PRECISION
BIOSCIENCES

Initial safety data from ELIMINATE-B, the first clinical trial of a gene editing treatment for chronic hepatitis B.

The American Society of Gene and Cell Therapy

May 13-17, 2025 | New Orleans

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Forward-Looking Statements

This presentation contains forward-looking statements, as may any related presentations, within the meaning of the Private Securities Litigation Reform Act of 1995. The Company intends such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements contained herein and in any related presentation that do not relate to matters of historical fact should be considered forward-looking statements, including, without limitation, statements regarding the safety data and antiviral activity established after the administrations of PBGENE-HBV; the clinical development and demonstrated, potential and expected safety, efficacy and benefit of PBGENE-HBV, as well as our other product candidates and those being developed by partners; the unique design of PBGENE-HBV to eliminate cccDNA and inactivate integrated HBV DNA with high specificity, potentially leading to functional cures; the expected timing and opportunities of regulatory processes (including filings such as IND's and CTA's and studies for PBGENE-HBV and the acceptance of these filings by regulatory agencies); the suitability of PBGENE-HBV for the treatment of hepatitis and the targeting of the root cause of the disease; the key advantages of ARCUS and its key capabilities and differentiating characteristics ; expectations about operational initiatives, strategies, and further development of PBGENE-HBV; plans to provide additional administrations of PBGENE-HBV at the first dose level; plans to escalate to higher dose levels and next cohorts in the ELIMINATE-B clinical trial to define the optimal dose and number of dose administrations for safely eliminating cccDNA and inactivating integrated HBV DNA; expansion of the ELIMINATE-B clinical trial to the United States and United Kingdom; expectations around acceleration of recruitment of the ELIMINATE-B clinical trial and plans to evaluate a genetically diverse patient population in the Phase 1 study; expectations and announcements about achievement of key milestones; and anticipated timing of patient dosing and clinical data for PBGENE-HBV. In some cases, you can identify forward-looking statements by terms such as "aim," "anticipate," "approach," "believe," "contemplate," "could," "design," "designed," "estimate," "expect," "goal," "intend," "look," "may," "mission," "plan," "possible," "potential," "predict," "project," "pursue," "should," "strive," "suggest," "target," "will," "would," or the negative thereof and similar words and expressions.

Forward-looking statements are based on management's current expectations, beliefs, and assumptions and on information currently available to us. These statements are neither promises nor guarantees, and involve a number of known and unknown risks, uncertainties and assumptions, and actual results may differ materially from those expressed or implied in the forward-looking statements due to various important factors, including, but not limited to, our ability to become profitable; our ability to procure sufficient funding to advance our programs; risks associated with our capital requirements, anticipated cash runway, requirements under our current debt instruments and effects of restrictions thereunder, including our ability to raise additional capital due to market conditions and/or our market capitalization; our operating expenses and our ability to predict what those expenses will be; our limited operating history; the progression and success of our programs and product candidates in which we expend our resources; our limited ability or inability to assess the safety and efficacy of our product candidates; the risk that other genome-editing technologies may provide significant advantages over our ARCUS technology; our dependence on our ARCUS technology; the initiation, cost, timing, progress, achievement of milestones and results of research and development activities and preclinical and clinical studies, including clinical trial and investigational new drug applications; public perception about genome editing technology and its applications; competition in the genome editing, biopharmaceutical, and biotechnology fields; our or our collaborators' or other licensees' ability to identify, develop and commercialize product candidates; pending and potential product liability lawsuits and penalties against us or our collaborators or other licensees related to our technology and our product candidates; the U.S. and foreign regulatory landscape applicable to our and our collaborators' or other licensees' development of product candidates; our or our collaborators' or other licensees' ability to advance product candidates into, and successfully design, implement and complete, clinical trials; potential manufacturing problems associated with the development or commercialization of any of our product candidates; delays or difficulties in our and our collaborators' and other licensees' ability to enroll patients; changes in interim "top-line" and initial data that we announce or publish; if our product candidates do not work as intended or cause undesirable side effects; risks associated with applicable healthcare, data protection, privacy and security regulations and our compliance therewith; our or our licensees' ability to obtain orphan drug designation or fast track designation for our product candidates or to realize the expected benefits of these designations; our or our collaborators' or other licensees' ability to obtain and maintain regulatory approval of our product candidates, and any related restrictions, limitations and/or warnings in the label of an approved product candidate; the rate and degree of market acceptance of any of our product candidates; our ability to effectively manage the growth of our operations; our ability to attract, retain, and motivate executives and personnel; effects of system failures and security breaches; insurance expenses and exposure to uninsured liabilities; effects of tax rules; effects of any pandemic, epidemic, or outbreak of an infectious disease; the success of our existing collaboration and other license agreements, and our ability to enter into new collaboration arrangements; our current and future relationships with and reliance on third parties including suppliers and manufacturers; our ability to obtain and maintain intellectual property protection for our technology and any of our product candidates; potential litigation relating to infringement or misappropriation of intellectual property rights; effects of natural and manmade disasters, public health emergencies and other natural catastrophic events; effects of sustained inflation, supply chain disruptions and major central bank policy actions; market and economic conditions; risks related to ownership of our common stock, including fluctuations in our stock price; our ability to meet the requirements of and maintain listing of our common stock on Nasdaq or other public stock exchanges; and other important factors discussed under the caption "Risk Factors" in our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2025, as any such factors may be updated from time to time in our other filings with the SEC, which are accessible on the SEC's website at www.sec.gov and the Investors page of our website under SEC Filings at investor.precisionbiosciences.com.

All forward-looking statements speak only as of the date of this press release and, except as required by applicable law, we have no obligation to update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. Precision consults with various presentation speakers and compensates them for their time and expertise.

Disclosures

The terms of these arrangements are being managed by the Johns Hopkins University in accordance with its conflict-of-interest policies

- Research (JHU):
  GSK, Aligos, Grifols, Bluejay and Vir
- Scientific advisory board:
  AbbVie, Abbott, Aligos, Gilead, GSK, Precision Biosciences, Vir, and Virion
- DSMB:
  Gilead (HIV), Immunocore
- Editorial board:
  Journal of Viral Hepatitis (Wiley)

Chronic Hepatitis B: High Global Burden with No Curative Options

Disease Burden

- Over **300 million people globally** have chronic hepatitis B infection[1] (cHBV)
- Mortality from cHBV has risen with **1.1M deaths in 2022**, an increase of 24% from 2018[2]
- cHBV is the **leading global cause** of liver cancer deaths[3]

Current Standard of Care

- Current SOC therapies (nucleos(t)ide analogs, NAs) provide safe and efficacious viral suppression, but **do not target cccDNA or integrated HBV DNA, the root cause of HBV**
- Lifelong therapy with NAs **reduce the risk of progression to cirrhosis and HCC but do not eliminate it**
- **Within 5 years up to 15% of cirrhotic patients on NA's may progress to HCC[4]**, with validated risk models projecting a **60% risk of HCC after 10 years[5]** for high-risk patients

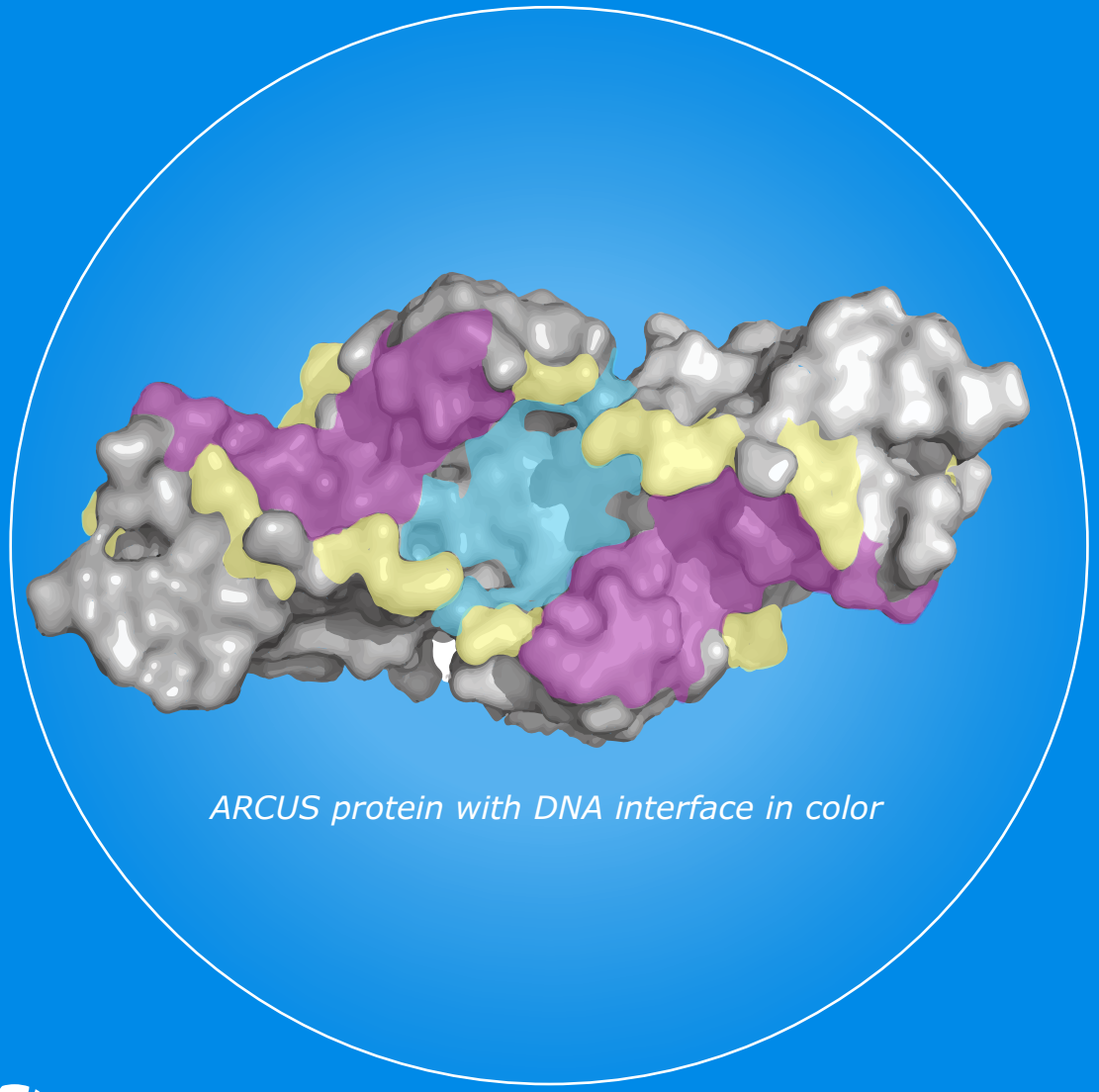
Unmet Medical Need

- **Therapies that target cccDNA and integrated HBV DNA**, the root cause of cHBV **are the only path to sterilizing cure for HBV**
- **Sterilizing cure offers the best opportunity to eliminate the risk of HCC** for cHBV patients
- **PBGENE-HBV is the first therapy in clinic to target cccDNA elimination and inactivation of integrated HBV DNA** for potentially sterilizing cure

Novel, finite therapies that target the root cause of HBV are urgently needed to eliminate cHBV-related mortality

References: 1. Hsu, YC., Huang, D.Q. & Nguyen, M.H. Global burden of hepatitis B virus: current status, missed opportunities and a call for action. Nat Rev Gastroenterol Hepatol 20, 524–537 (2023). 2. Global hepatitis report 2024: action for access in low- and middle-income countries. Geneva: World Health Organization; 2024. 3. Petruzziello A. Epidemiology of Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) Related Hepatocellular Carcinoma. Open Virol J. 2018 Feb 28;12:26-32 4. Kim, H., Kim, JY., Shin, Y.E. et al. Comparison of hepatocellular carcinoma incidence after long-term treatment with besifovir vs. tenofovir AF. Sci Rep 15, 5637 (2025). 5. Yang, H. et al. Real-World Effectiveness From the Asia Pacific Rim Liver Consortium for HBV Risk Score for the Prediction of Hepatocellular Carcinoma in Chronic Hepatitis B Patients Treated With Oral Antiviral Therapy. Journal of Infectious Diseases, 2020:221

PBGENE-HBV:
First in Class Gene Editor Designed To Eliminate cccDNA and Inactivate Int. HBV DNA



ARCUS protein with DNA interface in color

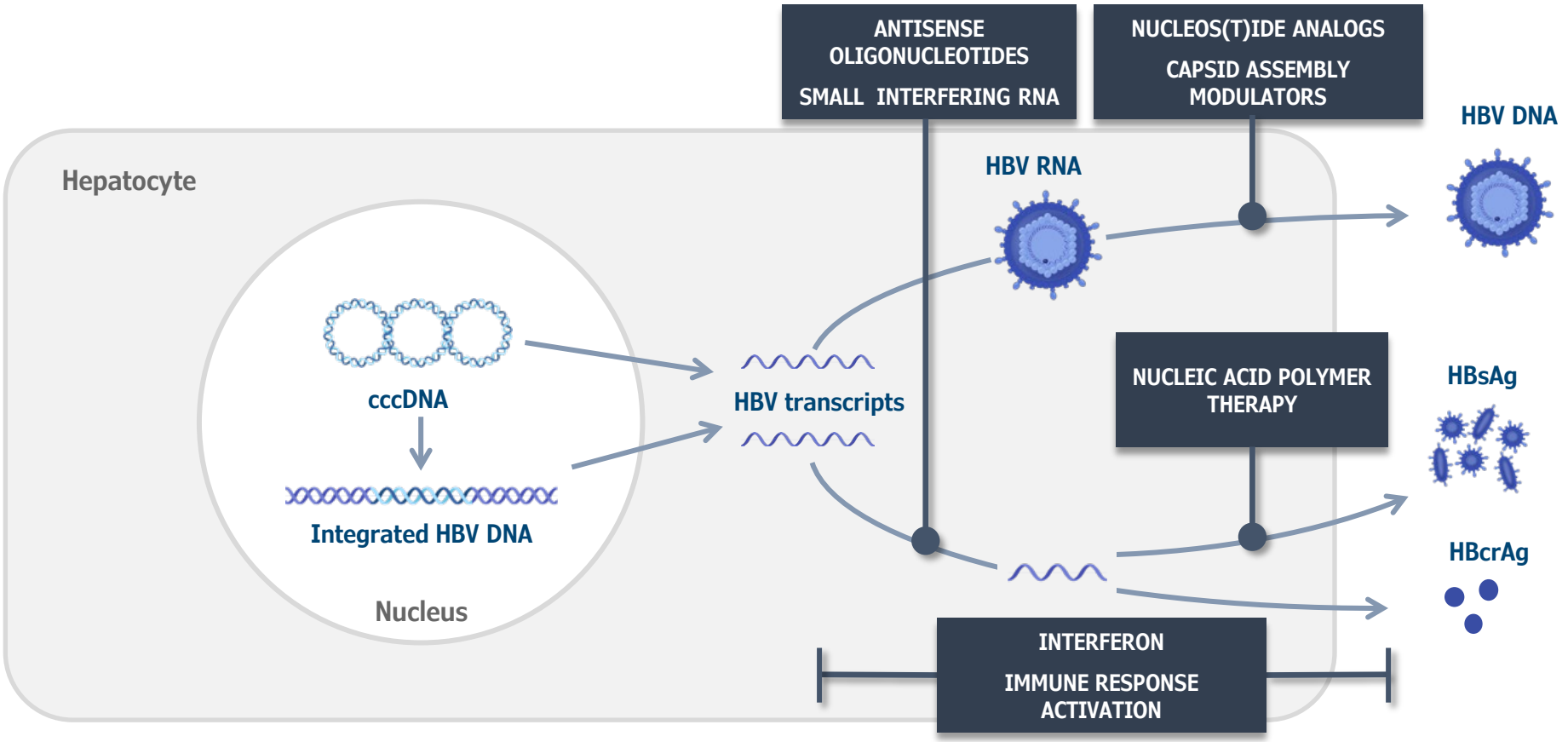
PBGENE-HBV is a lipid nanoparticle (LNP) delivered mRNA encoding an ARCUS gene editing nuclease that uniquely eliminates the root cause of HBV for curative intent

- PBGENE-HBV specifically recognizes a highly conserved target sequence present in both cccDNA and integrated HBV DNA
- Proprietary ARCUS gene editing nuclease ideal for HBV
  - Small size for delivery efficiency and accessibility to cccDNA
  - Single component gene editing enabling direct interaction with cccDNA
- Iterative optimization process identified ideal construct with enhanced activity and specificity
- LNP product with a favorable safety profile compared to other gene editing LNP programs

Lipid nanoparticle technology for PBGENE-HBV has been provided by Acuitas Therapeutics Inc.

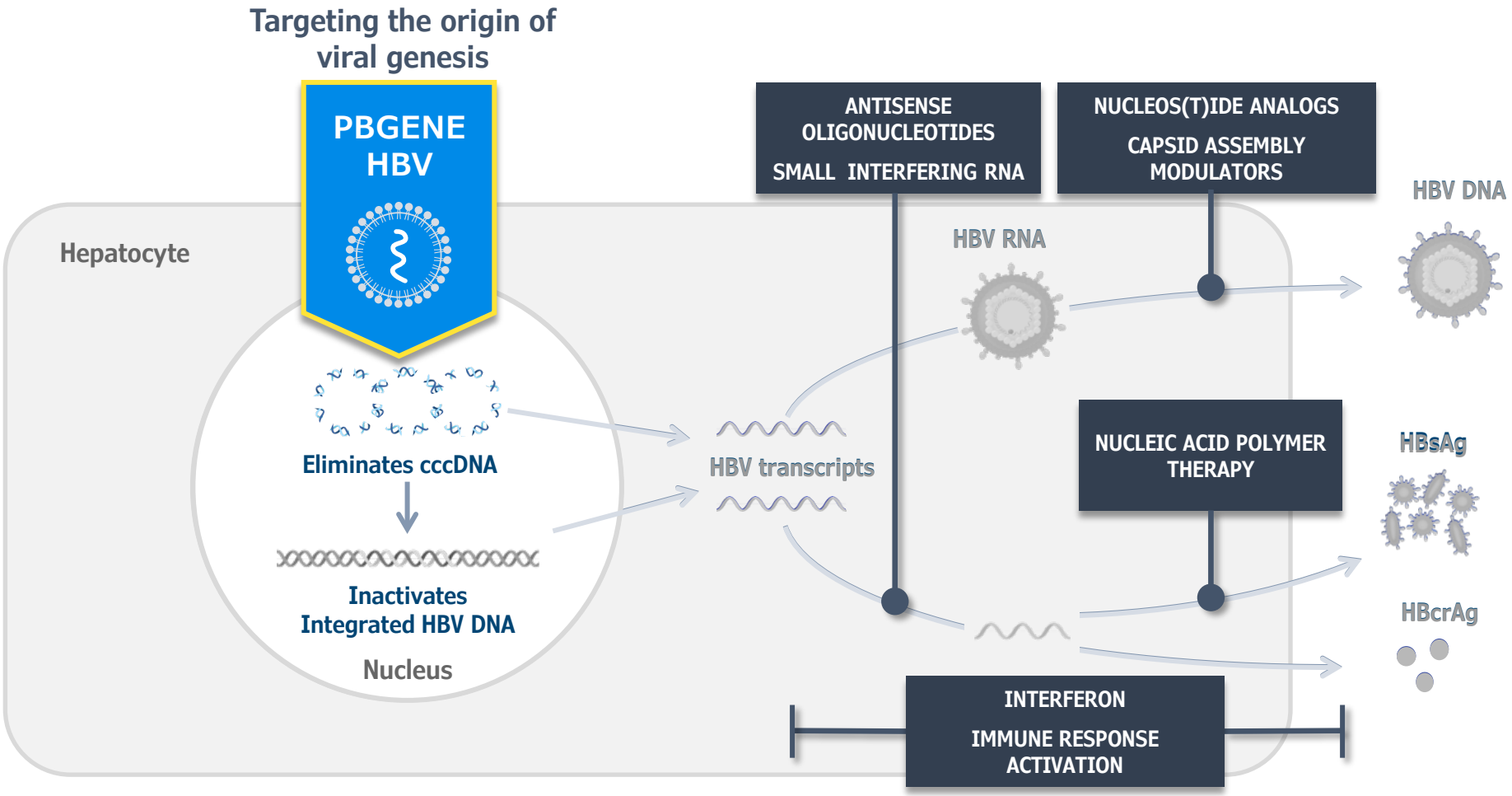
Majority of Modalities in Development Target HBV Downstream to Disrupt the Viral Lifecycle but Leave the Root Cause of Disease Intact

No therapies today target the root cause of disease by eliminating the cccDNA and inactivating the integrated HBV DNA



From origin to disease drivers

However, PBGENE-HBV Directly Targets Root Cause of Disease



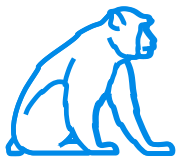
Designed to target the source to eliminate the origin of the disease

Robust Preclinical Data Demonstrates Safety with Repeat Dosing

Robust and thorough specificity pipeline demonstrated **high degree of specificity for PBGENE-HBV** with no increased risks of translocations or integrations with additional administrations

PBGENE-HBV **does not distribute to germ cells**, with no risk of heritable edits with multiple administrations

PBGENE-HBV was **well tolerated** in NHPs **over multiple administrations** with rapid clearance after each dose administration

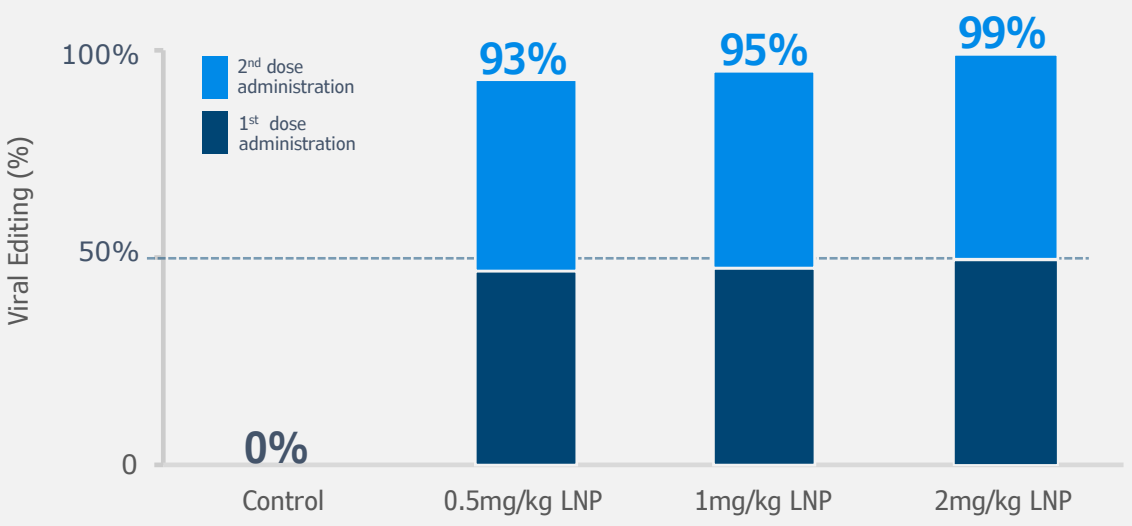


Across 3 dose levels and with 3 administrations, there were no adverse changes in blood parameters, organ weights, or macroscopic/microscopic findings

PBGENE-HBV Preclinical Data Demonstrates Efficacy at the Root Cause

cccDNA Elimination

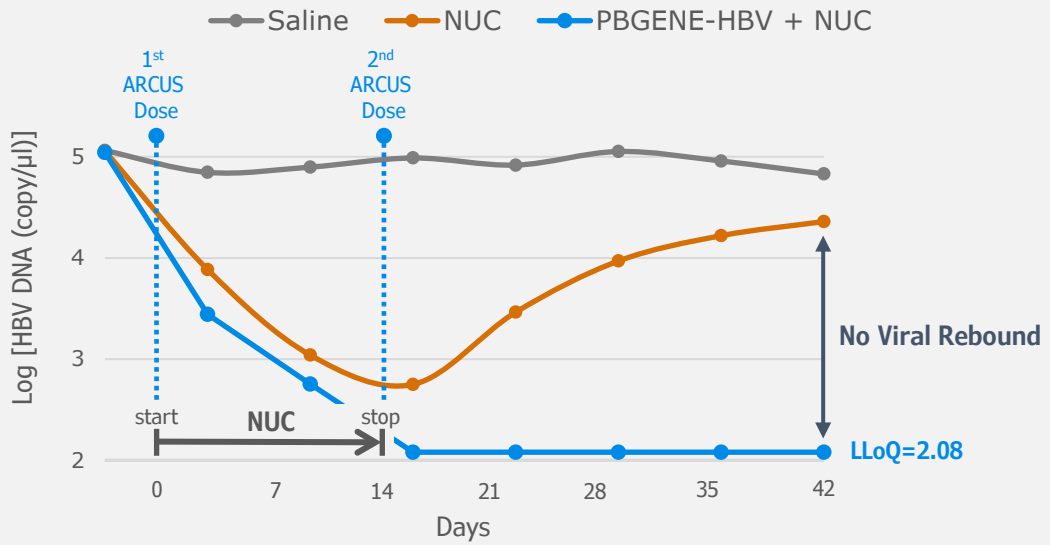
Cumulative editing with 99% viral editing after two doses



~50% viral editing after 1 dose and up to 99% viral editing with 2nd dose in NHP

Integrated HBV DNA Inactivation

Significant HBV DNA reduction with no viral rebound



Sustainable reduction of HBV DNA as a monotherapy in HBV transgenic mouse model

PBGENE-HBV shows cccDNA elimination and integrated HBV DNA inactivation

LLoQ=lower limit of quantitation; LNP=lipid nanoparticle; NHP=nonhuman primate; NUC=nucleos(t)ide analog

First in Class, PBGENE-HBV Phase 1 Clinical Trial

Initiated December 2024

KEY ELIGIBILITY

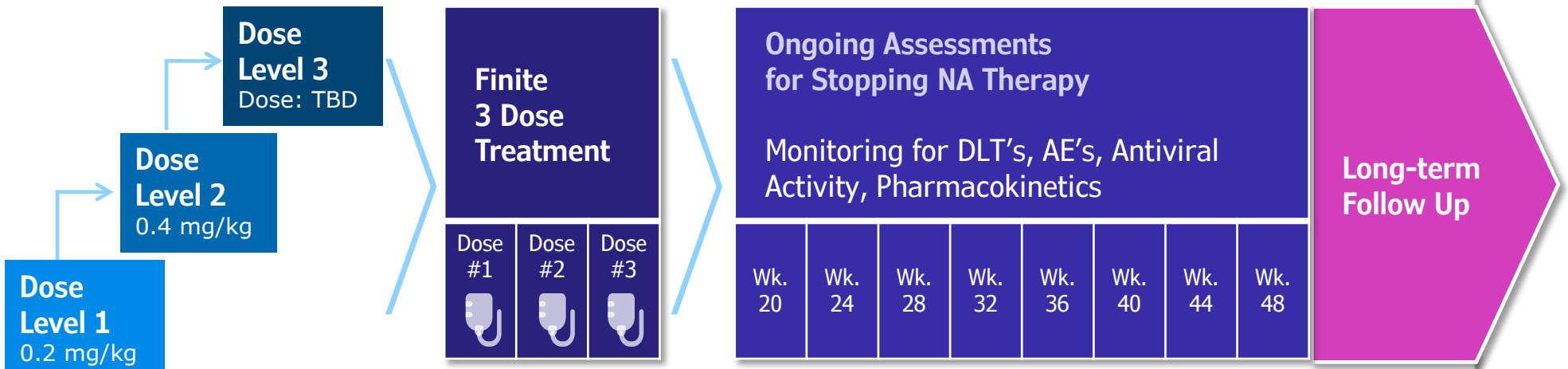
HBeAg-negative cHBV patients controlled on nucleos(t)ide analogs

GLOBAL CLINICAL TRIAL SITES

- Hong Kong*
- Moldova*
- New Zealand*
- United States
- United Kingdom

*Currently enrolling

PART 1: Multiple Ascending Dose Escalation



N= 3-6 Patients at Each Dose Level

Objective: Determine dose level, number of dose administrations, and interval of dose administrations for expansion to phase 2.

ClinicalTrials.gov identifier NCT06680232.

AE=adverse event; cHBV=chronic hepatitis b infection; DLT=dose limiting toxicity; NA=nucleos(t)ide analog

Phase 1 Study Goals to Demonstrate Both Safety and Efficacy

Key Endpoints

Safety determined by:

Frequency and severity of dose-limiting toxicities (DLTs)

DLT Definition

A **DLT** is any clinically significant, organ-specific, treatment-emergent adverse event (AE) ≥ Grade 3 that does not decrease to ≤ Grade 2 within 7 days and is related to study medication.

DLT Period: 28 days post dose administration.

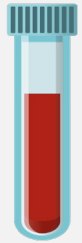
Efficacy determined by:

Antiviral activity through fixed duration PBGENE-HBV treatment

Monitoring Biomarkers

Reduction/Negativity in HBsAg:
Change from baseline in HBsAg and anti-HBs levels

— Proportion of participants with **undetectable HBsAg levels** at each study visit



Tested using blood sample

- HBsAg
- HBcrAg
- HBV DNA & HBV RNA
- Anti-HBs

Additional readouts

- Liver biopsy

ALT=alanine aminotransferase; SoC=standard of care; ULN=upper limit of normal.
ClinicalTrials.gov identifier NCT06680232.

Baseline Participant Characteristics

Cohort 1 (0.2 mg/kg) and **Cohort 2** (0.4 mg/kg)

	Cohort 1			Cohort 2
	Participant 1	**Participant 2**	**Participant 3**	**Participant 4**
Sex	Male	Male	Male	Male
Age (yrs.)	40	39	44	50
Ethnicity/Race	Caucasian	Caucasian	Caucasian	Asian
Region of Origin	Eastern Europe	Eastern Europe	Eastern Europe	Asia
Time with HBV (yrs.)	9	39	8	34
Time on NA (yrs.)	6	7	7	25
Baseline HBsAg	561.7	11813	788.4	1402
HBV Tx	TDF	TDF	TDF	TDF
Medical History	Gilbert Syndrome*	None	None	Liver cyst and hemangioma

*Participant 1 has Gilbert's Syndrome-a common, benign genetic disorder where the liver processes bilirubin, more slowly than usual, leading to slightly elevated levels in the blood
TDF=Tenofovir Disoproxil Fumarate

Treatment-Related and Possibly Treatment-Related Adverse Events (AEs)

Cohort 1 (0.2 mg/kg) and **Cohort 2** (0.4 mg/kg)

Number of participants experiencing:	0.2 mg/kg, (n=3) Two dose administrations	0.4 mg/kg, (n=1) One dose administration
Grade 1 AEs		
Arthralgia	1	0
Chills	1	0
Fever	1	1
Myalgia	2	0
Sinus Tachycardia	1	0
Infusion Site Reaction	0	1
Grade 2 AEs		
Fever	1	0
Headache	1	0
No Grade ≥3 AEs / SAEs		
No DLTs		

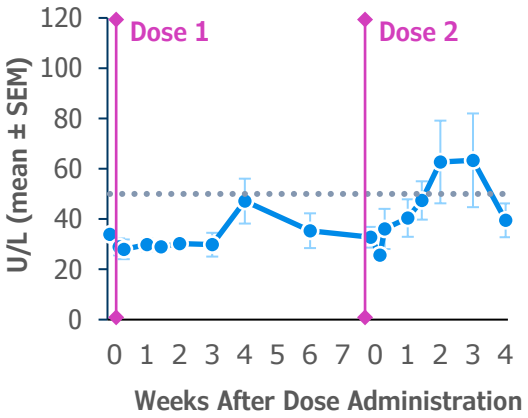
After two dose administrations at 0.2 mg/kg and a single dose administration at 0.4 mg/kg, no SAE's or DLT's were experienced.

Adverse Events were generally mild and resolved within 1-7 days with most events under 12 hours.

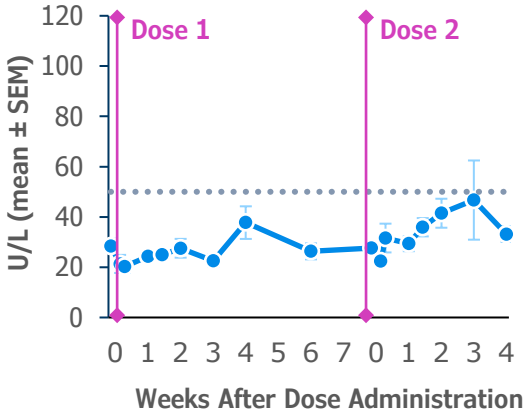
Clinical Chemistry, Hematology, Coagulation

Cohort 1 (0.2 mg/kg), n=3

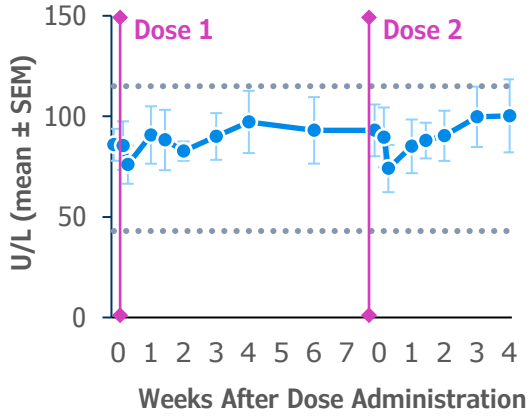
ALT



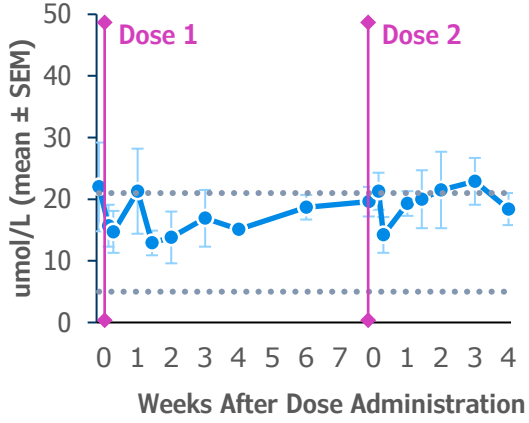
AST



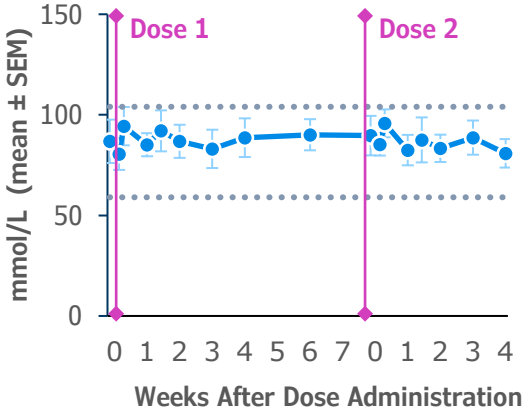
ALP



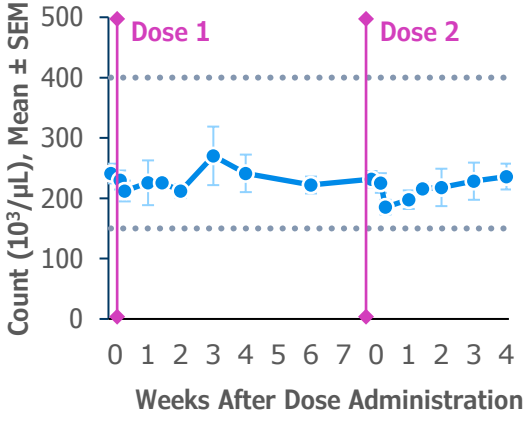
Bilirubin*



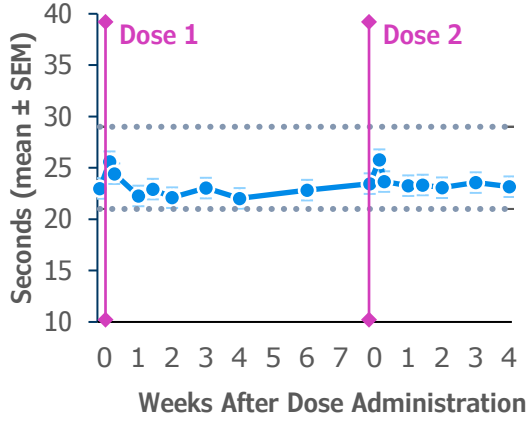
Creatinine



Platelets



Prothrombin Time



Key Safety Summarized

- No clinically significant laboratory abnormalities after 2 dose administrations at 0.2 mg/kg.
- Transient ALT elevations were considered clinically insignificant.
- Platelets remained within normal limits.

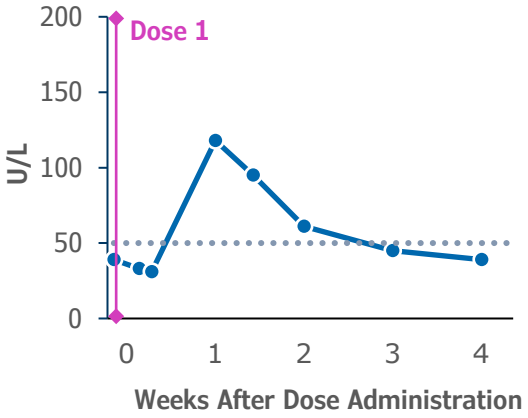
Reference Range — Cohort 1

*One participant has Gilbert's Syndrome-a common, benign genetic disorder where the liver processes bilirubin more slowly than usual, leading to slightly elevated levels in the blood

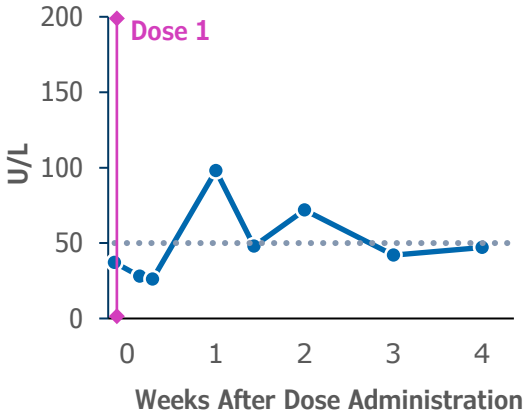
Clinical Chemistry, Hematology, Coagulation

Cohort 2 (0.4 mg/kg), n=1

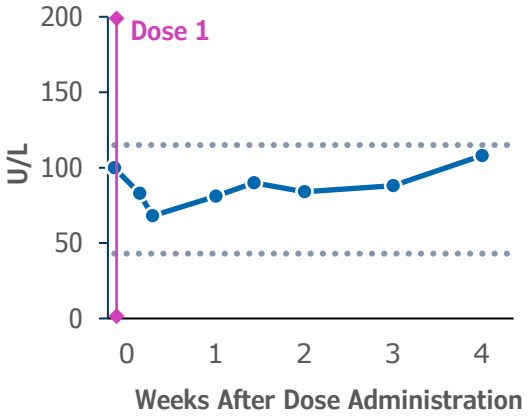
ALT



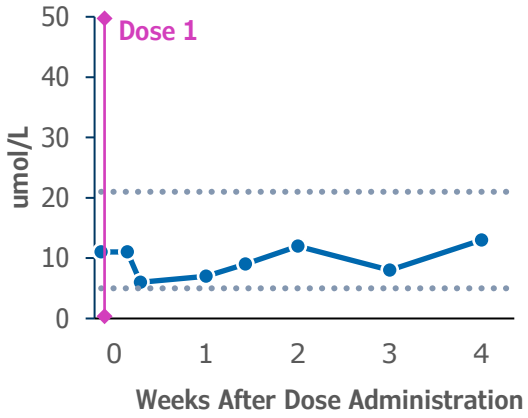
AST



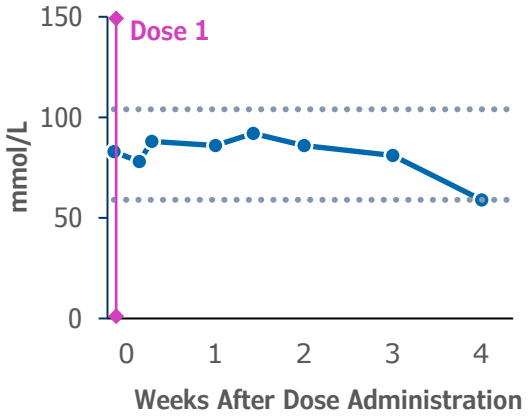
ALP



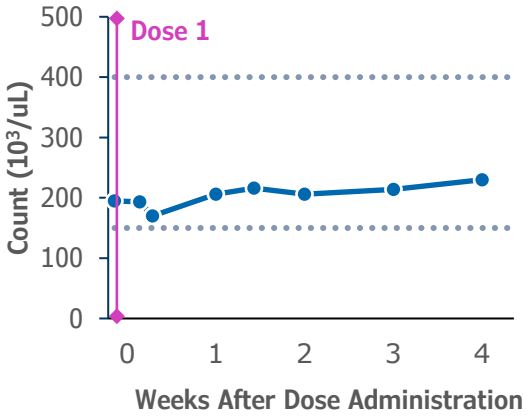
Bilirubin



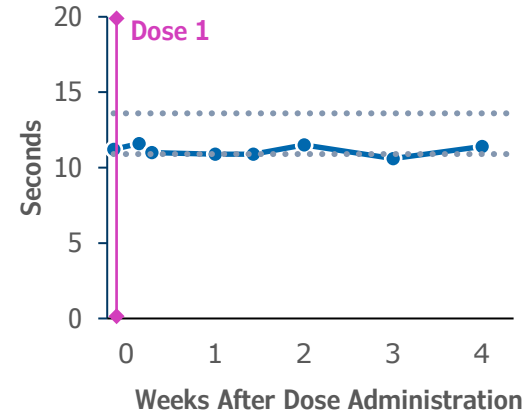
Creatinine



Platelets



Prothrombin Time

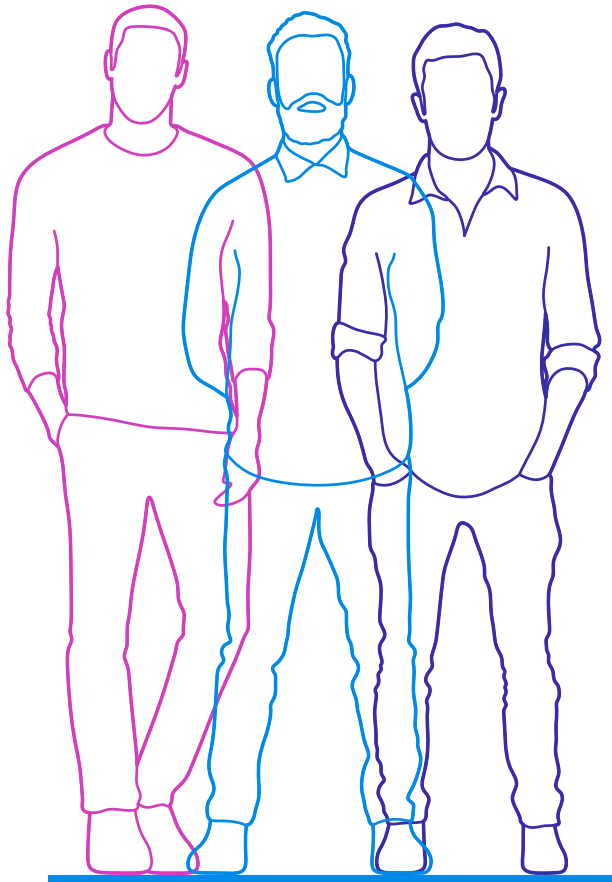


Key Safety Summarized

- No clinically significant laboratory abnormalities after 1 dose administrations at 0.4 mg/kg.
- Transient ALT, AST elevations were considered clinically insignificant.
- Platelets remained within normal limits.

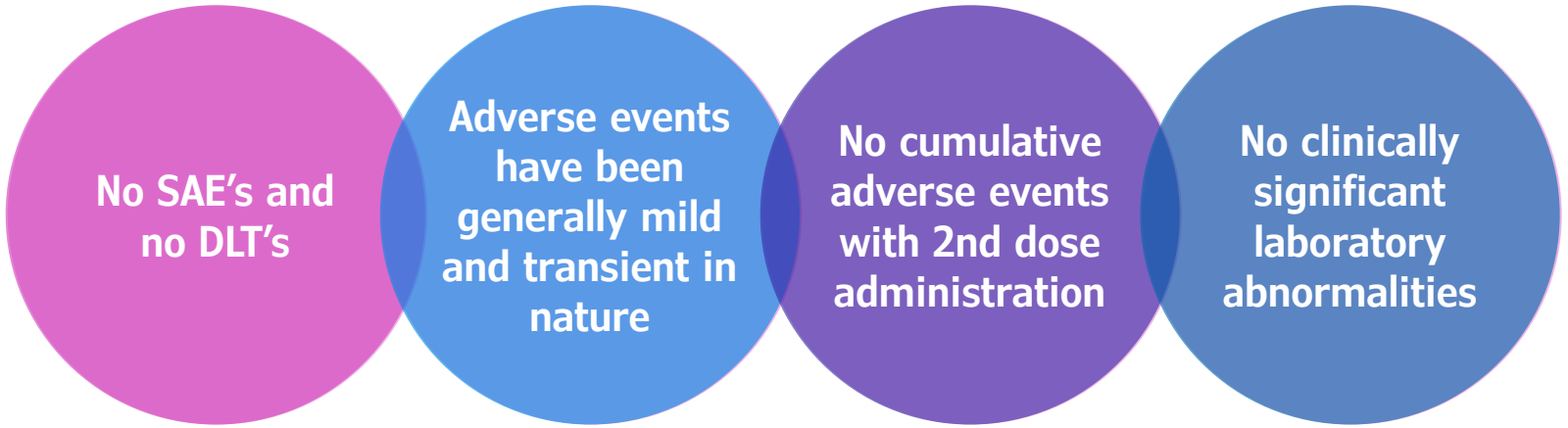
Reference Range — Cohort 2

PBGENE-HBV Has Been Well-Tolerated With Repeat Dosing in People with Chronic Hepatitis B



The first clinical stage therapeutic designed and developed to eliminate cccDNA and inactivate integrated HBV DNA

- ELIMINATE-B, the Phase 1 clinical trial was initiated in December 2024 and is currently recruiting at 3 global sites
- PBGENE-HBV has been well tolerated in 3 participants receiving 2 dose administrations at the 0.2 mg/kg level and one participant receiving 1 dose administration at the 0.4 mg/kg level



These data support the continued evaluation of multiple dose administrations per dose cohort and higher dose level cohorts of PBGENE-HBV, with the goal of achieving HBV cure.
Antiviral data from the initial cohort will be shared after completion of all dose administrations.

We thank the study **participants**, **investigators**, and **clinical site staff** for their participation and support in the ELIMINATE-B study. We also acknowledge the important contributions of the clinical operations and other functional teams, as well as our partners in the HBV field who have shared valuable insights on the trial design.