PRECISION
BIOSCIENCES

Precision's Lead Program
PBGENE-HBV Hepatitis B Program
Investor Update

November 15, 2024

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 clinical development and expected safety, efficacy and benefit of our product candidates (including PBGENE-HBV) and gene editing approaches including editing efficiency; the design of PBGENE-HBV to eliminate cccDNA and inactivate integrated HBV DNA with high specificity and driving functional cures; the differentiation of ARCUS from other gene editing approaches; the expected timing 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 translation of preclinical safety and efficacy studies and models to safety and efficacy in humans, the suitability of PBGENE-HBV for the treatment of hepatitis and the targeting of the root cause of the disease, expectations about operational initiatives, strategies, and further development of our programs; expectations about achievement of key milestones; and anticipated timing of regulatory filings, regulatory acceptances and clinical data. In some cases, you can identify forward-looking statements by terms such as "aim," "anticipate," "approach," "believe," "contemplate," "could," "designed to", "estimate," "expect," "goal," "intend," "look," "may," "mission," "plan," "possible," "potential," "predict," "project," "promise," "pursue," "should," "target," "will," "would," and other similar words or expressions, or the negative of these words or similar words or expressions, are intended to identify forward-looking statements, though not all forward-looking statements use these words or 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, but involve 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 raising additional capital and requirements under our current debt instruments and effects of restrictions thereunder; our operating expenses and our ability to predict what those expenses will be; our limited operating history; the 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; our dependence on our ARCUS technology; the risk that other genome-editing technologies may provide significant advantages over our ARCUS technology; the initiation, cost, timing, progress, achievement of milestones and results of research and development activities, preclinical studies and clinical trials; public perception about genome editing technology and its applications; competition in the genome editing, biopharmaceutical, and biotechnology fields; our or our collaborators' ability to identify, develop and commercialize product candidates; potential product liability lawsuits and penalties against us or our collaborators related to our technology and our product candidates; the U.S. and foreign regulatory landscape applicable to our and our collaborators' development of product candidates; our or our collaborators' or other licensees' ability to advance product candidates into, and successfully design, implement and complete, clinical or field trials; our or our collaborators' other licensees' ability to advance product candidates into, and successfully design, implement and complete, clinical or field trials; potential manufacturing problems associated with the development or commercialization of any of our product candidates; delays or difficulties in our and our collaborators' 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; the rate and degree of market acceptance of any of our product candidates; the success of our existing collaboration 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; our ability to effectively manage the growth of our operations; our ability to attract, retain, and motivate key executives and personnel; market and economic conditions; effects of system failures and security breaches; 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; insurance expenses and exposure to uninsured liabilities; effects of tax rules; risks related to ownership of our common stock; 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 September 30, 2024, 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 presentation 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.

Precision BioSciences

Clinical Stage In Vivo Gene Editing Company With Goal to Cure Chronic Hepatitis B

Michael Amoroso
President & Chief Executive Officer
Precision BioSciences, Inc

Precision BioSciences is a Clinical Stage *In Vivo* Gene Editing Company

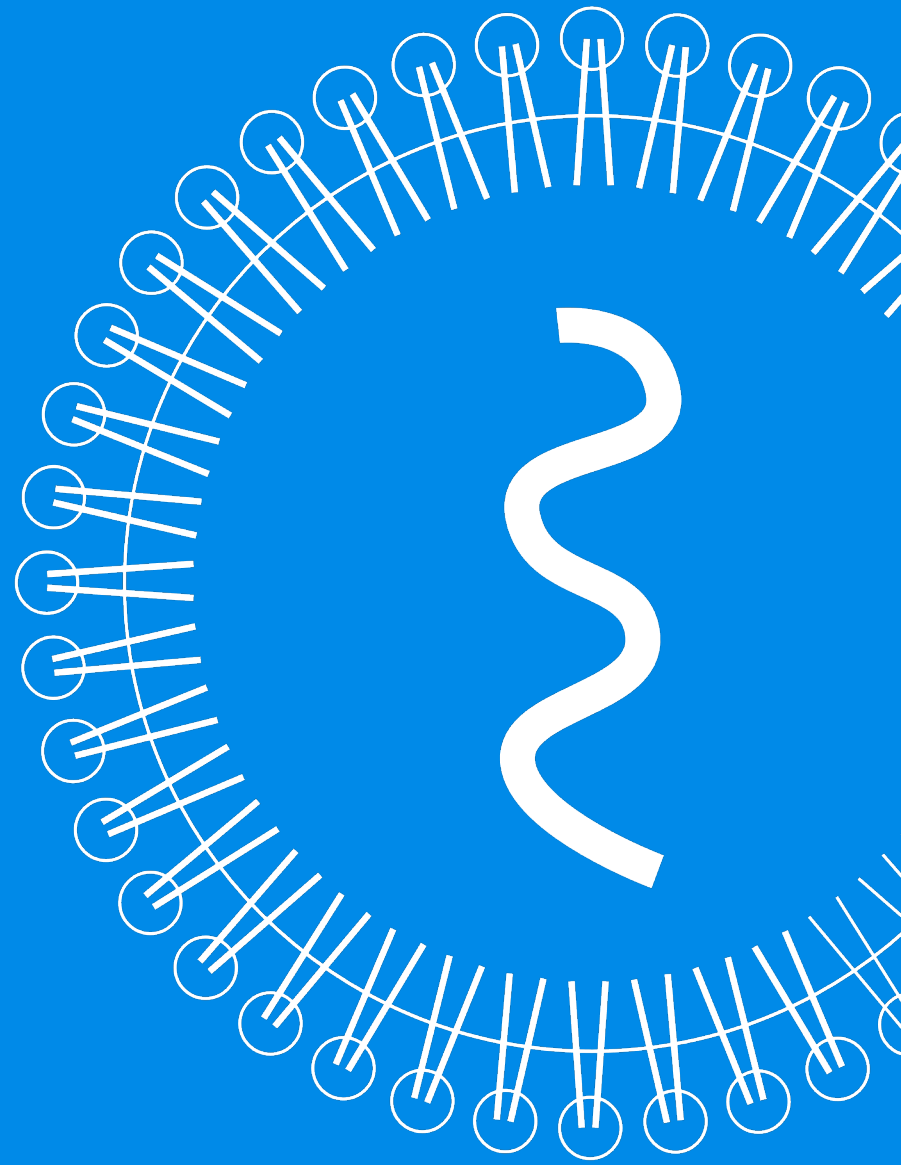
Multiple Programs in or Nearing Clinical Data

			Expected First Clinical Data Timing
Wholly owned	**PBGENE-HBV** ***In Vivo* Gene Editing Program for Chronic Hepatitis B**	〉Multiple Clinical Trial Applications (CTA) filed 〉Rapid CTA approval for Moldova Achieved in October 2024 〉First-in-human trial initiated 〉U.S. clinical site will be part of phase 1 trial	**2025**
	PBGENE-3243 ***In Vivo* Gene Editing Program for m3243 mitochondrial disease**	〉IND and/or CTA filing in 2025 〉Currently in late-stage preclinical development	**2026**
Partnered Program	**iECURE-OTC[1]**	〉Global phase 1 trial on-going in U.S., U.K., and Australia 〉Clinical validation for ARCUS *in vivo* gene editing	**2025**

$121 Million to Fund Company Operations into 2H 2026
Three Phase 1 Clinical Data Read-Outs Within Cash Runway[2]

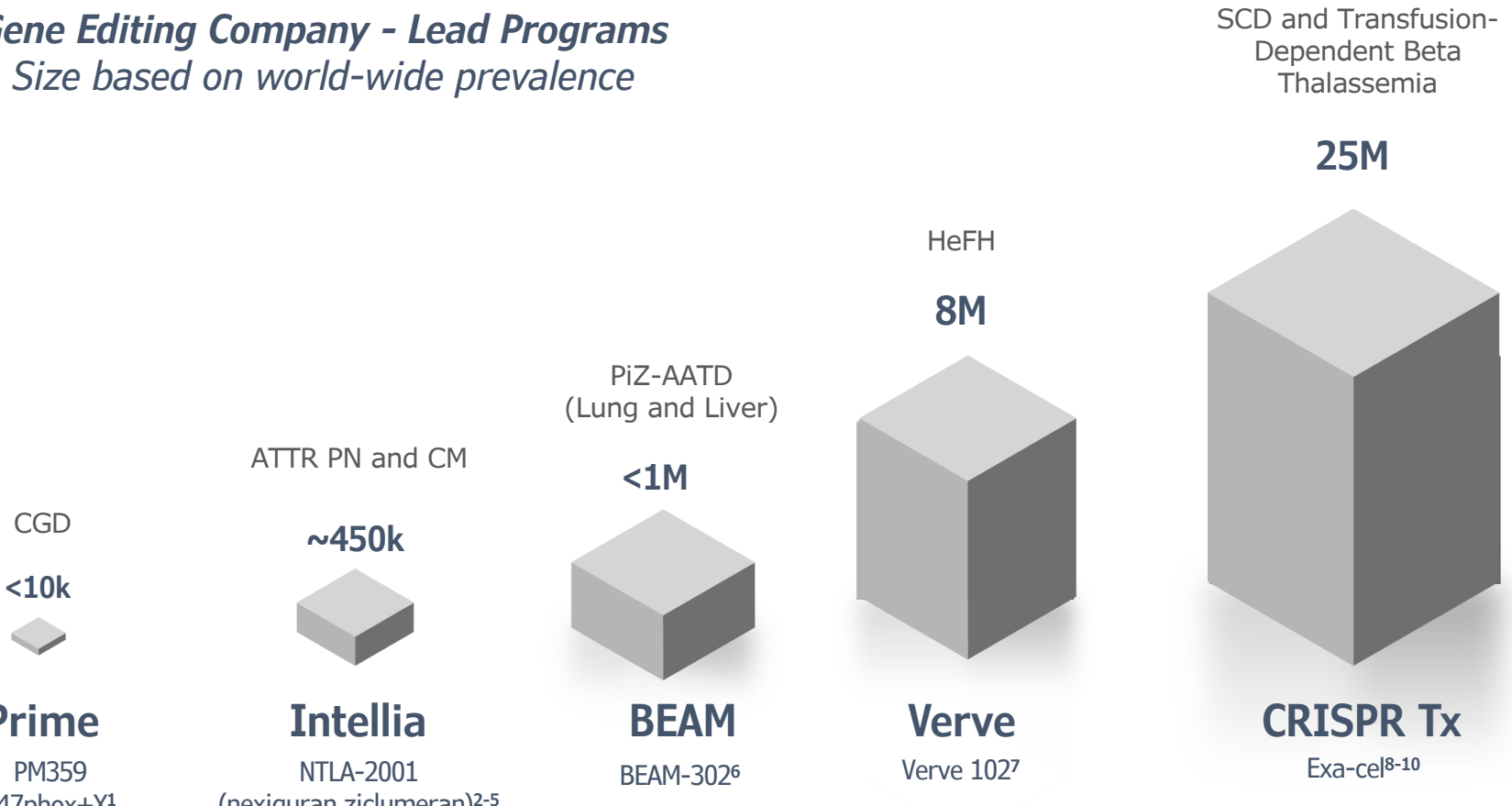
1. Also known as ECUR-506; approved for clinical trials by the U.S. Food and Drug Administration (FDA), U.K. Medicines & Healthcare products Regulatory Agency (MHRA), and Australian Therapeutic Goods Administration (TGA). iECURE responsible for all development costs for ECUR-506
2. Cash, cash equivalents, and restricted cash (10Q, 9/30/2024); $121M includes ~$50M received from business development deals and $40M in equity financing

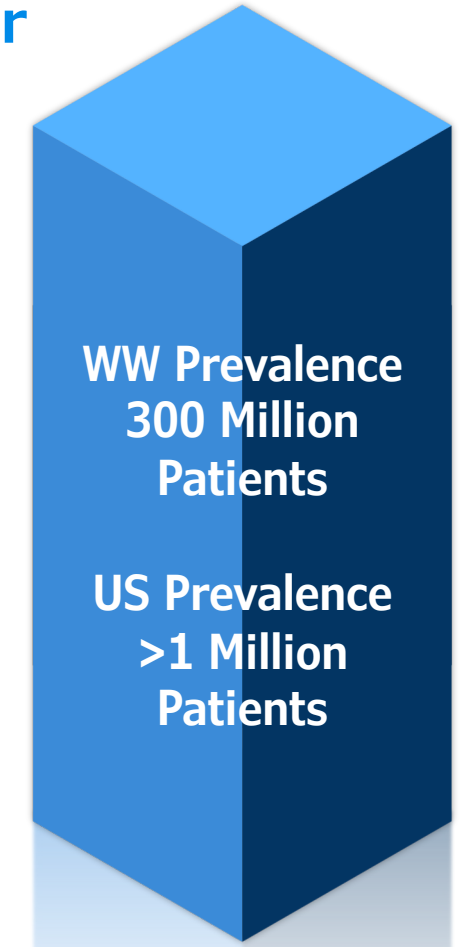
PBGENE-HBV is
First Wholly Owned
In Vivo Gene Editing
Application of ARCUS



PBGENE-HBV Positioned to Impact More Patients than Other Gene Editing Programs

Gene Editing Company - Lead Programs
Size based on world-wide prevalence





Precision BioSciences
PBGENE-HBV

Lead Program for
Chronic Hepatitis B (cHBV)

Beta-Thal, beta thalassemia; CGD, chronic granulomatous disease; CM, cardiomyopathy; HeFH, heterozygous familial hypercholesterolemia; PN, polyneuropathy; SCD, sickle cell disease; TD, transfusion-dependent; US, United States; WW, worldwide. k, thousand; M, million.

1. Winkelstein JA, et al. Chronic granulomatous disease. Medicine (Baltimore). 2000;79(3):155. **2.** Lovely M, et al. Journal of Patient-Reported Outcomes. 2021. **3.** Lin H, et al. Value Health. 2019. **4.** Morris A, et al. Clin Ther. 2022. **5.** Detecting amyloidosis. AstraZeneca website. www.astrazeneca.com/media-centre/articles/2023/detecting-amyloidosis-understanding-the-different-types-of-attr.html. Published 2023. Accessed October 2, 2024. **6.** Leme A, et al. J Clin Invest. 2021. **7.** Familial hypercholesterolemia in adults: Overview. UpToDate website. www.uptodate.com/contents/familial-hypercholesterolemia-in-adults-overview#H1321616434. Accessed October 2, 2024. **8.** Original Article: Lancet Haematol. 2023;10(8). **9.** Correction: Lancet Haematol. 2023;10(8). **10.** CRISPR Tx. EU application https://www.ema.europa.eu/en/documents/rmp/casgevy-epar-risk-management-plan_en.pdf

Chronic Hepatitis B Multi-Billion Dollar Market Opportunity:
Large patient population currently on non-curative treatment options

> 300 Million
cHBV infections globally

> 1,000,000
cHBV infections in the US

U.S. Market Opportunity of ~$10 Billion[1]

Driven by the drug treated patient population today with total global aggregate revenue estimates up to ~$500B[3]

~250,000
patients in US

~180,000
patients in Europe

~4,000,000
patients in China

~260,000
patients in Japan

Estimated ~5M patients in major markets infected with chronic HBV & treated with standard of care (SoC) nucleos(t)ide analog treatments[2,3]

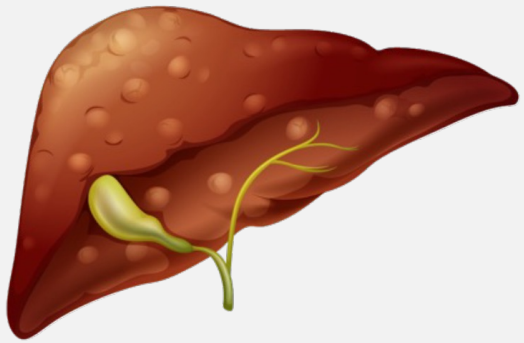
M, million.
Additional 142,000 potentially drug treated in Africa.[3]

1. Chattopadhyay, Debjit, et al. "Precision BioSciences, Inc. (DTIL): The ARCUS Editing Platform — Initiating Coverage with a BUY Rating and $19 PT." Guggenheim Securities, LLC, 30 Apr. 2024.
2. Nguyen MH et al. Clin Microbiol Rev. 2020;33(2); GSK public epidemiology estimates for cHBV. **3.** Trucchio, Patrick. "Hepatitis B Breakthrough Boom: Navigating a $450-$500 Billion Frontier", H.C. Wainwright & Co. 14, Feb 2024 3. Sonderup MW, Spearman CW. HBV elimination in Africa-Current status and challenges. Clin Liver Dis (Hoboken). 2024;23(1):e0166. Published 2024 May 3.

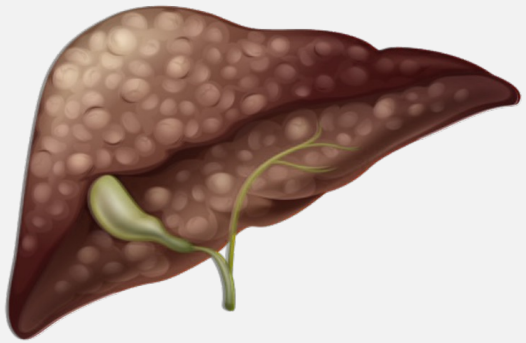
Risk of Liver Cancer, Complications and Mortality Remain on Current SoC

HBV Patients Have Up to a 30% Risk of Liver Cancer Over 10 years on Nucleos(t)ide Analogs

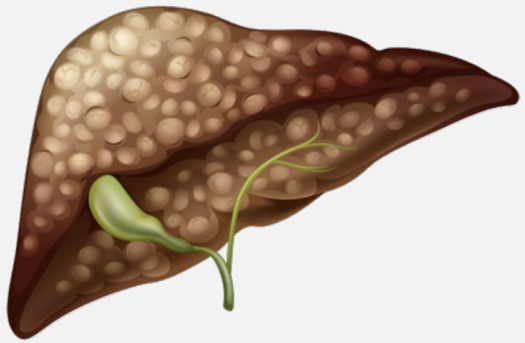
Up to **40% of patients** with chronic HBV infections may develop life-threatening complications including cirrhosis and/or HCC[1]



Cirrhosis



Liver Failure



Hepatocellular Carcinoma (HCC)

cHBV Results in

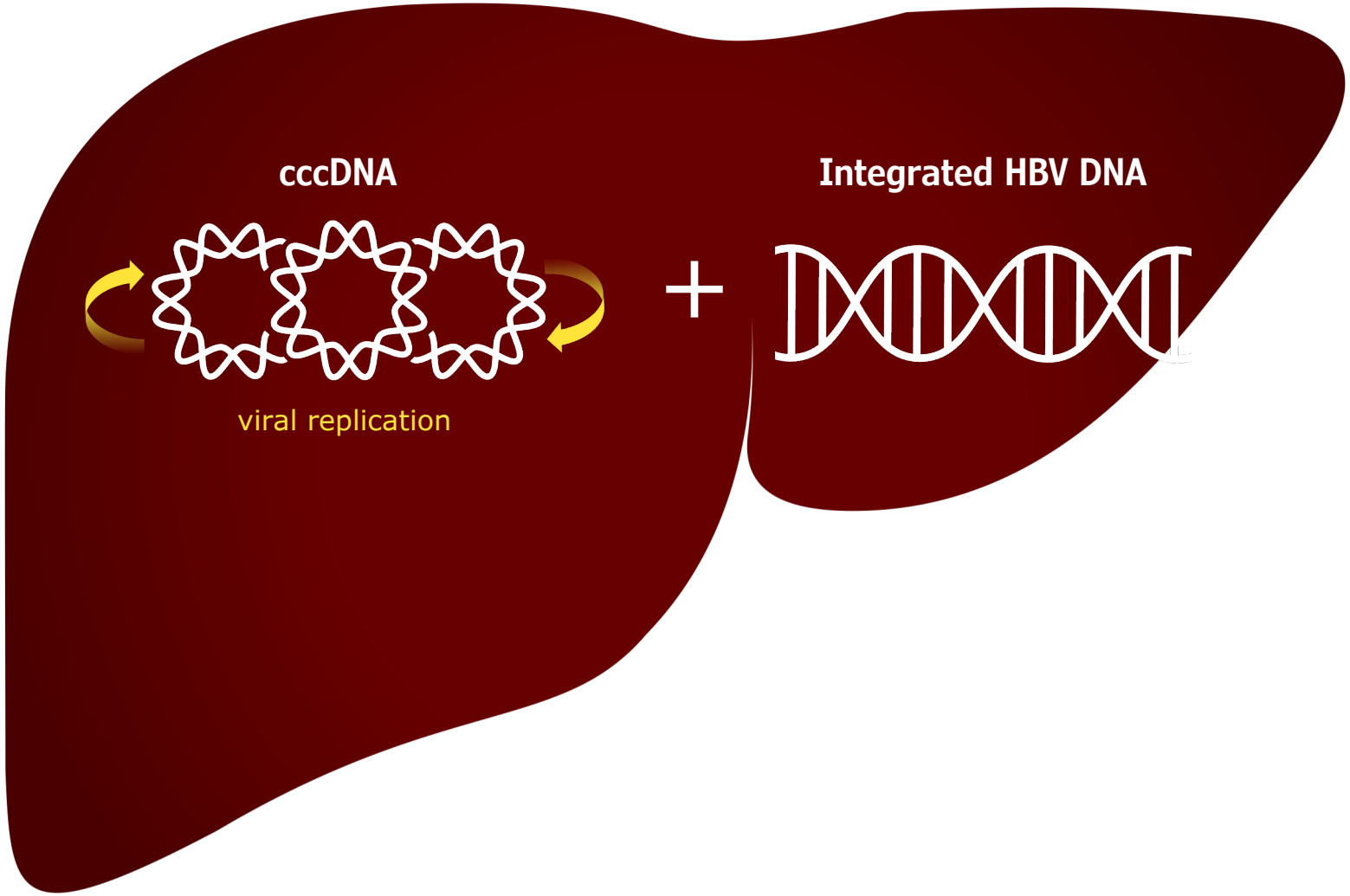
> 1 Million Global Deaths

Every Year[2,3]

Even when virally suppressed on nucleos(t)ide analogs, risk for HCC remains with a 10-year cumulative incidence up to 30%[4]

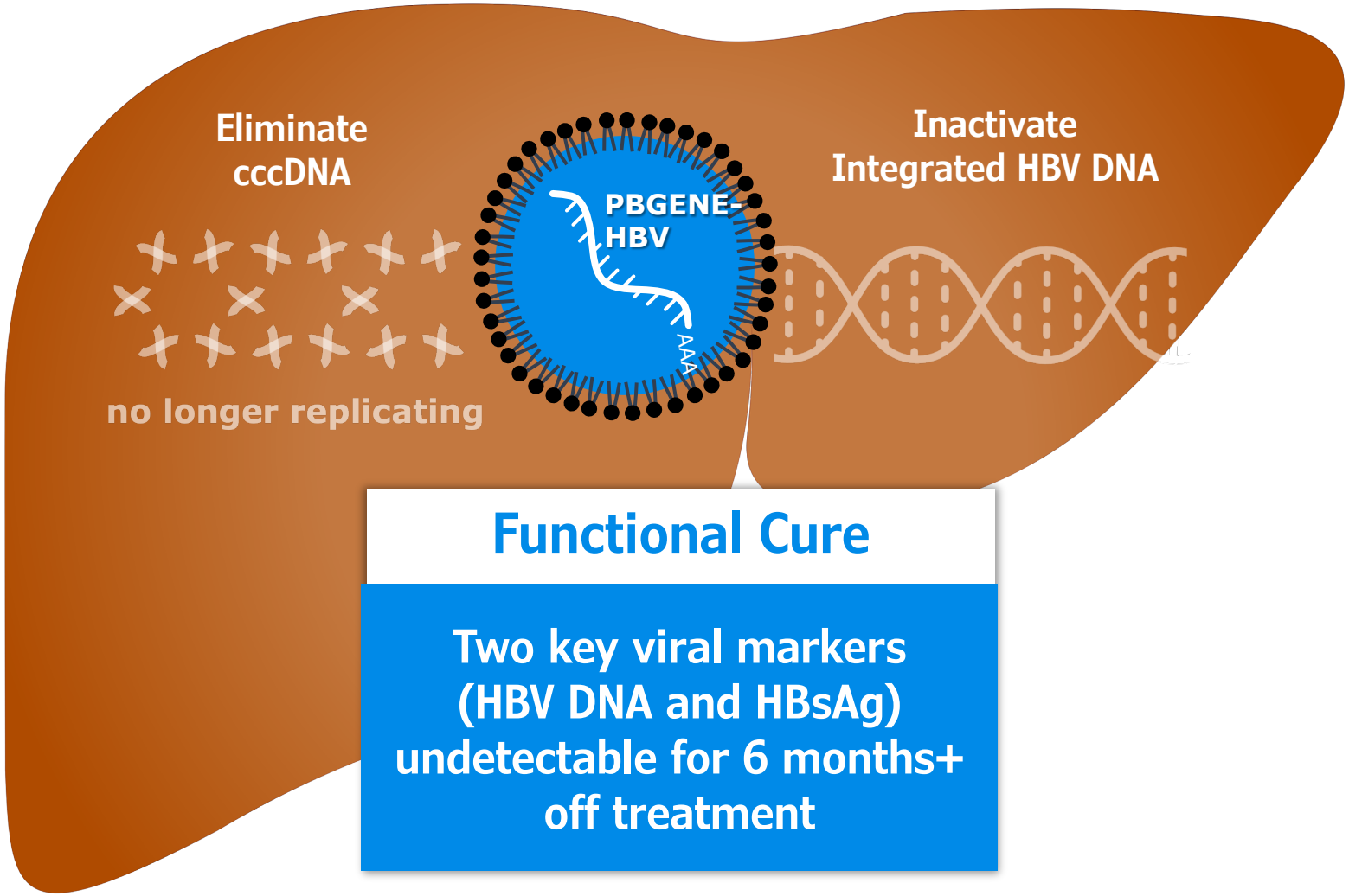
1. Centers for Disease Control and Prevention. Hepatitis B. CDC Yellow Book 2024: Health Information for International Travel. Accessed October 18, 2024. https://wwwnc.cdc.gov/travel/yellowbook/2024/infections-diseases/hepatitis-b. **2.** World Health Organization. Hepatitis B. World Health Organization. Published June 27, 2022. Accessed October 21, 2024. https://www.who.int/news-room/fact-sheets/detail/hepatitis-b. **3.** Hepatitis B Foundation. Hepatitis B Fast Facts. Doylestown, PA: Hepatitis B Foundation; 2007. Available from: https://www.hepb.org. **4.** Abd El Aziz MA, et al. Nucleos(t)ide analogues and Hepatitis B virus-related hepatocellular carcinoma: A literature review. Antivir Chem Chemother. 2020;28:2040206620921331.

HBV Driven By Two Distinct Drivers of Disease



PBGENE-HBV Dual Mechanism:

Designed to Drive Potential Cures By Targeting Root Cause of Disease & Eliminate



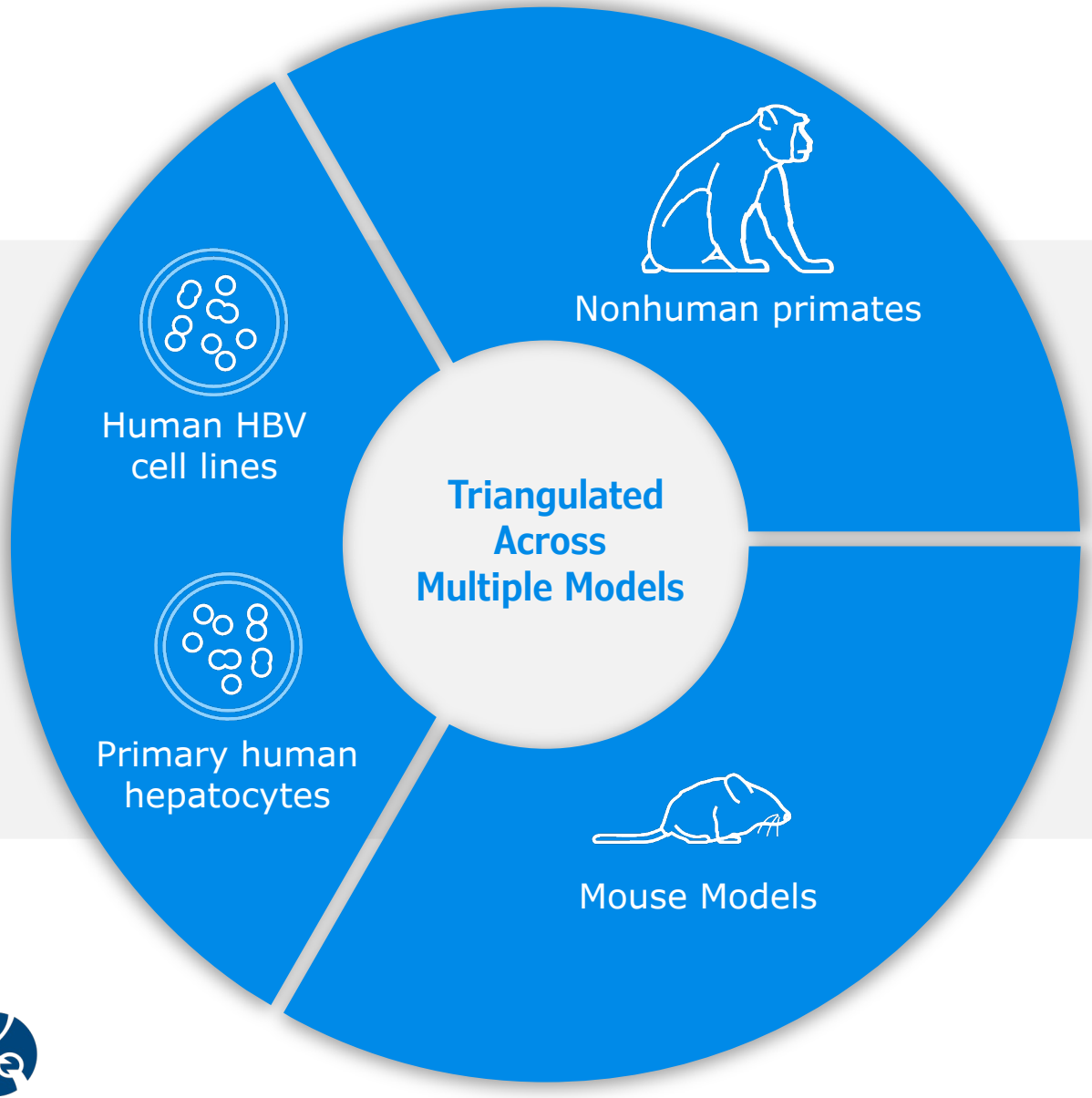
Functional Cure

Two key viral markers (HBV DNA and HBsAg) undetectable for 6 months+ off treatment

Robust Preclinical Proof-of-Concept Data Supports Advancement of PBGENE-HBV

Demonstrating Efficacy: Preclinical Evidence for PBGENE-HBV

Supports Advancement of PBGENE-HBV to First-In-Human Clinical Studies



Robust Preclinical Evidence, Including in Gold Standard NHP Models

Supports PBGENE-HBV to Safely Eliminate Viral Source of Replication and Integrated Disease

Phase 1 Clinical Momentum for PBGENE-HBV Program

Potentially Curative Finite Treatment for cHBV

Clinical Program Quickly Moving Towards Dosing Patients

Precision's Hepatitis Scientific Advisory Board

Operational execution guided by world-class Scientific Advisory Board and leading clinical investigators

Mark Sulkowski, M.D.

Jordan Feld, M.D., MPH

Ray Schinazi, Ph.D., DSc

- CTA approved in Moldova
- Multiple CTAs submitted; under regulatory review
- U.S. clinical site to be part of Phase 1 study
- Global Phase 1 multi-site clinical trial initiated and moving to dosing patients up to 5 countries
- Broad patient inclusion across all global genotypes

Consistent with the Hepatitis C treatment paradigm:
The goal is to drive high cure rates for patients through a finite treatment course

Discussion with Expert Clinical Investigators & Precision Scientific Advisory Board Members

Murray Abramson, MD, MPH

Head of Clinical Development
Precision BioSciences, Inc

Mark Sulkowski, MD

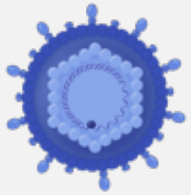
Professor of Medicine
Director, Division of Infectious Diseases
Johns Hopkins Bayview Medical Center
Johns Hopkins University & Medicine

Jordan Feld, MD, MPH

Section Head, Hepatology, Division of Gastroenterology and Hepatology
Director, Toronto Centre for Liver Disease, University Health Network

A Patient's Journey From cHBV Infection to Treatment

Infected → **Diagnosed** → **Chronic Treatment with Nucleoside Analogs** → **Functional Cure**

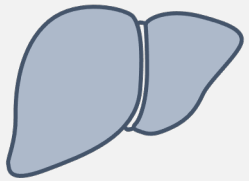


Initial Exposure

Virus enters the liver and establishes two viral reservoirs

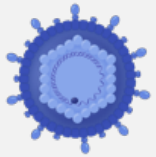
- cccDNA (the factory for viral replication)

- integrated HBV DNA



Chronic HBV (cHBV)

- HBV becomes chronic when the patients cannot clear the disease.
- The immune system recognizes the infection and causes inflammation of the liver.



HBV DNA

HBV RNA

Chronic Treatment with Nucleoside Analogs

- Of patients on therapy, most receive NUCs
- Nucleoside analogs inhibit viral replication by blocking HBV RNA conversion to HBV DNA

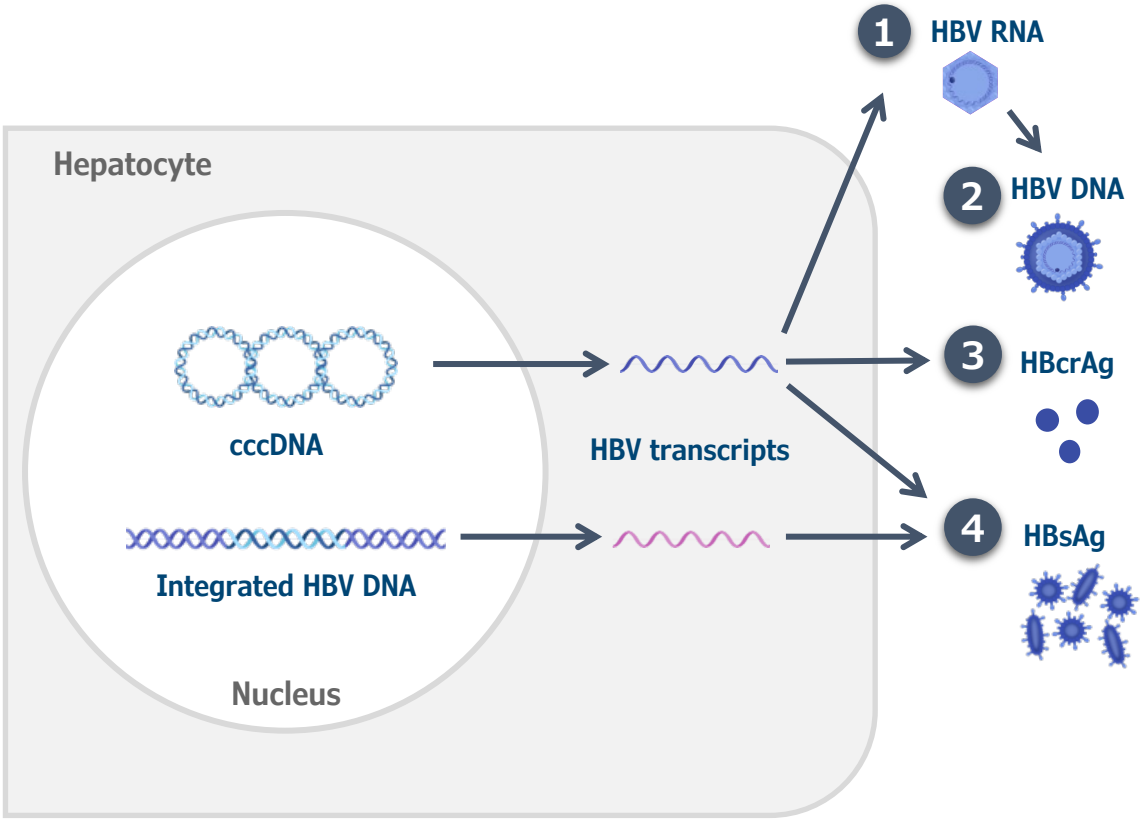
Only 1-3%

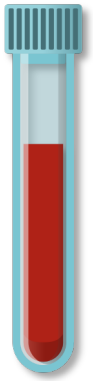
of patients will clear the virus and be cured off treatment

Up to 40% of patients may still develop severe complications such as cirrhosis, liver failure, or liver cancer

HBV Primer: Monitoring HBV Activity Through Biomarkers

Patient serology levels demonstrate HBV viral load and activity





Biomarkers

1 HBV RNA

Source: cccDNA

HBV RNA is the predecessor to HBV DNA. It is reflective of the presence and **transcriptional activity of cccDNA**

2 HBV DNA

Source: cccDNA

This is the DNA of the virus, and it measures how much viral load there is the body and if its actively replicating. Majority of patients on SoC nucleo(s)tide analogs have **undetectable HBV DNA** as these antivirals only inhibit the conversion of HBV RNA to HBV DNA

3 HBcrAg

Source: cccDNA

HB core-related antigen (HBcrAg) is an emerging marker for **cccDNA activity**. It can indicate the presence of active HBV infection, even in patients who have suppressed or undetectable HBV DNA and HBsAg levels due to antiviral treatment. **Despite antiviral therapy, HBcrAg may still be detectable**, reflecting the persistence of cccDNA activity.

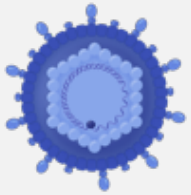
4 HBsAg

Source: cccDNA + Integrated HBV

HBsAg is the **"surface protein"** found on the virus and shows that you are **infected**. **HBsAg reduction** from baseline indicates that patient has some level of **response to therapy. Both cccDNA and integrated HBV DNA are sources for HBsAg**

A Patient's Journey From cHBV Infection to Treatment

Infected → Diagnosed → Chronic Treatment with Nucleoside Analogs "NUCs" → Functional Cure



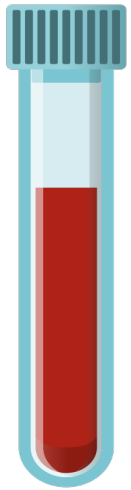
Initial Exposure

Two sources of virus

- cccDNA (the factory for viral replication)

- integrated HBV DNA

Measuring Viral Load



Tested using blood sample

Impact from NUCs

HBV RNA	Detectable
HBV DNA	**Undetectable**
HBcrAg	Detectable
HBsAg	Detectable

Only 1-3% of patients

achieve functional cure on current standard of care nucleoside analogs

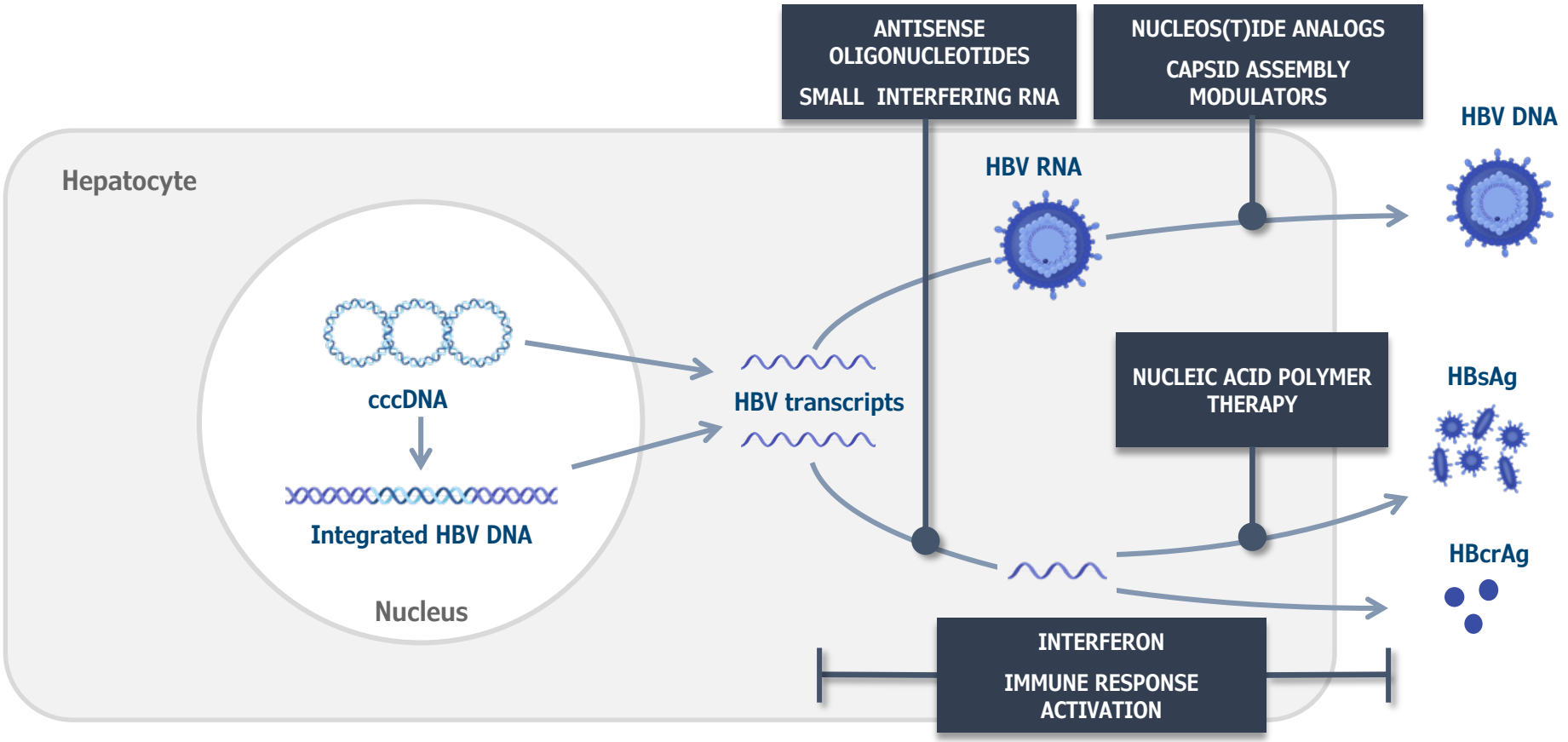
Functional Cure

HBV DNA and HBsAg

Remain undetectable for 6 months off tx.

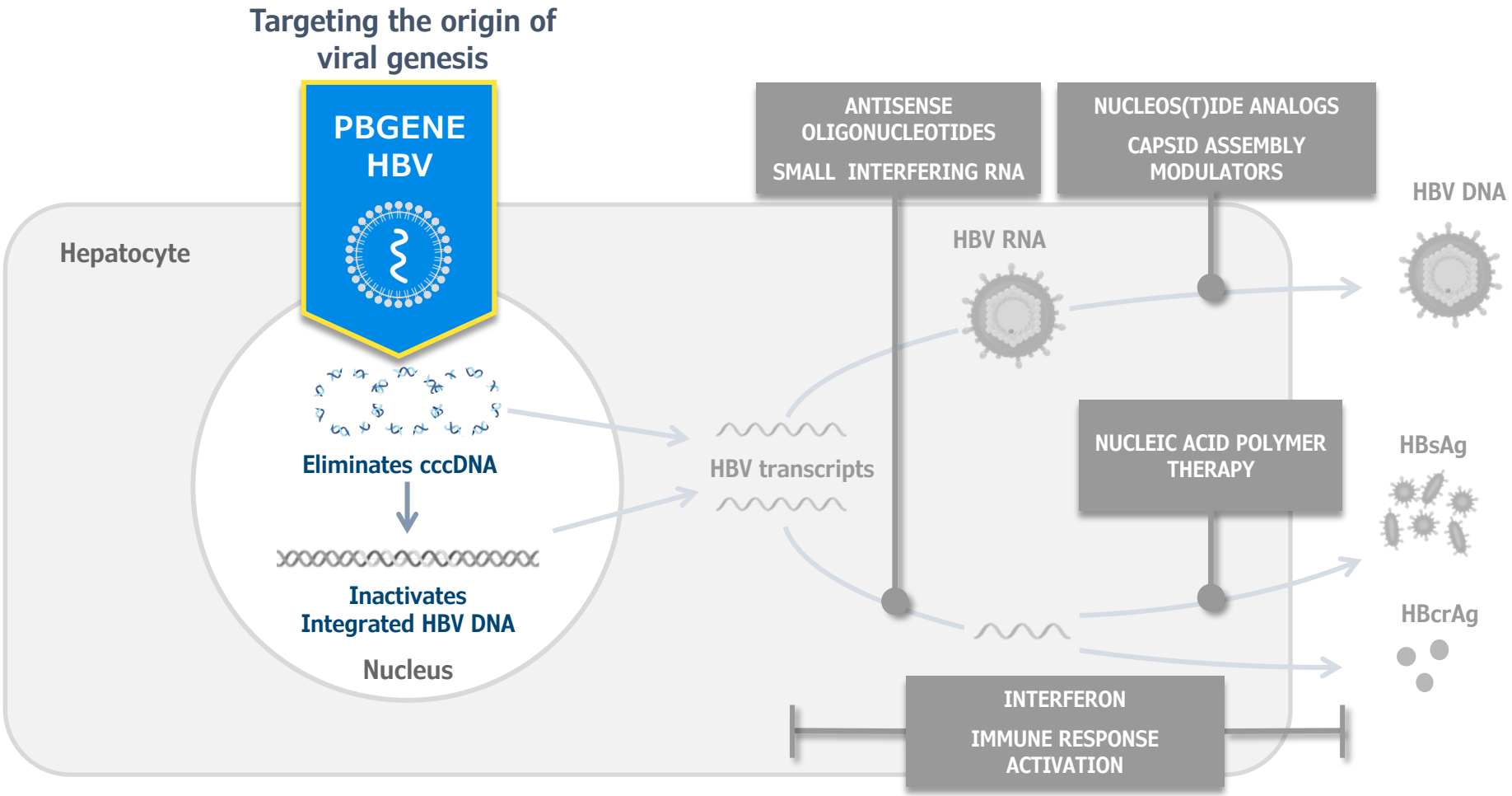
Majority of Modalities in Development Target HBV Downstream to Disrupt the Viral Lifecycle but Leave the Root Cause of Disease Intact

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



From origin to disease drivers

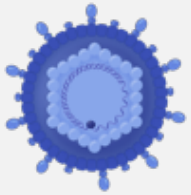
However, PBGENE-HBV Directly Targets Root Cause of Disease



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

Finite PBGENE-HBV Treatment Designed To Eliminate Root Source of Viral Replication

Infected → Diagnosed → Finite treatment with PBGENE-HBV → Functional Cure



Initial Exposure

Two sources of virus

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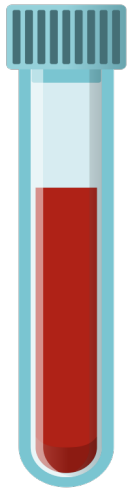
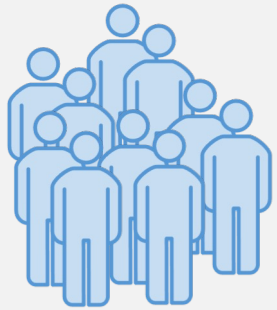
Measuring Viral Load



Tested using blood sample

Potential Impact from PBGENE-HBV

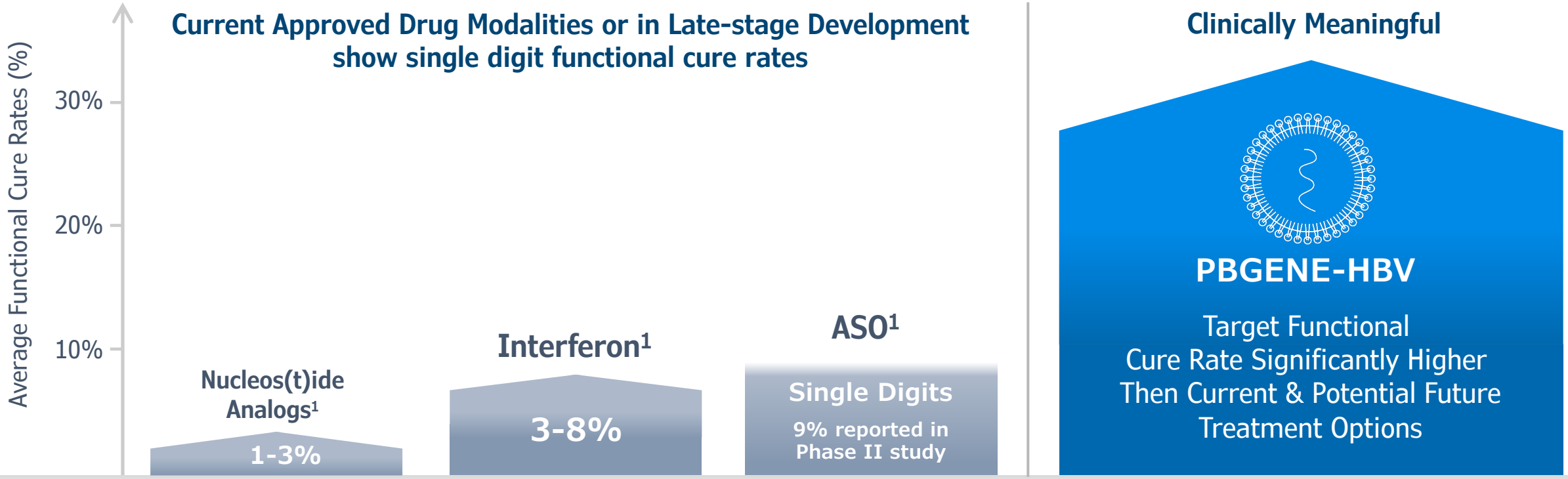
HBV RNA	Undetectable
HBV DNA	Undetectable
HBcrAg	Undetectable
HBsAg	Undetectable



Eliminate the Root Cause of Viral Replication Potentially Leading to High Cure Rate

Very Few Patients Get To Functional Cure Today:

PBGENE-HBV has opportunity to be clinically meaningful by increasing functional cures



Viral replication inhibitor requires chronic treatment

Immunomodulator with flu-like side effect profile; not suitable for all patients

Downstream viral suppressor that does not act on root cause of disease

Targets Root Cause of Disease

Designed to eliminate cccDNA and inactivates integrated HBV

ASO, antisense oligonucleotide.

1. Gopalakrishna H, Ghany MG. Perspective on Emerging Therapies to Achieve Functional Cure of Chronic Hepatitis B. Curr Hepatol Rep. 2024;23(2):241-252.;
9% functional cure rate from cohort treated on Nucleo(s)tide analogs

PBGENE-HBV is Designed to Meet The Needs of the Patient

Based on Hepatitis B Foundation Expert Workshop & Patient Perspectives[1,2]
What does an ideal treatment look like for patients with cHBV?

- Cures Hepatitis B By Targeting Root Cause of Disease and Degradation of cccDNA
- Safe, Tolerable and No Long-Term Treatment Complications
- Finite Treatment vs. Chronic Lifelong Administration
- Works in All Patients Across Global Genotypes
- Restores Immune System to Help Fight HBV
- Reduces Patient's Risk of Death Due to Liver Disease

1. Block TM, et al. Research priorities for the discovery of a cure for chronic hepatitis B: Report of a workshop. Antiviral Res. 2018;150:93-100. **2.** Zhang L, et al. Patient Preferences and Their Influence on Chronic Hepatitis B-A Review. Patient Prefer Adherence. 2023;17:3119-3124. Published 2023 Nov 30.

Advancement to Clinical Trials Supported by Strong Preclinical Rationale

Cassie Gorsuch, PhD
Head of Gene Therapy Discovery
Precision BioSciences, Inc

Eliminate cccDNA to Cure Hepatitis B

"Realization of a functional or complete cure for chronic HBV infections requires innovative therapeutic approaches aimed at disabling and **eliminating the persistent episomal cccDNA**."

–Bloom et al 2018

"At present, the **cccDNA cannot be completely eliminated by standard treatments**. There is an urgent need to develop drugs or therapies that can **reduce HBV cccDNA levels** in infected cells."

–Jin et al 2023

"The ideal therapeutic strategy for curative approaches includes reduction or **elimination of the whole cccDNA pool**."

–Ligat et al 2020

Bloom et al. *Genes*. 2018; 9(4), 207. DOI: 10.3390/genes9040207
Jin et al. *Drug Discov Today*. 2023; 28(7):103617. DOI: 10.1016/j.drudis.2023.103617
Ligat et al. *Curr Hepatol Rep*. 2020; 19(3):235-244. DOI: 10.1007/s11901-020-00534-w

ARCUS is Only Clinical Stage Gene Editor Designed to Eliminate cccDNA

ARCUS Gene Editing

Designed to **ELIMINATE** cccDNA and **INACTIVATE** integrated HBV DNA

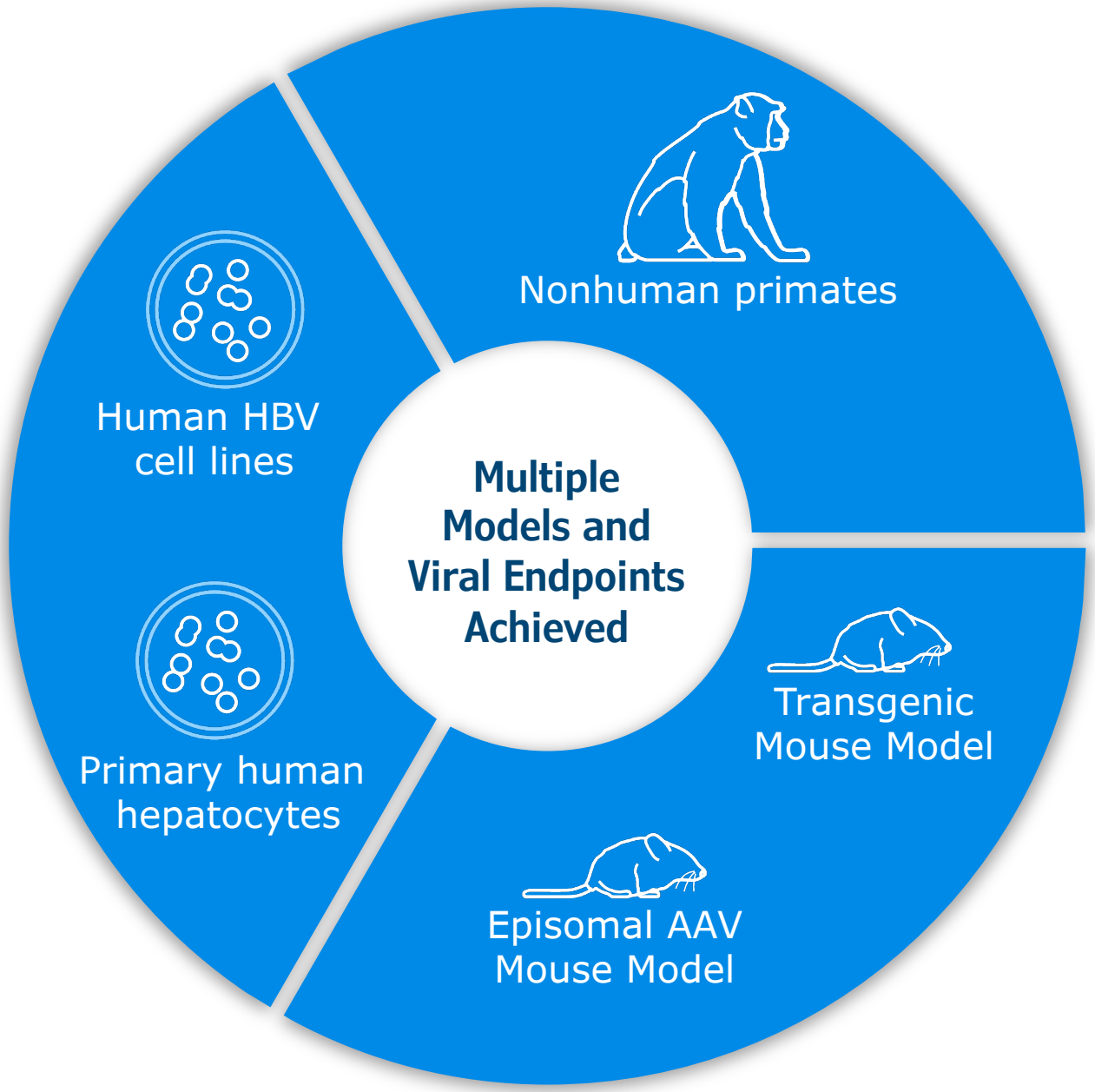
Single-component

ARCUS protein interacts with cccDNA directly, not through use of a guide RNA

Small size

Enables delivery efficiency and accessibility to cccDNA

Robust Preclinical Safety and Efficacy Profile



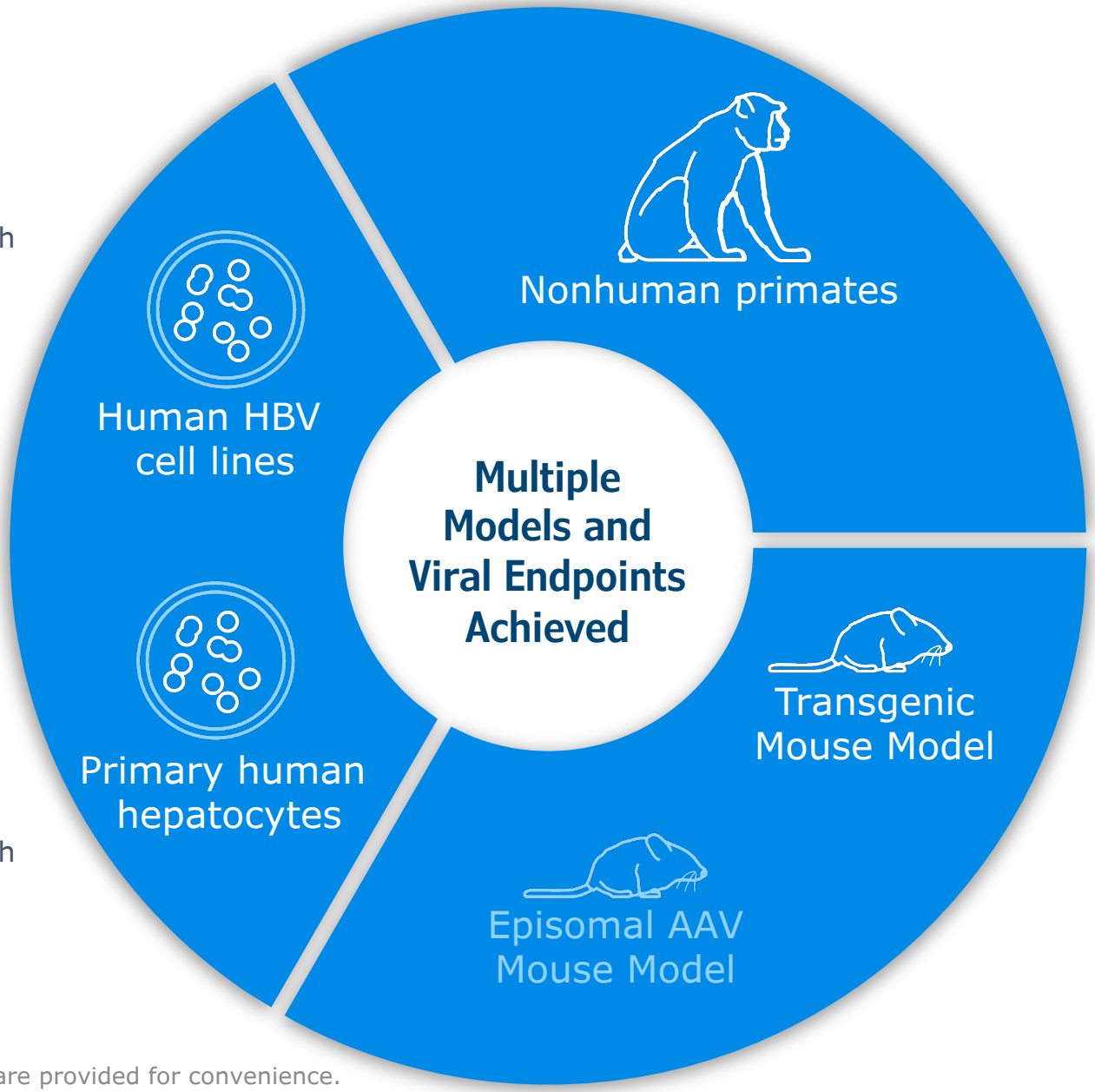
Preclinical Safety: High Specificity and Good Tolerability Across Models

SAFETY:
Comprehensive off-target analysis demonstrates high specificity

Nov 2023

SAFETY:
Multiple doses were well-tolerated

June 2024



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Comprehensive off-target analysis demonstrates high specificity

June 2024

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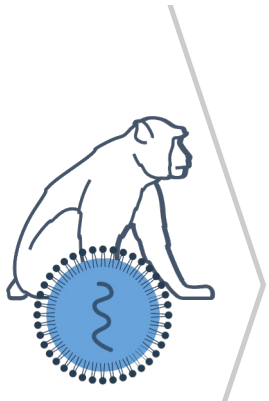
Multiple doses were well-tolerated

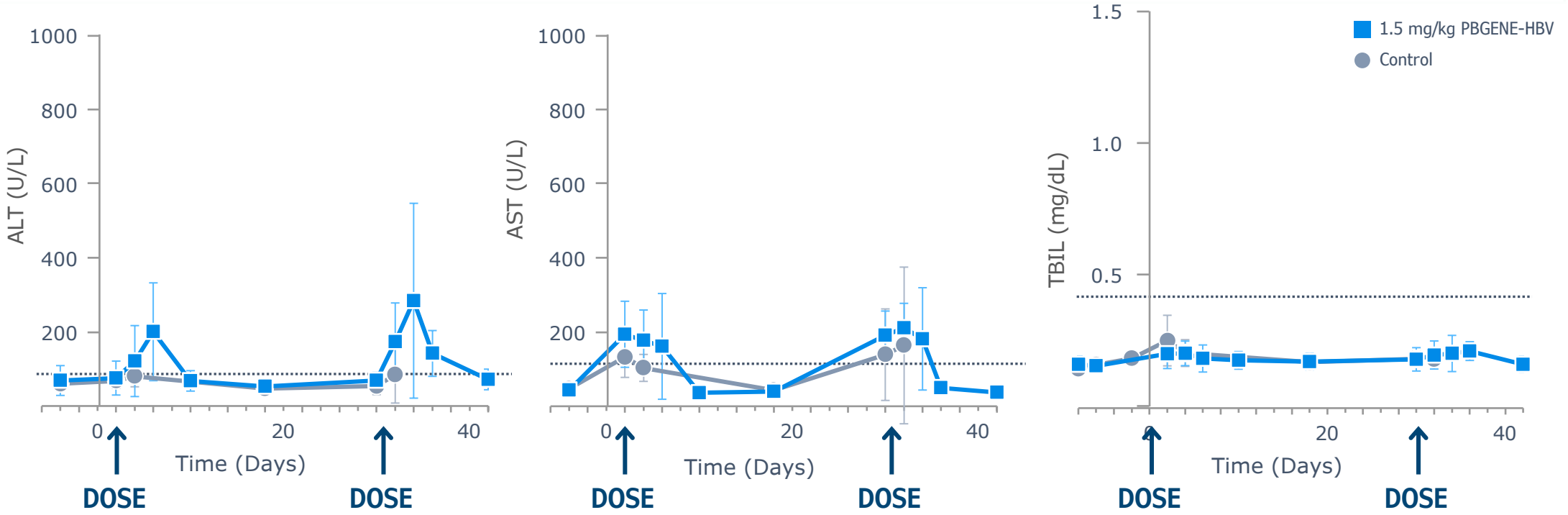
Nov 2023

Data sources with hyperlinks are provided for convenience.

Safety: PBGENE-HBV Showed Minor and Transient Elevations in Liver Transaminases

NHP data supports safety of multi-dosing to achieve functional cure





PBGENE-HBV demonstrates transient liver enzymes elevations <3x ULN and non-adverse changes in blood parameters

1. LNP Technology provided by Acuitas Therapeutics, Inc.

..... *Upper limit of normal*

Safety: PBGENE-HBV Demonstrates Robust Safety Package Supporting Advancement Towards Clinical Trials

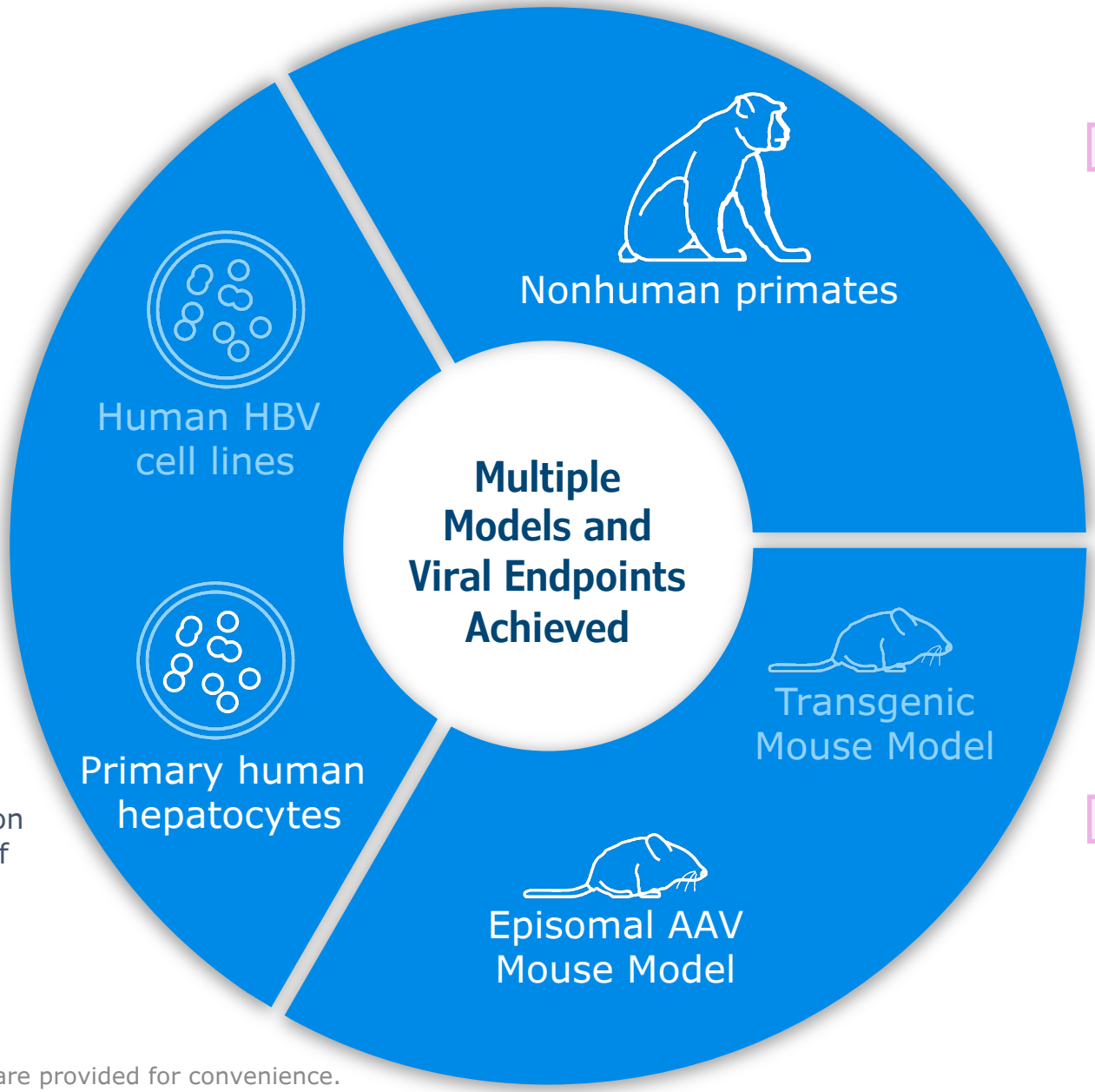
- Robust and thorough specificity pipeline demonstrated **high degree of specificity for PBGENE-HBV** with no increased risks of translocations or integrations in HBV-infected PHH
- PBGENE-HBV **does not distribute to germ cells**, as evidenced by NHP studies
- PBGENE-HBV was **well tolerated** in NHPs **over multiple administrations** with rapid clearance after each dose administration
- **High-quality mRNA** and an **optimized LNP formulation** contribute to a robust safety profile of PBGENE-HBV
- **Favorable safety profile** compared to other clinical stage gene editing LNP programs[1,2,3]

Lee et al. Circulation (2023) | CRISPR, AHA 2023 (CTX310) | CRISPR, AHA 2023 (CTX320)

Data sources with hyperlinks are provided for convenience.

PHH: primary human hepatocytes; NHP: nonhuman primates; ULN: upper limit of normal; LNP: lipid nanoparticle

Preclinical Efficacy: cccDNA Elimination is Essential for Cure



cccDNA ELIMINATION:
99% viral engagement at highest dose

Nov 2023

cccDNA ELIMINATION:
Dose-dependent elimination of cccDNA and inhibition of viral markers

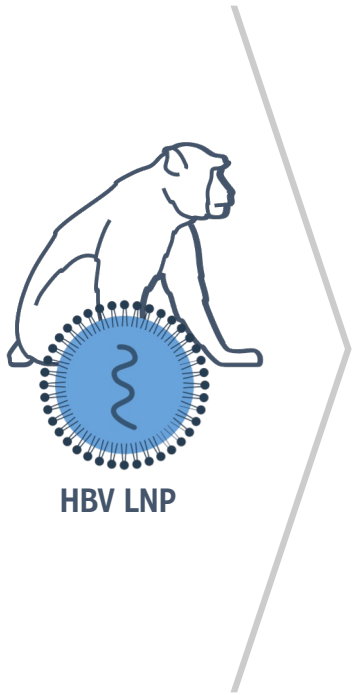
Nov 2023

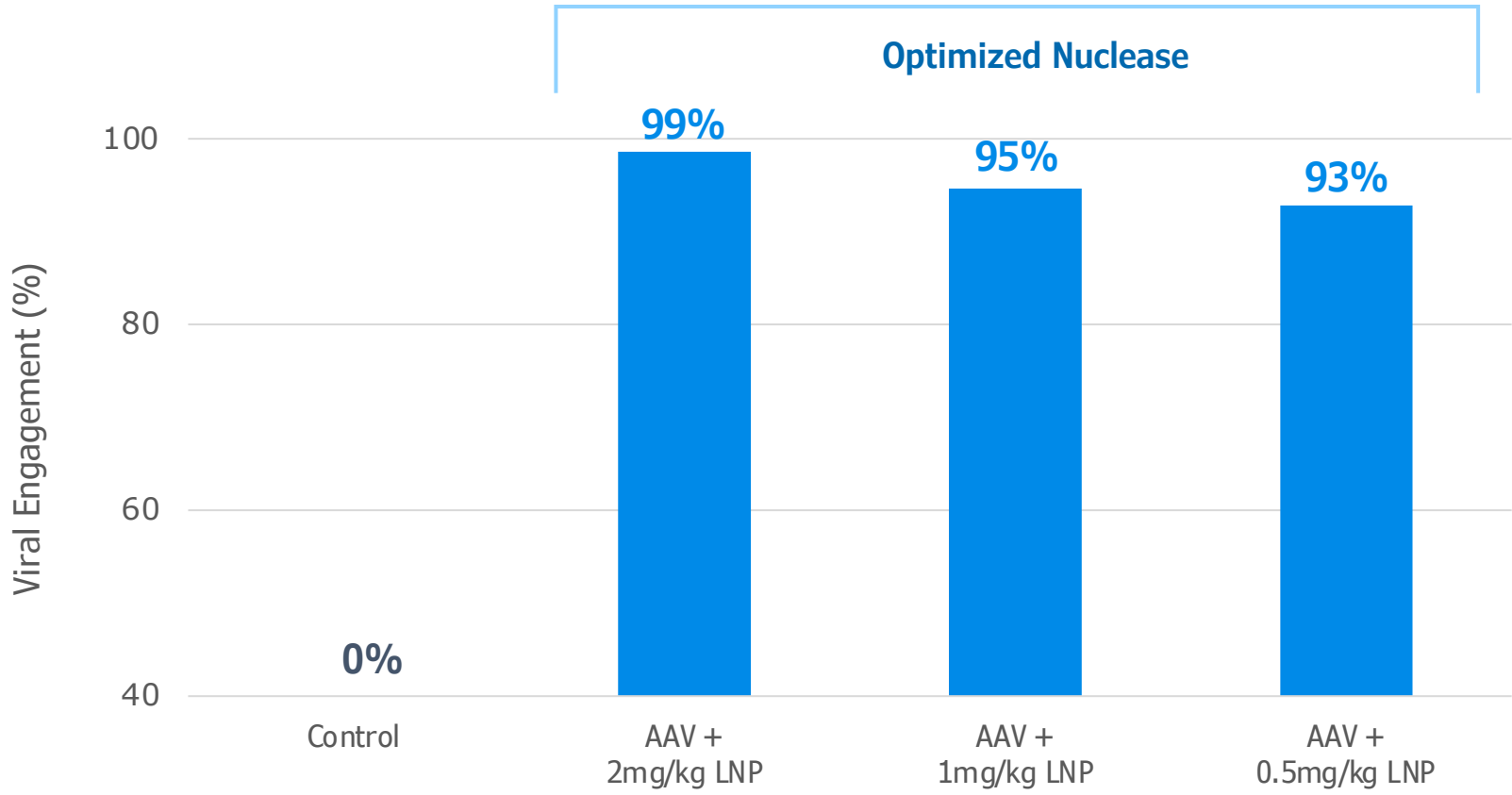
cccDNA ELIMINATION:
>95% durable HBsAg reduction across multiple dose levels in AAV mouse model

Nov 2023

Data sources with hyperlinks are provided for convenience.

Efficacy: NHP Study Demonstrated Up to 99% Viral Engagement, Suggestive of Strong Potential Efficacy Profile of PBGENE-HBV



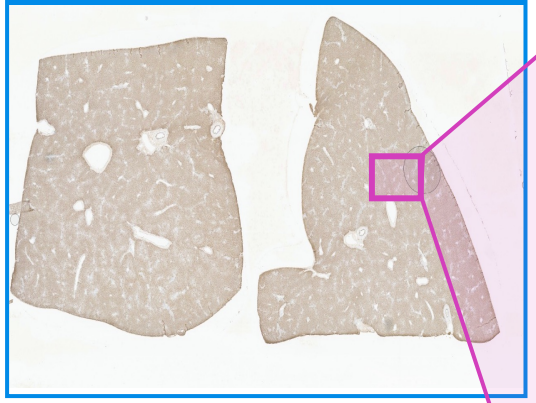


Increased editing observed with 2 dose administrations supports driving efficacy through multidosing in phase 1 study

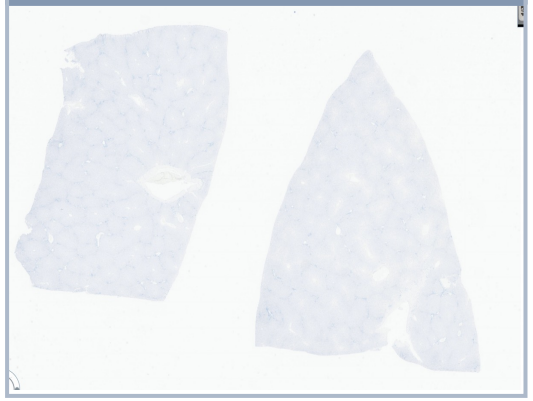
1. Final optimized candidate nuclease derived from optimized nuclease - only one amino acid difference with similar target product profile
2. Non-human primate (NHP) study- 2 doses of LNP 42 days apart; viral engagement (elimination + inactivation through indels) measured at D90
3. LNP Technology provided by Acuitas Therapeutics, Inc.

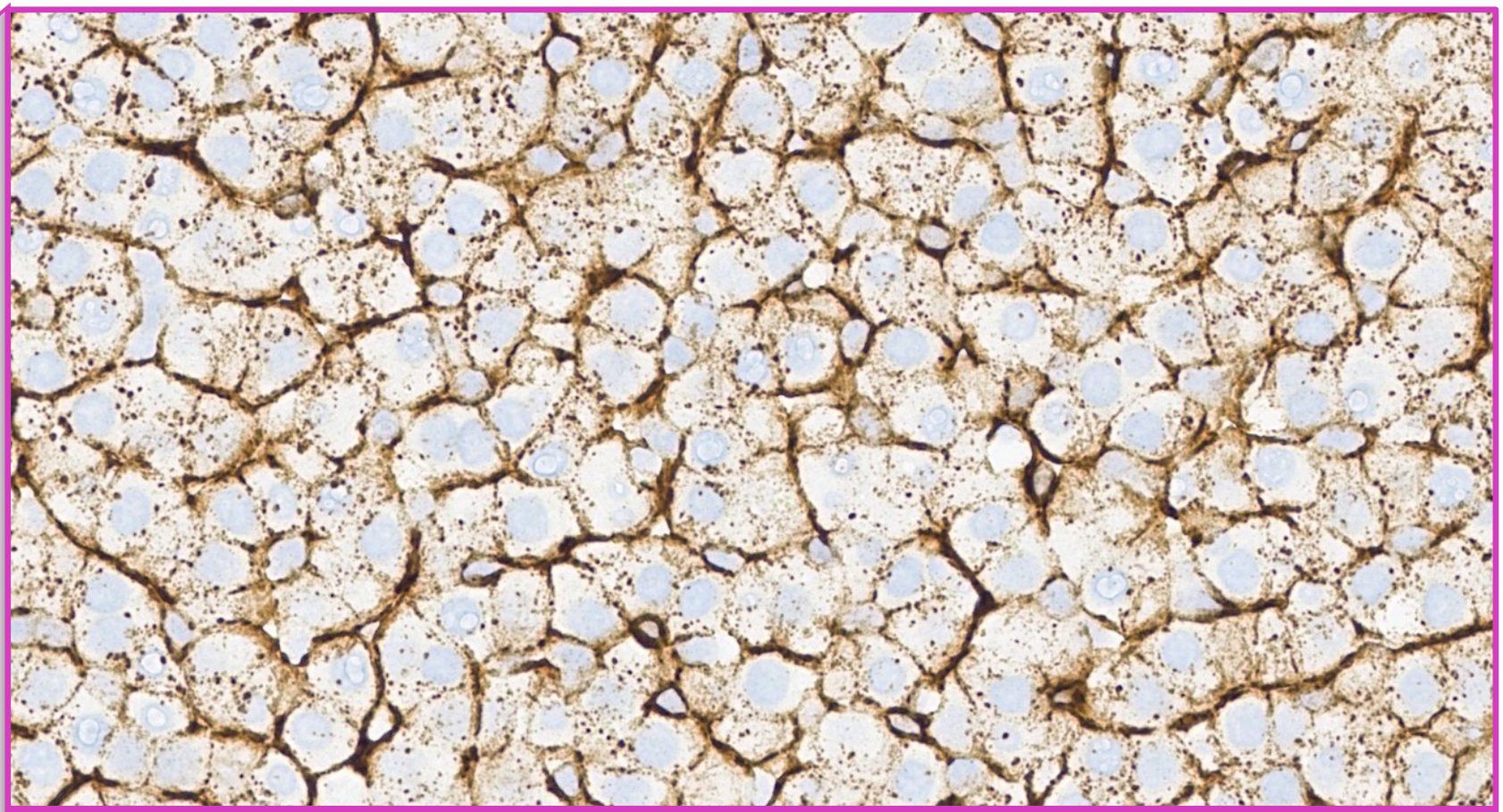
Efficacy: PBGENE-HBV Achieves Broad Distribution Across NHP Liver

PBGENE-HBV NHP Liver



Control NHP Liver





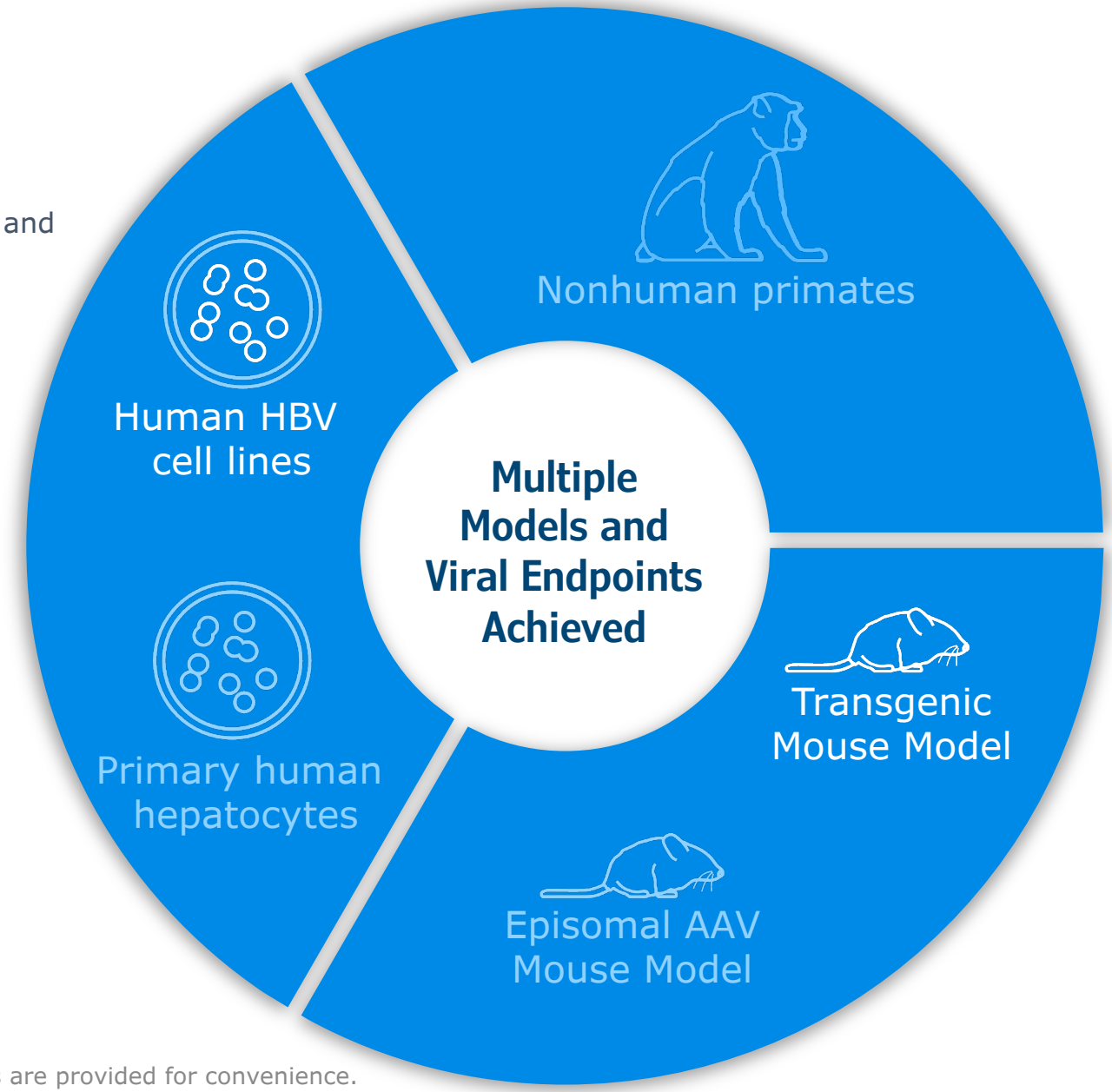
- ARCUS mRNA reaches all hepatocytes[1]
- ~10,000 ARCUS mRNA molecules per cell are detected in liver[2]

1. ISH quantification shows that ≥ 80% of cells are ARCUS+ after PBGENE-HBV administration; ~70-80% of the liver is hepatocytes and the primary target of the LNP formulation.
2. Assumes 1.22e5 cells/mg liver tissue in NHP.
3. LNP Technology provided by Acuitas Therapeutics, Inc.

Preclinical Efficacy: Integrated DNA Inactivation Necessary For Functional Cure

IntDNA INACTIVATION:
Dose-dependent editing and HBsAg reductions

Nov 2023

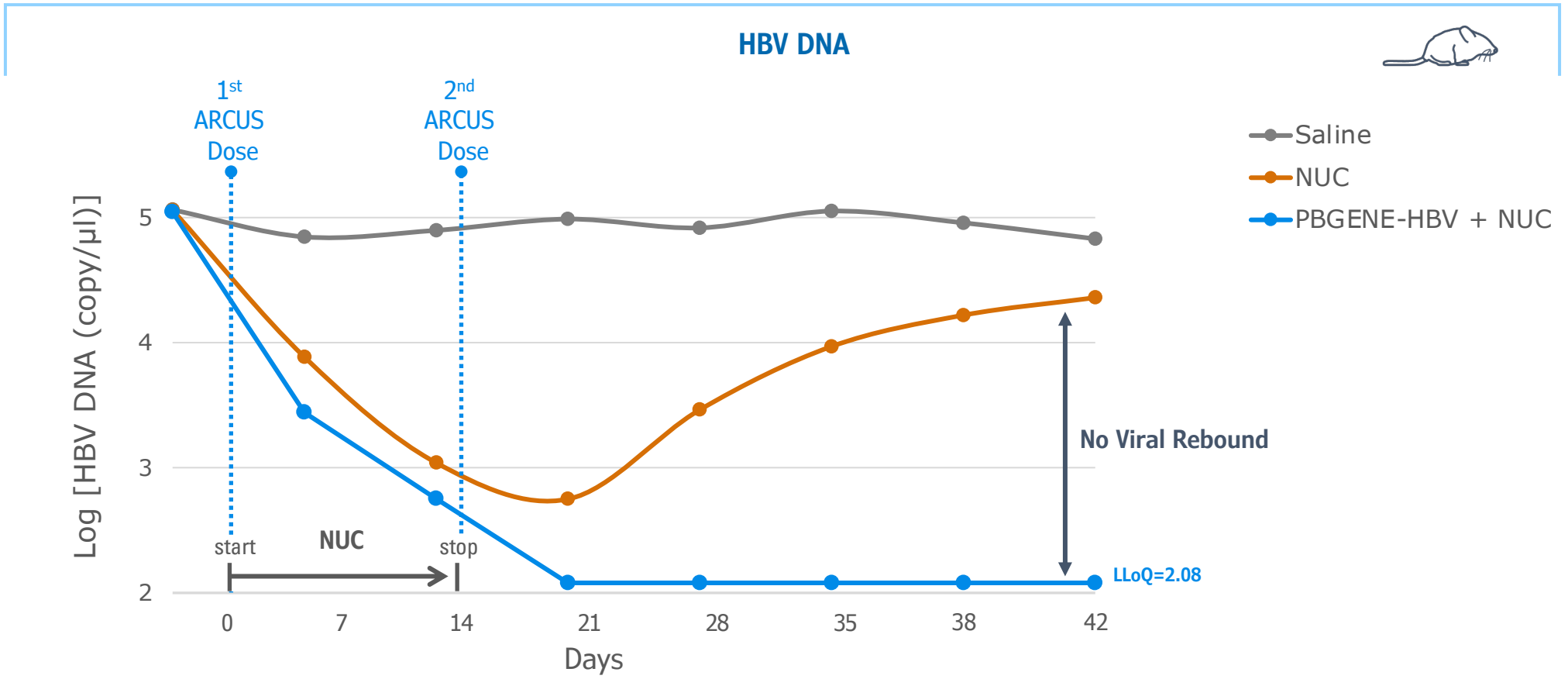


IntDNA INACTIVATION:
Significant and sustainable reduction of HBV DNA in HBV transgenic mouse model

Nov 2023

Data sources with hyperlinks are provided for convenience.

Efficacy: PBGENE-HBV Significantly and Sustainably Reduced HBV DNA as a Monotherapy in Transgenic Mouse Model



Even after stopping NUC, PBGENE-HBV durably reduced HBV DNA as seen in combination cohort. Supports potential for stopping NUC and functional cures in phase 1 study

1. NUC = nucleos(t)ide analog, entecavir used in this study
2. HBV DNA levels measured in plasma; produced from multiple tissues in this mouse model
3. LNP Technology provided by Acuitas Therapeutics, Inc.

PBGENE-HBV: Robust Preclinical Safety and Efficacy Profile

IntDNA INACTIVATION:
Dose-dependent editing and HBsAg reductions

Nov 2023

SAFETY:
Comprehensive off-target analysis demonstrates high specificity

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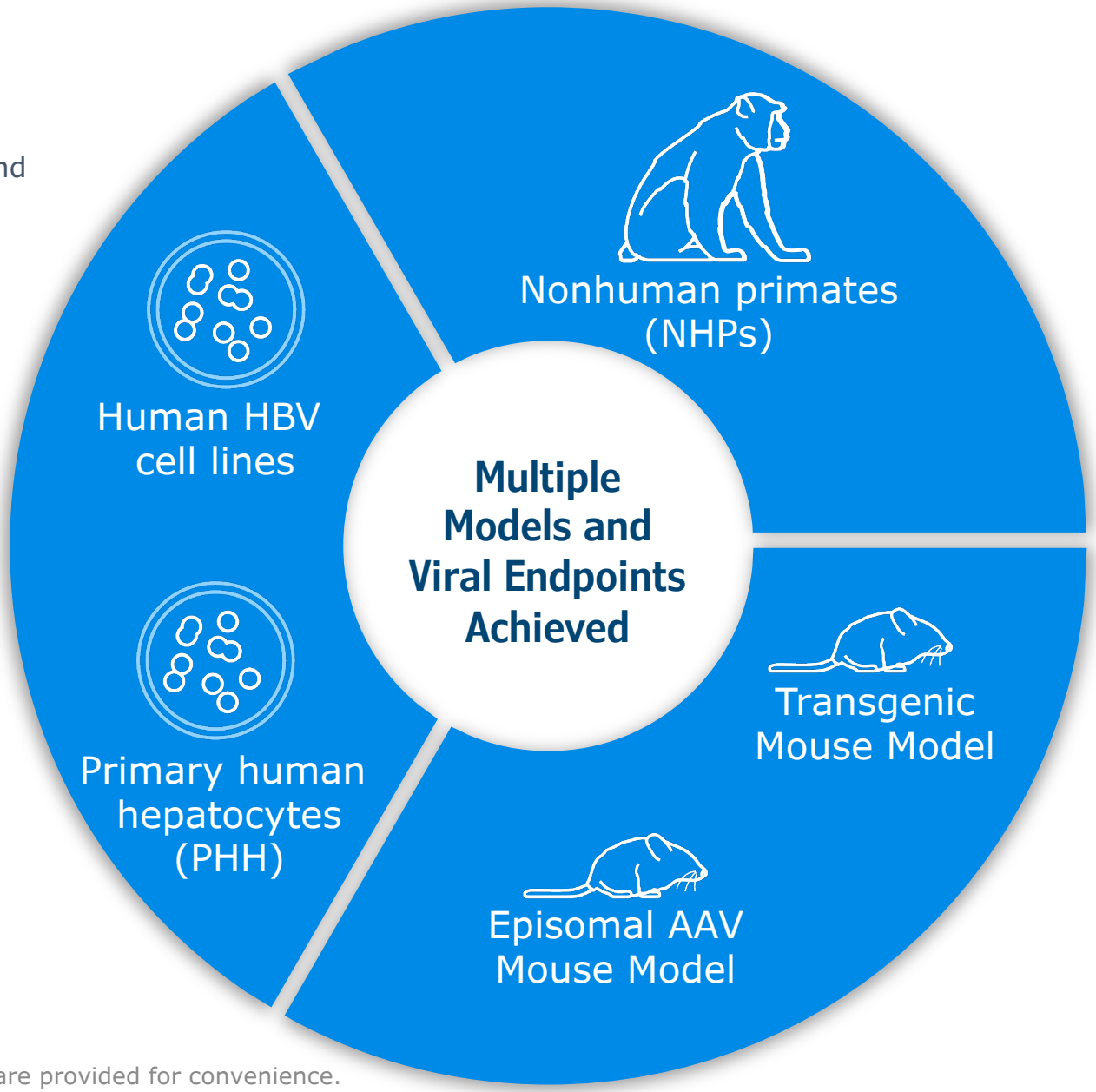
June 2024



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Nov 2023

Episomal AAV
Mouse Model

Excitement Continues Into Clinic

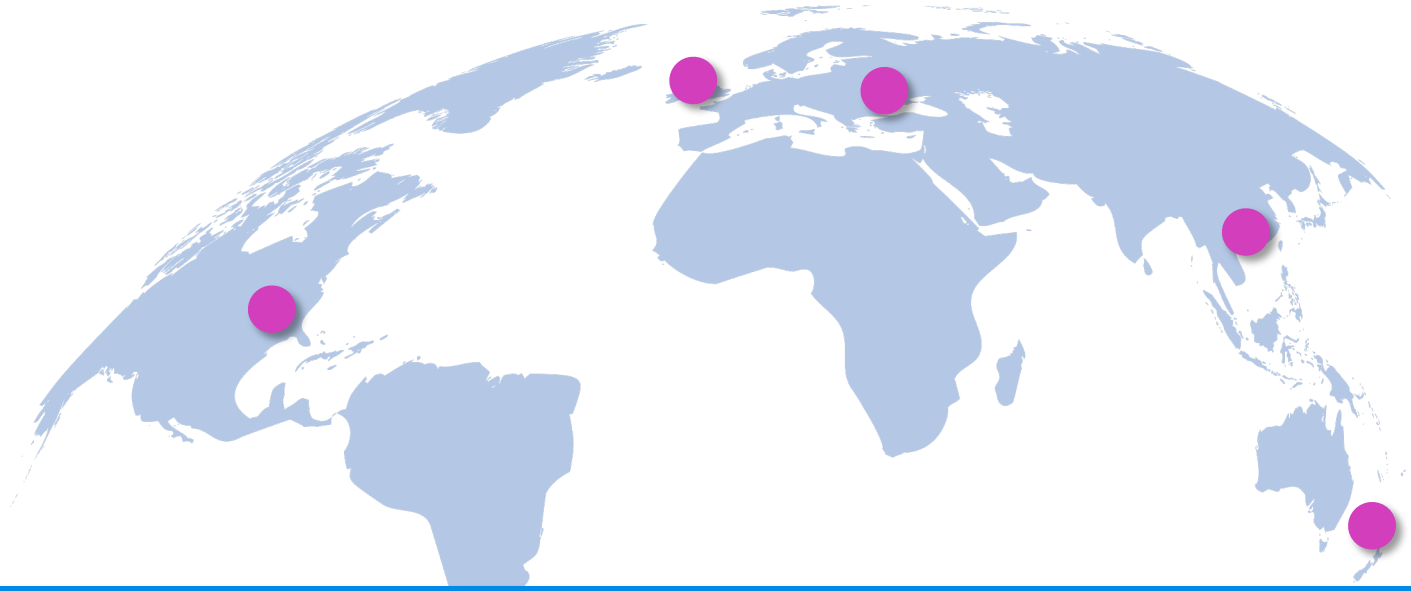
With Preclinical Program Now Derisked, Precision BioSciences is Ready to Begin Dosing Patients in Phase 1 Study

Data sources with hyperlinks are provided for convenience.

Phase 1 Clinical Trial – Targeting Functional Cure

Murray Abramson, MD, MPH
Head of Clinical Development
Precision BioSciences, Inc

eliminate B



Global Phase 1 Study Across

Up to 5 Countries

Up to 45 Patients

Patient Population

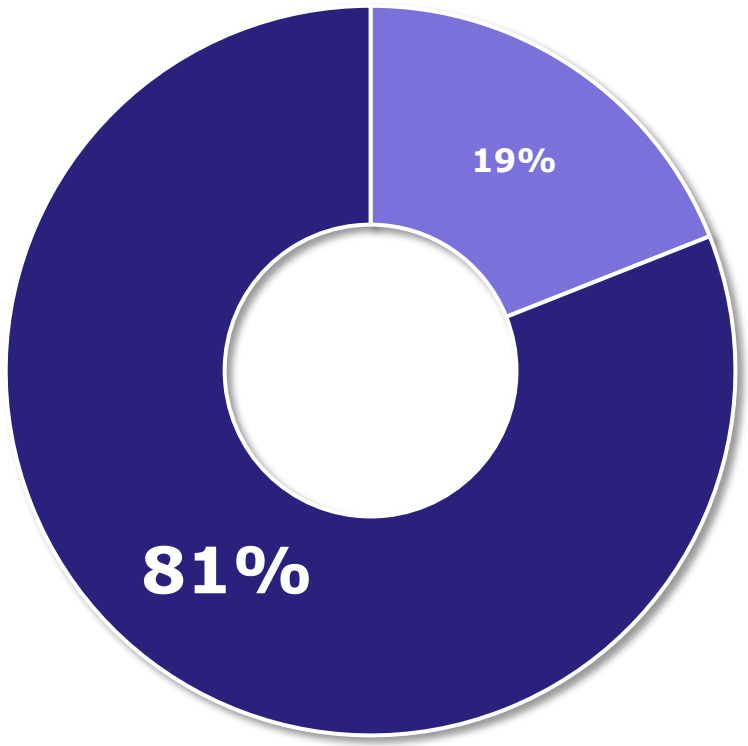
HBeAg-negative patients controlled on nucleos(t)ide analogs

ClinicalTrials.gov identifier NCT06680232.

Eliminate-B Trial is Starting in Largest Real World Patient Segment

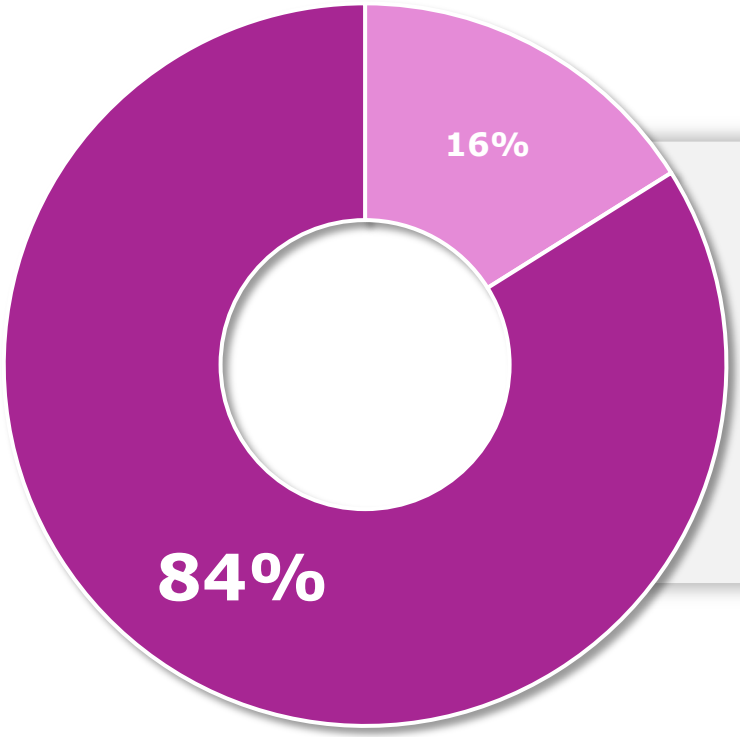
More than 80% of HBV Patients are E-Negative

81% of Diagnosed Patients are E-Negative



HBeAg Positive HBeAg Negative

84% of Patients Treated on Nucleos(t)ide Analogs are E-Negative



HBeAg Positive HBeAg Negative

Still only 1-3% achieve functional cure and up to 30% 10-year cumulative incidence for HCC

Literature search average including global meta-analysis.[1]
For the 45% of patients treated with nucleos(t)ide analogs leads estimated 34% achieve E antigen loss on TAF.[2]

1. Tan M, et al. Postoperative long-term prognosis and its predictors in hepatocellular carcinoma patients after liver transplantation: a single-center experience. Front Oncol. 2021;10:7801814.
2. Chan HLY, et al. Long-term treatment with tenofovir alafenamide for chronic hepatitis B results in high rates of viral suppression and favorable renal and bone safety. Am J Gastroenterol. 2024;119(3):486-496.

Key Inclusion / Exclusion Criteria

Inclusion Criteria

- HBeAg-negative cHBV
- cHBV infection documented by serum HBsAg-positivity for ≥ 12 months
- Serum HBsAg ≥200 IU/mL at screening
- Virologically suppressed and currently on nucleos(t)ide analog treatment*
  - HBV DNA < 20 IU/mL at screening and on one occasion at least 6 months prior
- Serum ALT ≤ 1.5× ULN
- Have a FibroScan™ liver stiffness measurement ≤8.5 kPa within 6 months prior to screening or at the time of screening

Exclusion Criteria

- No history of liver cirrhosis regardless of any subsequent improvement in histology
- No hepatitis A virus infection, hepatitis D virus infection, hepatitis E virus infection, HIV type 1 or type 2 infection, and no history or current hepatitis C infection
- Must not have any evidence of liver disease of non-HBV etiology or evidence of decompensation at any time point prior to or at the time of screening
- Must not have signs of hepatocellular carcinoma
- No prior investigational agents within 6 months of screening except for siRNA therapeutics, which cannot have been administered within 1 year of screening

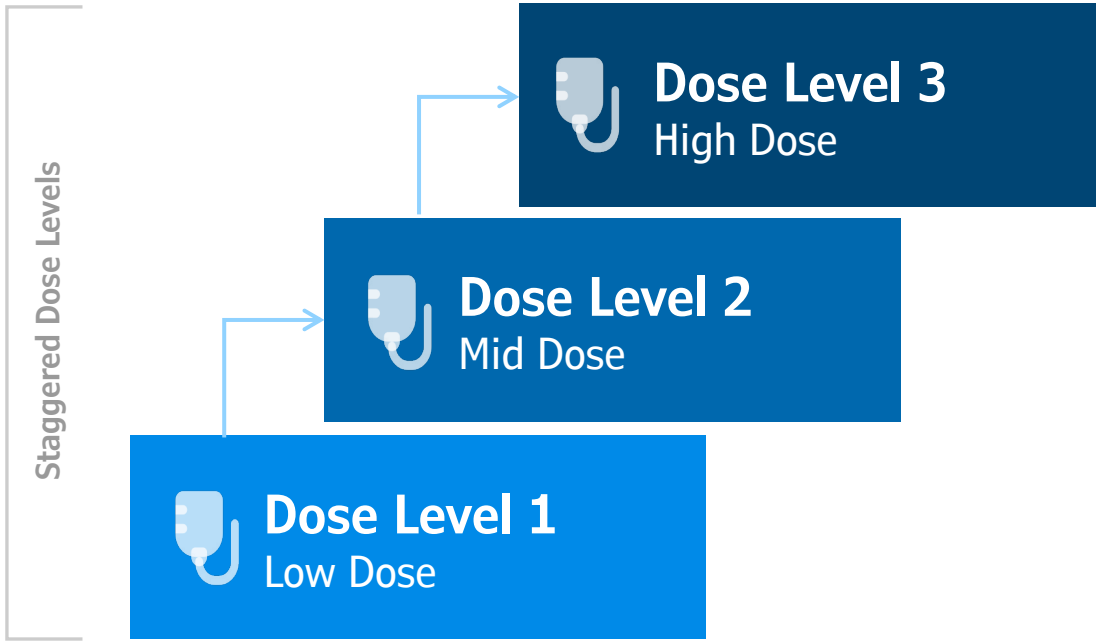
*Nucleos(t)ide treatment = entecavir [ETV], tenofovir disoproxil fumarate [TDF], or tenofovir alafenamide fumarate [TAF])
ClinicalTrials.gov identifier NCT06680232.

Phase 1 Study Design

Potential for rapid evaluation of safety and efficacy of PBGENE-HBV in 2025

Part 1: Multiple Ascending Dose Escalation

N= 3-6 Patients at Each Dose Level
Finite Treatment: Patient Receives up to 3 dose administrations



3 + 3 standard design with sentinel dosing of patients

Safety & Efficacy Evaluation

Part 2 : Dose Expansion

Go Forward Dose

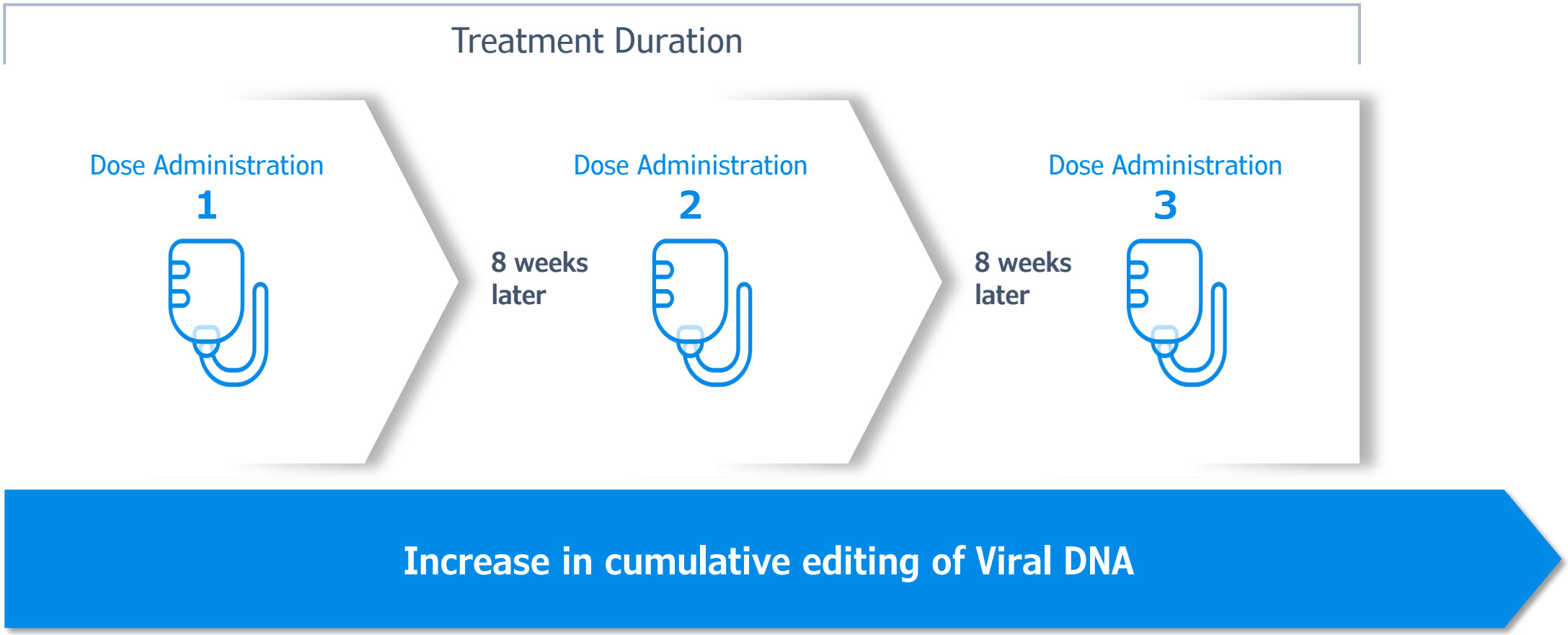
N = Up to 45 patients total across both Part 1 and 2 of Phase 1 study

Finite Treatment:
Patient receives maximum of 3 dose administrations in Part 1 of trial

ClinicalTrials.gov identifier NCT06680232.

PBGENE-HBV Finite Treatment Duration:

Increased Cumulative Viral Editing Through Up to Three Dose Administrations



ClinicalTrials.gov identifier NCT06680232.

Phase 1 Study Goals to Demonstrate Both Safety and Efficacy

Key Endpoints

Safety determined by:

Frequency and severity of dose-limiting toxicities (DLTs)

Efficacy determined by:

Antiviral activity through fixed duration PBGENE-HBV treatment

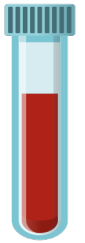
Monitoring Biomarkers

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

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

Sustained HBV DNA Negativity:

— Supported by **reduction in HBV RNA levels**



Tested using blood sample

- HBsAg
- HBcrAg
- HBV DNA & HBV RNA
- Anti-HBs
- Part II: liver biopsy

Driving Patient Outcomes

Stopping SoC Nucleos(t)ide Analogs:
Proportion of participants who can discontinue NA therapy

Partial Cure:
Defined as a **decline in HBsAg to < 50 IU/mL** & continued HBV DNA suppression and ALT concentrations <1.5 × ULN for **6 months post-therapy**

Functional Cure:
Defined as **sustained seroclearance of HBsAg** with/without seroconversion of HBsAb & continued HBV DNA suppression for **>6 months post-therapy**

ALT, alanine aminotransferase; cccDNA, covalently closed circular DNA; HBsAg, hepatitis B surface antigen; HBV DNA, hepatitis B virus DNA; HBV RNA, hepatitis B virus RNA; SoC, standard of care; ULN, upper limit of normal.
ClinicalTrials.gov identifier NCT06680232.

Expert Clinical Investigators Panel

Murray Abramson, MD, MPH
Head of Clinical Development
Precision BioSciences, Inc

United Kingdom

Kosh Agarwal, MD

Hepatologist and Transplant Physician Institute of Liver Studies, King's College Hospital NHS Foundation Trust

Moldova

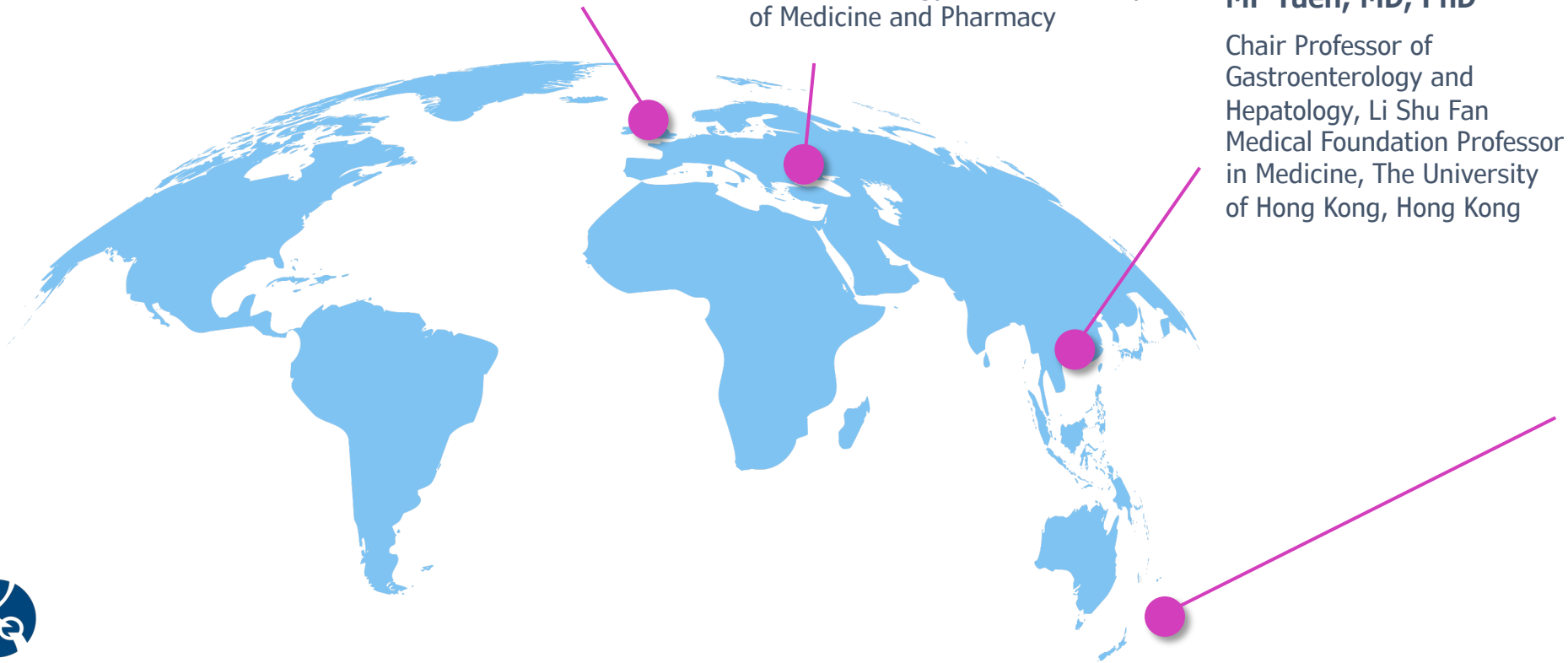
Alina Jucov, MD, PhD

Principal Investigator, ARENSIA Research Clinic, Chisinau, Moldova
Assistant Professor, Department of Gastroenterology, State University of Medicine and Pharmacy

Hong Kong

MF Yuen, MD, PhD

Chair Professor of Gastroenterology and Hepatology, Li Shu Fan Medical Foundation Professor in Medicine, The University of Hong Kong, Hong Kong



New Zealand

Ed Gane, MD

Professor of Medicine, University of Auckland, Deputy Director, New Zealand Liver Transplant Unit Chief Medical Advisor, New Zealand Clinical Research

Moldova Enables Operational Speed Towards Dosing First Patient

Moldova

- **High Unmet Need**
  - High diagnosed prevalence rate resulting in large patient population (>215,000 patients)
- **Clinical Trial Feasibility**
  - Highly centralized medical system provides easier access to patients suffering from cHBV
  - Clinical trial site with operational expertise running complex early phase studies in infectious disease with over 200 Phase 1/2 studies completed or in-process in Hepatitis†
- **Regulatory Considerations**
  - Robust and rapid review process enables parallel review and start-up processes with ability to rapidly dose patients

Well Charted Clinical Path for HBV Phase 1 Studies*

Moldova is a leading country for clinical site operations for Phase 1/2 studies for leading infectious disease companies

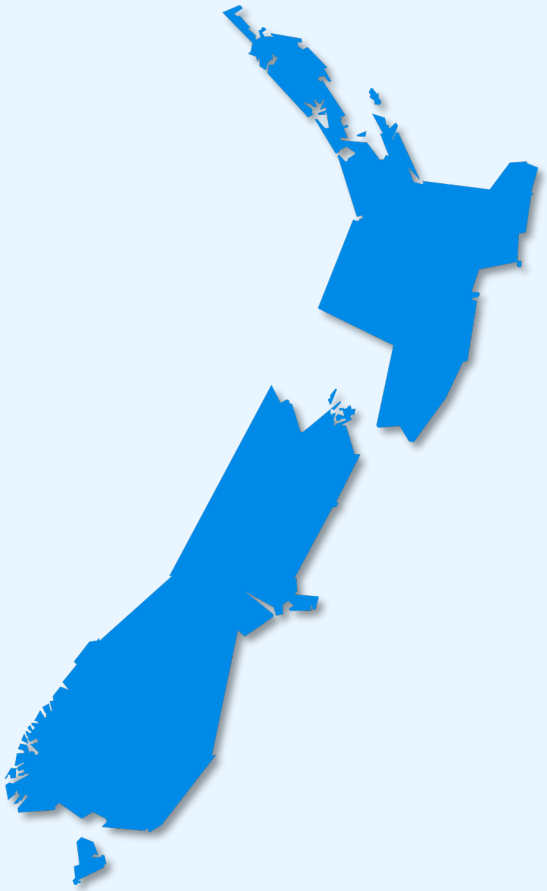
janssen VIR assemblybio Arbutus BIOPHARMA ALIGOS THERAPEUTICS ANTIOS THERAPEUTICS

Multiple Phase 1 (N=97 studies) and Phase 2 (N=108 studies) study sponsors including: Janssen, AbbVie, Aligos, Arbutus, Assembly, Arrowhead, Enanta, Gilead Sciences, Merck, Novartis, Genentech-Roche, VIR Bio, Astra Zeneca, Boehringer Ingelheim, Regeneron, Genmab, Galapagos, Atea, Theravance, Pfizer, Ipsen, Astellas, Sanofi. All trademarks and trade names are the property of their respective owners.

†16 Phase 1 and 2 studies completed or in-process for HBV.

1. Moldova epi number. Referenced by the Coalition For Global Hepatitis Elimination.

New Zealand is a Pioneer for Gene Editing Studies & Infectious Disease



New Zealand

- **Sizable patient population**
  - Approximately 100,000 people in New Zealand live with chronic HBV, and many require lifelong monitoring due to the risk of liver damage and liver cancer[2]
- **New Zealand Clinical Research (NZCR)**
  - NZCR are pioneers in leading first gene editing studies in ATTR, HAE, AATD, and Cardiovascular trials for Intellia, Verve, and Beam therapeutics
  - NZCR was the center that developed sofosbuvir, the first oral treatment for HCV

Leading Infectious Disease Companies Running Trials in NZ*

Alnylam® · assemblybio · arrowhead pharmaceuticals · GILEAD · Janssen · Roche · VIR

*All trademarks and trade names are the property of their respective owners.

1. National Library of Medicine. Hepatitis B Clinical Trials in New Zealand. ClinicalTrials.gov. https://clinicaltrials.gov/search?locStr=New%20Zealand&country=New%20Zealand&cond=Hepatitis%20B&aggFilters=funderType:industry,phase:1. Accessed October 31, 2024..
2. Hepatitis Foundation of New Zealand. Hepatitis B. https://www.hepatitisfoundation.org.nz/hepatitis-b/. Accessed October 31, 2024.

Hong Kong is on the Forefront of cHBV Drug Development

Hong Kong

- **Clinical Trial Feasibility**
  - Nearly 70 Phase 1/2 studies completed or on-going for investigation in HBV[1,2]
  - Clinical center offers access to Asian-specific genotypes for inclusion into clinical studies
- **Large Patient Population**
  - Approximately 410,000 people in Hong Kong live with chronic HBV, with older adults particularly affected and at risk of severe complications like cirrhosis and liver cancer.[3]

Leading Infectious Disease Companies Running Trials in Hong Kong*

Alnylam, assemblybio, arrowhead pharmaceuticals, GILEAD, GSK, NOVARTIS, Roche, VIR

*All trademarks and trade names are the property of their respective owners.

1. ClinicalTrials.gov. Hepatitis B Clinical Trials in Hong Kong, Phase 2. ClinicalTrials.gov. https://clinicaltrials.gov/search?locStr=Hong%20Kong&country=Hong%20Kong&cond=Hepatitis%20B&aggFilters=funderType:industry,phase:2. Accessed October 31, 2024.
2. ClinicalTrials.gov. Hepatitis B Clinical Trials in Hong Kong, Phase 1. ClinicalTrials.gov. https://clinicaltrials.gov/search?locStr=Hong%20Kong&country=Hong%20Kong&cond=Hepatitis%20B&aggFilters=funderType:industry,phase:1. Accessed October 31, 2024.
3. Viral Hepatitis Control Office, Department of Health. Prevalence of chronic hepatitis B in Hong Kong. iContinuing Education on viral hepatitis. Updated July 2024. Accessed October 31, 2024. https://www.hepatitis.gov.hk/english/health_professionals/files/iCE_HBV_prevalence.pdf

U.K. is a Global Center of Excellence for cHBV & Pioneers in Gene Editing

United Kingdom (U.K.)

- **Growing Diagnosed Patient Population[1]**
  - UKHSA initiatives in place to improve the diagnosis rate for people living with hepatitis B
  - ~90,000 prevalent patient population today, but estimated up to 270,000 patients could be living with HBV
- **Clinical Trial Feasibility**
  - Home to leading global experts in hepatology
  - Clinical trial sites with operational expertise running complex early phase studies in infectious disease; nearly 60 Phase 1/2 studies either completed or ongoing in hepatitis B[2,3]
- **Regulatory Considerations**
  - Favorable regulatory environment for first-in-class gene editing clinical studies
  - U.K. is home to multiple gene editing studies across other disease areas including OTCD and AATD

Leading Infectious Disease Companies Running Trials in U.K.*

abbvie · Alnylam · assemblybio · Bristol Myers Squibb · Roche · VIR · GILEAD · GSK · Janssen · NOVARTIS · Pfizer

UKHSA, Health Security Agency.

*All trademarks and trade names are the property of their respective owners.

1. Campbell C, Wang T, Burrow R, et al. Estimating the epidemiology of chronic Hepatitis B Virus (HBV) infection in the U.K.: what do we know and what are we missing?. Wellcome Open Res. 2023;7:203. Published 2023 Mar 9. doi:10.12688/wellcomeopenres.17941. **2.** ClinicalTrials.gov. Search results for phase 2 industry-funded studies on hepatitis B in the United Kingdom. https://clinicaltrials.gov/search?locStr=United%20Kingdom&country=United%20Kingdom&cond=Hepatitis%20B&aggFilters=funderType:industry%20fed,phase:2. Accessed October 31, 2024. **3.** ClinicalTrials.gov. Search results for phase 1 industry-funded studies on hepatitis B in the United Kingdom. https://clinicaltrials.gov/search?locStr=United%20Kingdom&country=United%20Kingdom&cond=Hepatitis%20B&aggFilters=funderType:industry,phase:1. Accessed October 31, 2024.

Clinical Summary

Murray Abramson, MD, MPH
Head of Clinical Development
Precision BioSciences, Inc

PBGENE-HBV: Establishing A New Paradigm for Cures in cHBV

Goal of Sterilizing Cure with Initial Target of Functional Cure
Uniquely designed to target cccDNA and integrated DNA, addressing the root cause of HBV

Right Clinical Design Backed by Robust Preclinical Data & Regulatory Alignment
Demonstrated 99% viral DNA editing and safety profile

Global Phase 1 Study Up to 5 Countries in Largest Real World Patient Population
Phase 1 trial designed to rapidly translate preclinical safety and antiviral efficacy in patients, starting with the largest E-negative patient population

Clinical Program and Execution Guided by the Leading HBV Investigators and Advisors
Deep Scientific Advisory Board and Phase 1 investigators experience across both infectious disease and gene editing clinical studies

On Track for Clinical Data Readouts in 2025
Phase 1 study initiated & moving towards dosing patients

Next Steps

- Finalize additional CTA and IND regulatory approvals
- In parallel, dose patients across multiple global clinical sites

Closing Thoughts

Next Steps Focused on Operational Excellence & Generating Clinical Data

Finalize Regulatory Submissions & Drive Clinical Operations

- Secure **additional CTA and IND** regulatory approvals
- Finish **enrolling early dose levels**

Q4 2024 - Q2 2025

Continued Clinical Execution & First Data Readout

- Enroll patients into **higher dose levels**
- **Safety** including liver enzyme levels and LNP related safety markers
- **Efficacy,** including HBsAg decline, HBV RNA and HBcrAg, **from early dose levels**

Throughout 2025

Evaluate Potential for Stopping Nucleos(t)ide Analogs & Initiate Phase 1b

- **Robust safety and efficacy data across dose levels,** including HBsAg decline and negativity, HBV RNA and HBcrAg and assess patients who may qualify for stopping nucleos(t)ide analogs
- Establish go-forward safe and efficacious **phase 1b dose**

Mid-to-Late 2025 into 2026