 12, 2024.



VTP-1000

Celiac Disease Therapeutic

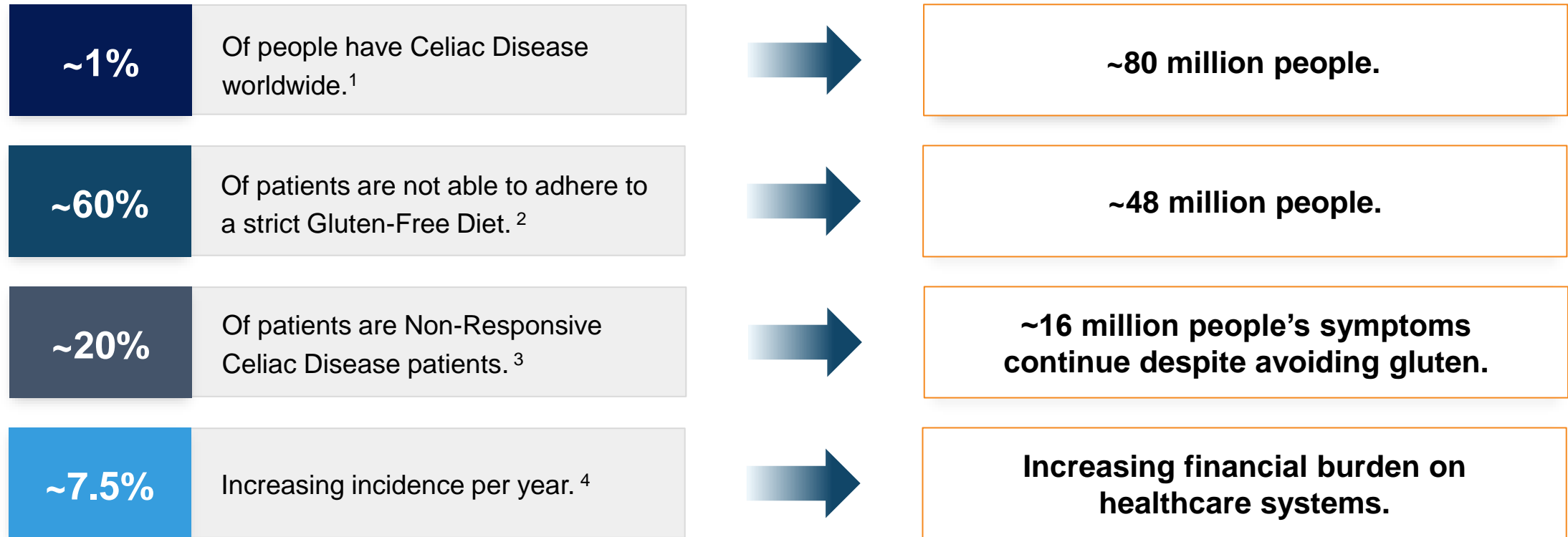


Guiding the immune system to cure disease



Celiac Disease: A Large and Growing Market

Everyone likely knows someone suffering from Celiac Disease



¹ Celiac Disease Foundation. 2024.

² Rubin, G., et al. (2009) Aliment Pharmacol Ther. 30(4), 315-330.

³ Leffler, DA., et al (2007) Clin Gastroenterol Hepatol. 5(4),445-450.

⁴ King, JA., et al. Am J Gastroenterol (2020). 115(4):507-525

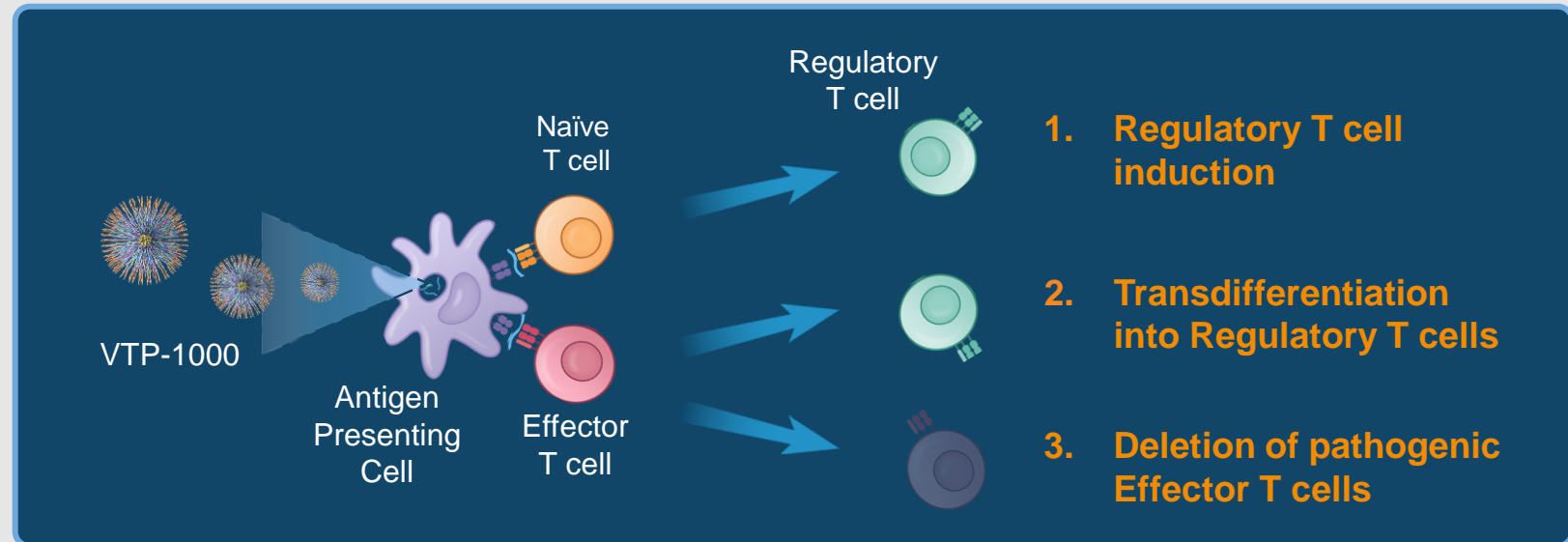
0 current FDA or EMA approved treatments.



Celiac Disease: A Loss of Immune Tolerance to Gluten

Celiac disease is triggered by an immune response to gluten protein that **damages the small intestine** and can **cause long-lasting health problems**.

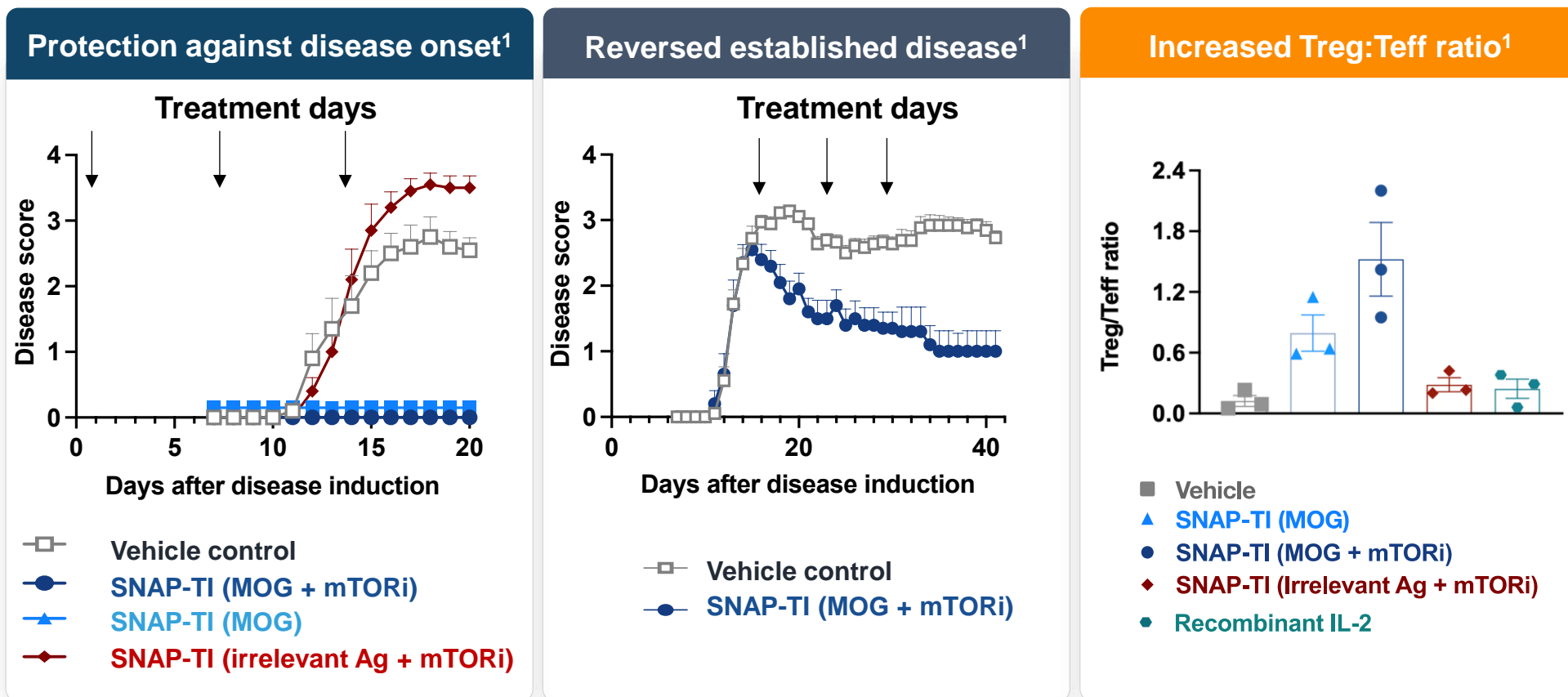
- In celiac disease, **effector T cells attack the lining of the small intestine, overwhelming the regulatory T cells** that usually prevent an autoimmune response.
- VTP-1000 aims to induce tolerance to gluten protein by inducing regulatory T cells to guide the immune system to tolerate gluten.**
- The **overall goal** is to **allow people with celiac disease to consume a normal diet** without having to avoid gluten.



VTP-1000 aims to restore the imbalance in the immune system in a precise, disease-specific manner

SNAP-TI Ameliorates Disease by Increasing Treg:Teff Ratio

Pre-Clinical Results in EAE, a mouse model of Multiple Sclerosis:



Efficacy is antigen-specific
(T cell mediated)

Protection against re-challenge suggests **immune memory**

mTOR inhibitor:

- **improves Treg:Teff ratio**
- prevents toxicity associated with exposure to disease antigen
- prevents Anti-drug Abs

MoA and disease amelioration observed in multiple CD4- (e.g., MS) and CD8- (e.g., T1D) driven mouse disease models

¹ Unpublished preclinical data, Barinthus Bio, Data on File.

EAE: Experimental autoimmune encephalomyelitis
MOG: myelin oligodendrocyte glycoprotein
mTORi: mechanist target of rapamycin

MS: Multiple sclerosis
T1D: Type 1 diabetes



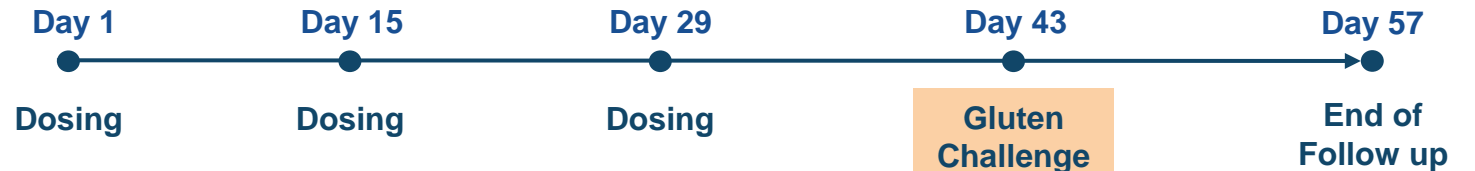
GLU001: Phase 1 – Study Design

Objective: Evaluating safety and tolerability of single and multiple doses of VTP-1000

Part A – Single Ascending Dose (N=18)



Part B – Multiple Ascending Dose (N=24)



- **Sequential dosing levels:** 7-day gap from first 2 participants at each level and safety review before escalation to next dosing level.

Dose Levels	VTP-1000 (Part A/B)	Placebo
1	N=4/6	N=2
2	N=4/6	N=2
3	N=4/6	N=2

Key Inclusion Criteria

- Diagnosis of celiac disease as confirmed by positive serology and intestinal histology.
- Well-controlled, gluten restricted diet ≥12 months.

Key Primary Endpoints

- Safety: incidence of AEs and SAEs.
- Changes from baseline in anti-tissue transglutaminase immunoglobulin A antibodies.

Other Outcome Measures

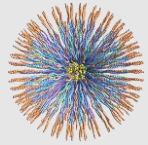
- Serum cytokine (IL-2) concentrations.

Next anticipated milestone:

First Patient, First Dose: Q3 2024

VTP-1000: The First Step Towards a Growing Pipeline

SNAP-TI Supporting Package



- ✓ Preclinical proof-of-concept in a variety of disease models:
 - Multiple Sclerosis
 - Vitiligo
 - Type 1 diabetes
- ✓ VTP-1000 GLP Tox complete
- ✓ VTP-1000 IND Clearance

Key Design Features

Optimal Design

- Self assembling 20nm nanoparticle.
- Large loading capacity of a broad range of targetable antigens.

Lymph Node Targeting

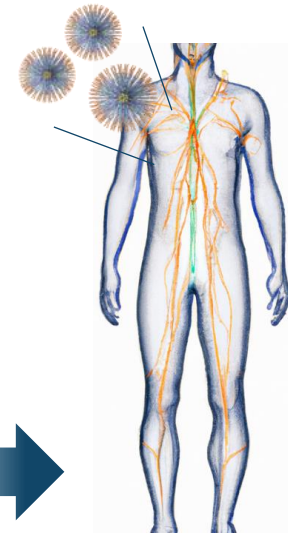
- Optimally accesses lymph node APCs.
- Key for T cell immunity.

Co-delivered Immunomodulator

- Efficacy: Enhanced Treg/Teff ratio.
- Safety: Prevents antigen associated toxicity.

Ease of Route of Administration

- Intramuscular/subcutaneous injection.
- Key for patient compliance.



Broad Applicability:

- Range of disease-associated antigens
- Various disease mechanisms
- Different tissues

Diverse targetable indications

- e.g., Celiac, Type 1 diabetes, Rheumatoid arthritis, Vitiligo, Primary biliary cholangitis, transplant and more...

Company Highlights

Guiding the immune system to cure disease



Financial Overview and Catalysts

Guiding the immune system to cure disease

Current cash position

\$118 million¹ as of June 30, 2024.

No debt or outstanding warrants.

Estimated cash runway into Q2 2026³.

Expected near-term catalysts²

Q3 2024 ▶ **VTP-1000 (Celiac):** Phase 1 GLU001 FPFV

Q4 2024 ▶ **VTP-300 (HBV):** Phase 2b interim analysis & Phase 2a preliminary data (Q4 2024)

¹ Including cash, cash equivalents and restricted cash as of June 30, 2024, as reported on Form 10-Q on August 8, 2024.

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FPFV: First Patient, First Visit



Other Programs & Partnered Pipeline

Guiding the immune system to cure disease



Barinthus Bio's Other Programs

For more information about these programs, please visit: www.barinthusbio.com/pipeline/

Other Programs	Product Candidate*	Therapeutic For	Preclinical	Phase 1	Phase 2	Phase 3	Status/Anticipated Upcoming Milestones
<i>Cancer</i>	VTP-800/850 ✔	Prostate cancer					Phase 1 data (2025)
<i>Infectious Disease</i>	VTP-200 ▶ ✔	Persistent Human Papillomavirus (HPV) infection					Phase 1b/2 complete

▶ Near-term proof-of-concept readout

✔ Existing human clinical data

ChAdOx + MVA

*Barinthus Bio has worldwide rights for all product candidates.
These are estimated timelines only and our pipeline may be subject to change.



Barinthus Bio's Partnered Pipeline

For more information about these programs, please visit: <https://www.barinthusbio.com/partnerships/>

Program	Product Candidate	Partner	Preclinical	Phase 1	Phase 2	Phase 3	Barinthus Bio Rights	Status/Anticipated Upcoming Milestones
Cancer Programs	VTP-600 ✔	NSCLC/Squamous Esophageal cancer therapeutic in combo. with checkpoint inhibitor + chemo 					Worldwide (76% of Sub.)	Phase 1/2a ongoing
	VTP-500 ✔	MERS 					Worldwide	Initiation of Phase 2
Prophylactic Programs	VTP-400 ✔	Zoster 					Worldwide (excl. China)	Phase 1 ongoing

✔ Existing human clinical data

ChAdOx

ChAdOx + MVA



Guiding the Immune System to Cure Disease

Thank You

