Arbutus BIOPHARMA

Curing Chronic Hepatitis B

Corporate Presentation

May 2020

NASDAQ: ABUS www.arbutusbio.com

Forward-Looking Statements

This presentation contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and Canadian securities laws. All statements that are not historical facts are hereby identified as forward-looking statements for this purpose and include, among others, statements relating to: the potential for HBV to have a larger market opportunity than HCV; our ability to meet a significant unmet medical need; the sufficiency of our cash and cash equivalents to extend into mid 2021; our expectation for multiple 60 mg dose and 90 mg single-dose data in the second half of 2020; the potential for an oral HBsAg reducing agent and potential all oral combination therapy; our objective to complete IND enabling studies for AB-836 in the second half of 2020; the potential for AB-836 to be low dose with a greater therapeutic window and to address known capsid resistant variants T33N and I105T; the potential for AB-836 to be once daily dosing; our expectations regarding the timing and clinical development of our product candidates; the timeline to a combination cure for HBV; our coronavirus strategy; and other statements relating to our future operations, future financial performance, future financial condition, prospects or other future events.

With respect to the forward-looking statements contained in this presentation, Arbutus has made numerous assumptions regarding, among other things: the timely receipt of expected payments; the effectiveness and timeliness of preclinical studies and clinical trials, and the usefulness of the data; the timeliness of regulatory approvals; the continued demand for Arbutus' assets; and the stability of economic and market conditions. While Arbutus considers these assumptions to be reasonable, these assumptions are inherently subject to significant business, economic, competitive, market and social uncertainties and contingencies including uncertainties and contingencies related to the ongoing COVID-19 pandemic. Forward-looking statements herein involve known and unknown risks, uncertainties and other factors that may cause the actual results, events or developments to be materially different from any future results, events or developments expressed or implied by such forward-looking statements. Such factors include, among others: anticipated pre-clinical and clinical trials may be more costly or take longer to complete than anticipated, and may never be initiated or completed, or may not generate results that warrant future development of the tested drug candidate; changes in Arbutus' strategy regarding its product candidates and clinical development activities; Arbutus may not receive the necessary regulatory approvals for the clinical development of Arbutus' products; economic and market conditions may worsen; and market shifts may require a change in strategic focus; and the ongoing COVID-19 pandemic could significantly disrupt our clinical development programs. A more complete discussion of the risks and uncertainties facing Arbutus appears in Arbutus' Annual Report on Form 10-K, Quarterly Report on Form 10-Q and Arbutus' periodic disclosure filings which are available at www.sec.gov and at www.sedar.com.

The forward-looking statements made in connection with this presentation represent our views only as of the date of this presentation (or any earlier date indicated in such statement). While we may update certain forward-looking statements from time to time, we specifically disclaim any obligation to do so, even if new information becomes available in the future.

COVID-19. In December 2019 an outbreak of a novel strain of coronavirus (COVID-19) was identified in Wuhan, China. This virus continues to spread globally, has been declared a pandemic by the World Health Organization and has spread to nearly every country in the world. The impact of this pandemic has been, and will likely continue to be, extensive in many aspects of society. The pandemic has resulted in and will likely continue to result in significant disruptions to businesses. A number of countries and other jurisdictions around the world have implemented extreme measures to try and slow the spread of the virus. These measures include the closing of businesses and requiring people to stay in their homes, the latter of which raises uncertainty regarding the ability to travel to hospitals in order to participate in clinical trials. Additional measures that have had, and will likely continue to have, a major impact on clinical development, at least in the near-term, include shortages and delays in the supply chain, and prohibitions in certain countries on enrolling subjects in new clinical trials (e.g. in Australia). It is not possible to predict if the COVID-19 pandemic will negatively impact our plans and timelines.

Investment Highlights

Therapeutic focus – curing chronic Hepatitis B Virus (HBV) Infection

Significant Unmet Medical Need in HBV

Global HBV prevalence double that of HCV, potential for larger market opportunity

Goal of HBV Functional Cure

Undetectable HBV DNA and HBsAg delivered through finite duration treatment with a combination of drugs with different modes of action

Broad HBV Portfolio

HBV assets include:

RNAi

Capsid Inhibitors

PD-L1

HBV RNA Destabilizers

Coronavirus Research Initiative

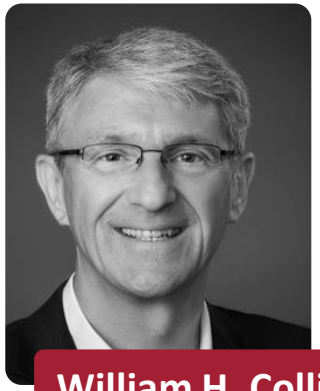
Focused on direct acting antivirals targeting the viral polymerase and protease

Team with Antiviral Expertise & Proven Track Record

Applying knowledge gained from HIV and HCV success to HBV and Coronaviruses

Proven Leadership Team

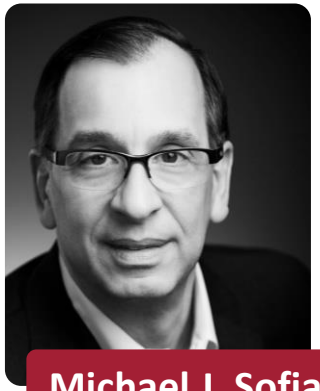
Successful track records in the discovery, development, and commercialization of multiple antivirals including sofosbuvir, etravirine, rilpivirine, telaprevir and simeprevir



William H. Collier

President and CEO

ViiV Healthcare · gsk



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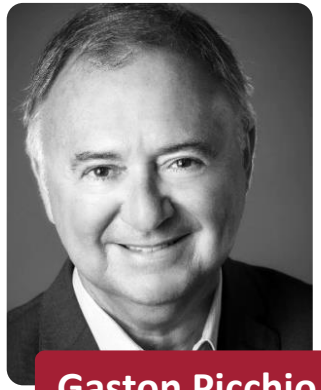
Chief Scientific Officer

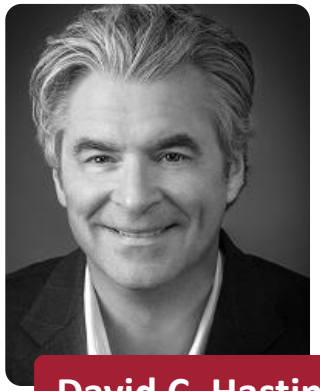
PHARMASSET · OnCore Biopharma, Inc. · GILEAD · Bristol-Myers Squibb



Gaston Picchio, PhD

Chief Development Officer

Janssen



David C. Hastings

Chief Financial Officer

Incyte · ARQULE · UNILIFE

Elizabeth Howard, PhD, JD

EVP, General Counsel and Chief Compliance Officer

orrick

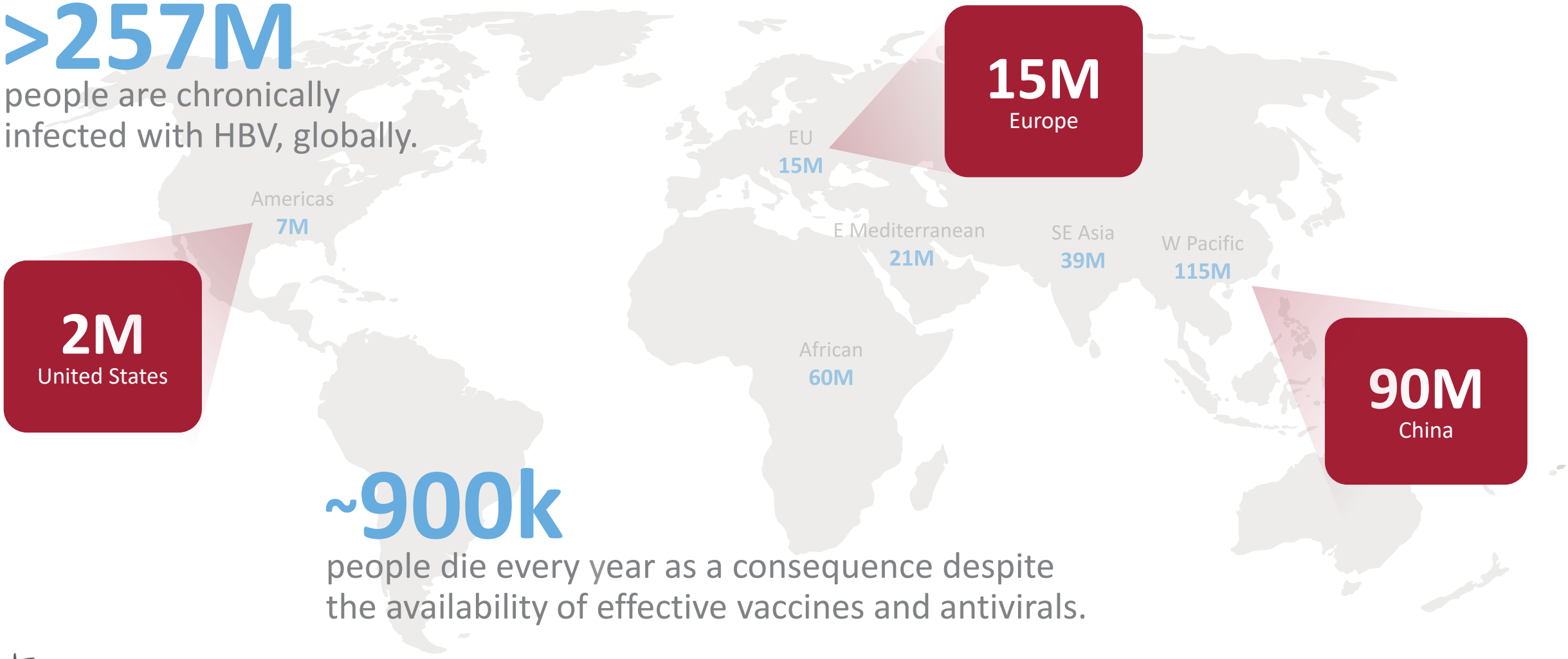
Michael J. McElhaugh

Chief Business Officer

OnCore Biopharma, Inc. · Bristol-Myers Squibb · ViroPharma Incorporated · PHARMASSET

HBV Presents a Significant Unmet Medical Need

>257M
people are chronically infected with HBV, globally.



~900k
people die every year as a consequence despite the availability of effective vaccines and antivirals.

Sources: Global Hepatitis Report and Hepatitis B Fact Sheet, WHO (2017) http://www.who.int/mediacentre/factsheets/fs204/en/
Kowdley et al. Hepatology (2012) Prevalence of Chronic Hepatitis B Among Foreign-Born Persons Living in the US by Country of Origin

Significant Opportunity to Improve HBV Cure Rates

HBV cures are achievable with today's SOC in **<5% of patients**. **Sustained** HBsAg and HBV DNA loss after end-of-treatment* is rare.

***undetectable HBsAg and HBV DNA 6 months after end-of-treatment accepted as a functional cure..**

STANDARD OF CARE THERAPIES FOR CHRONIC HBV

	PegIFN	Entecavir	Tenofovir
Dosing Duration	48-weeks	Chronic	Chronic
HBV DNA Undetectable *(<60-80 IU/ml)*	7-19%	67-90%	76-93%
HBsAg Loss	**~3-7%**	**~1-2%**	**~1-3%**

New HBV Therapies

rate of **Undetectable HBV DNA**

+

rate of **HBsAg Loss**

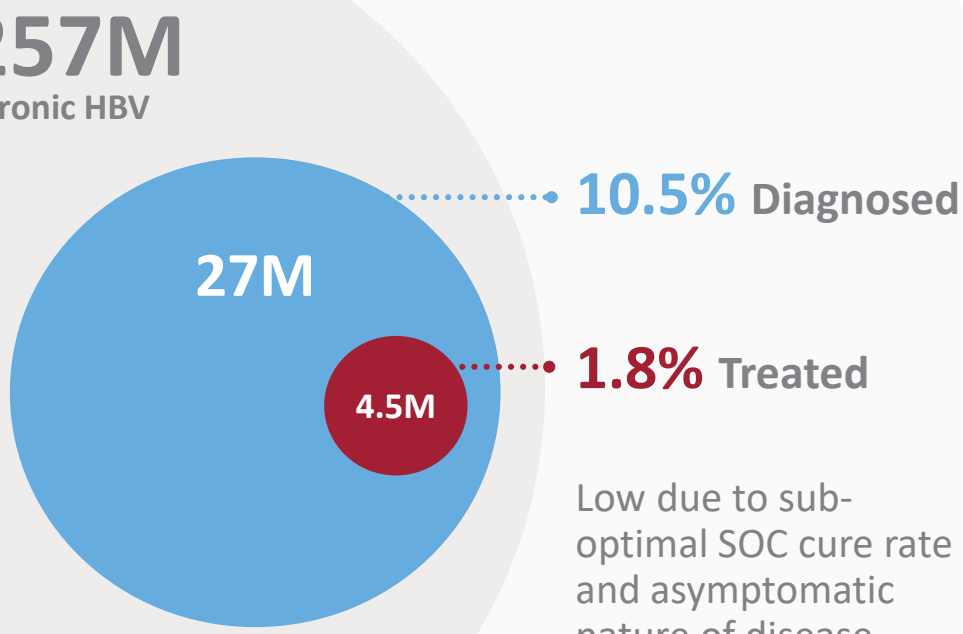
=

HIGHER **CURES RATES**

Achievable **HBV Cure Rates** with Current SOC

SOC: Standard Of Care | **HBsAg**: HBV Surface Antigen | **PegIFN:** Pegylated Interferon
Source: EASL HBV Clinical Practice Guidelines, 2017 - Pegasys, PEG-Intron, Baraclude and Viread Package Inserts

Compelling Growth Opportunity in the **HBV Market**



An HBV curative regimen

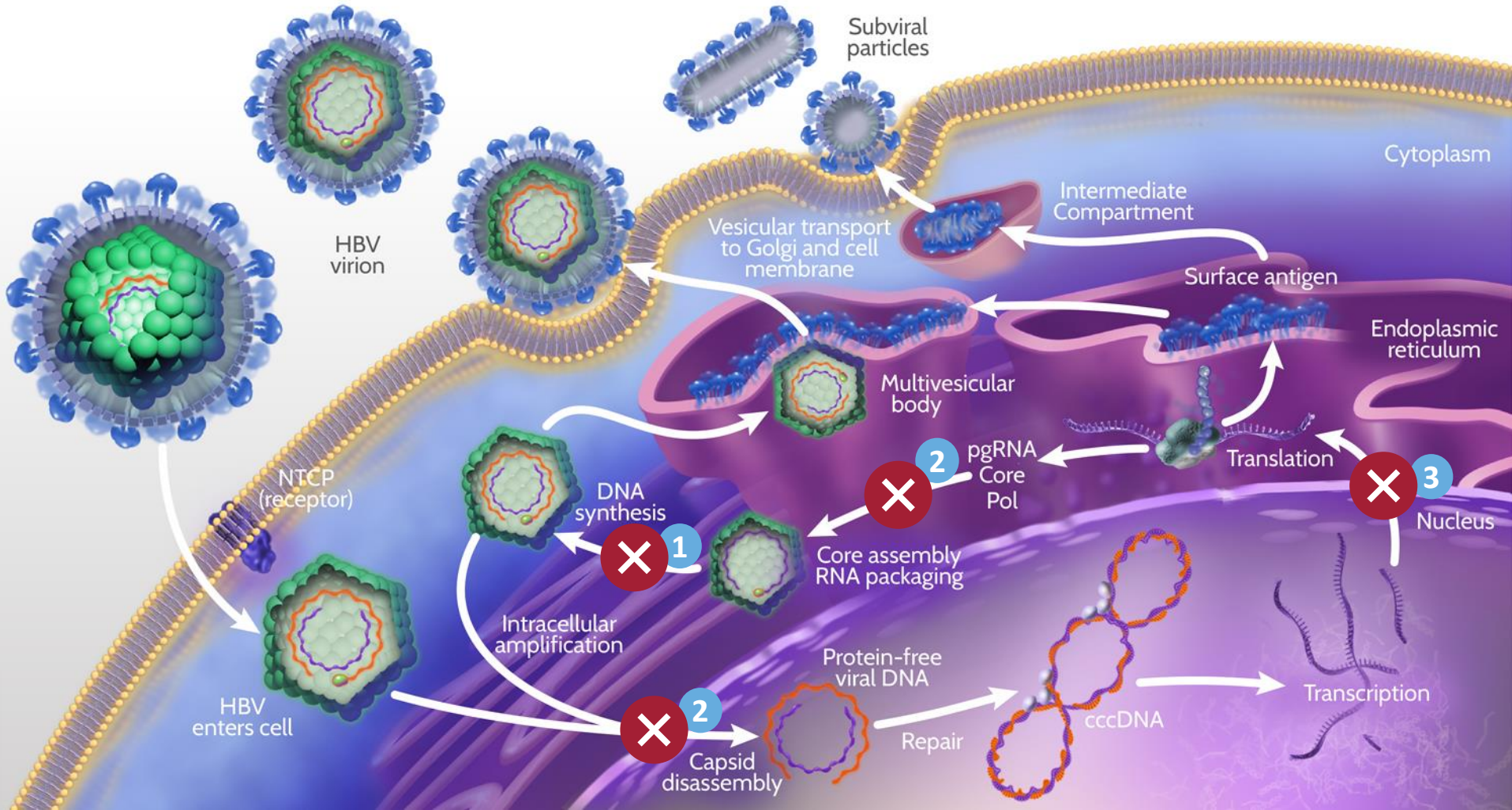
would substantially increase **diagnosis** and **treatment** rates to unlock significant **market growth opportunities.**

SOC: Standard Of Care
Source: Global Hepatitis Report and Hepatitis B Fact Sheet, WHO (2017) http://www.who.int/mediacentre/factsheets/fs204/en/

HBV Lifecycle Illustrates Key Points for Intervention

A combination of agents with complementary MOA **is needed to cure HBV**

1. **Nucleoside Analogue**
2. **Capsid Inhibitor**
3. **RNAi & RNA Destabilizer**

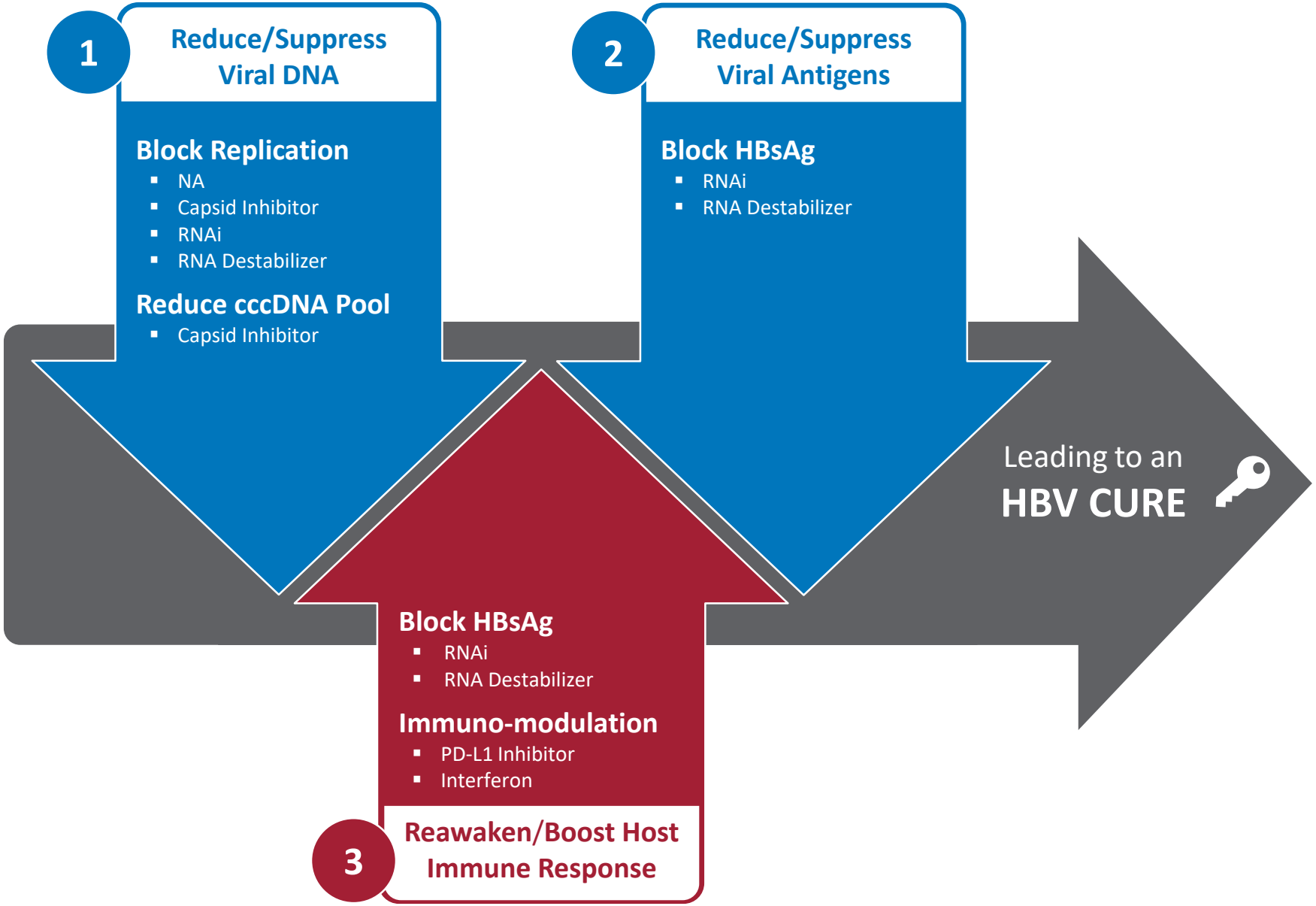


Keys to Therapeutic Success

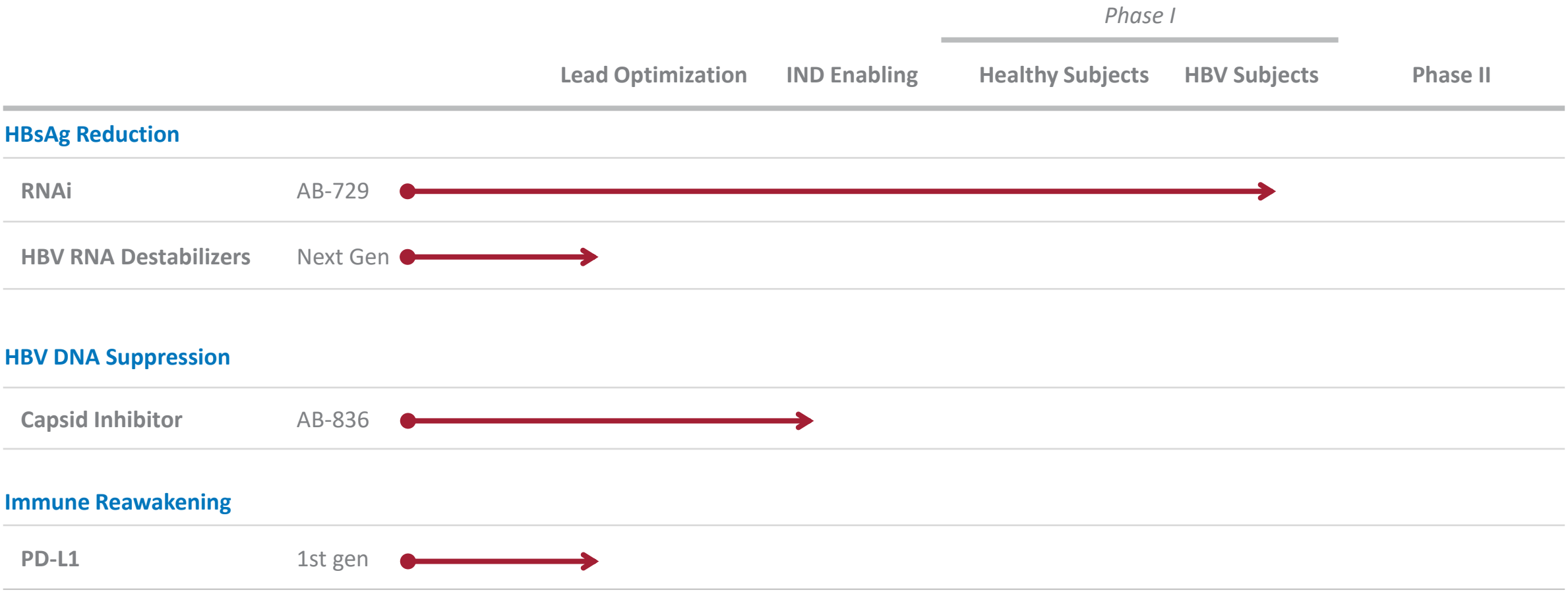
Suppress HBV DNA and viral antigens

Reawaken host immune response

Therapeutic success will **require a combination of agents** with complementary MOAs



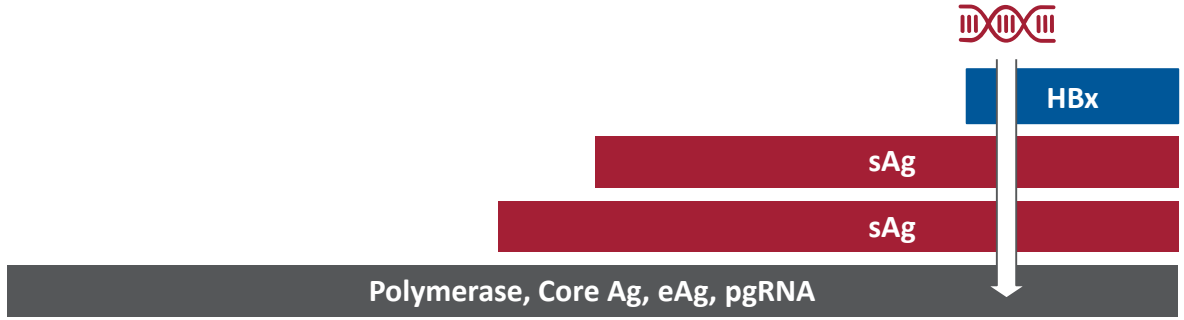
Arbutus HBV Pipeline



AB-729
RNAi Therapeutic

Proprietary GalNAc-conjugate delivery technology provides liver targeting and enables **subcutaneous dosing**

- Single trigger RNAi agent targeting all HBV transcripts
- Inhibits HBV replication and lowers all HBV antigens
- Pan-genotypic activity across HBV genotypes
- Demonstrated complementarity with capsid inhibitors
- Actively targets the liver
- Active against cccDNA derived and integrated HBsAg transcripts
- Clean profile in long term preclinical safety studies



AB-729
RNAi Therapeutic

In May 2020,
Arbutus announced additional positive single-dose Phase 1a/1b clinical trial results for AB-729

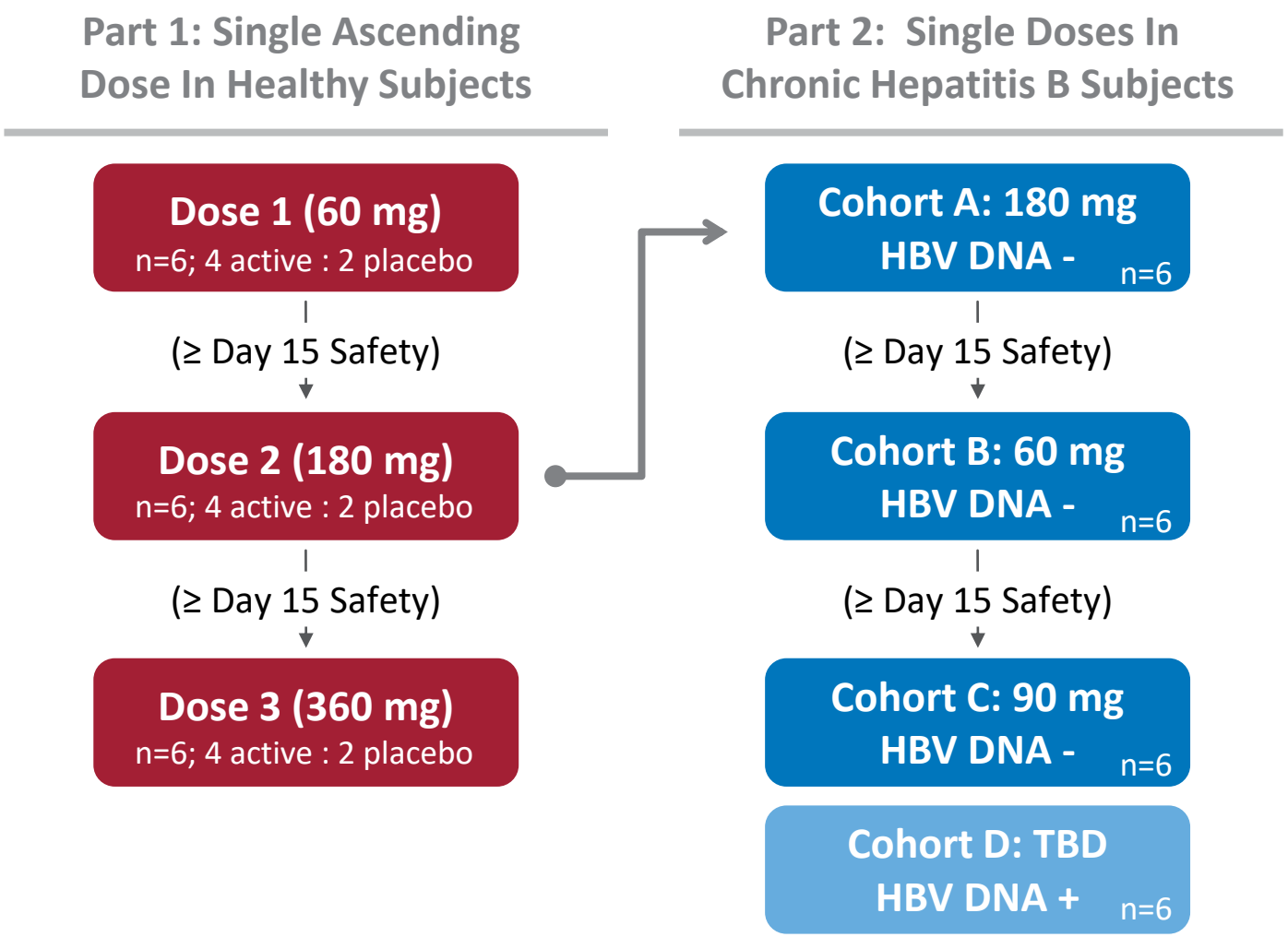
Continuous HBsAg decline with a single 60 mg dose through week 12 with mean HBsAg decline of approximately 1.0 log matching the 180 mg cohort at week 12.

All subjects responded to therapy with everyone achieving at least a -0.62 log reduction in HBsAg at week 12 in the 60 mg dose group with a maximum decline of -2.14 log.

All subjects had normal ALTs/ASTs throughout the 12 week follow up period.

AB-729 may provide a competitive advantage through low dose and reduced frequency of injections.

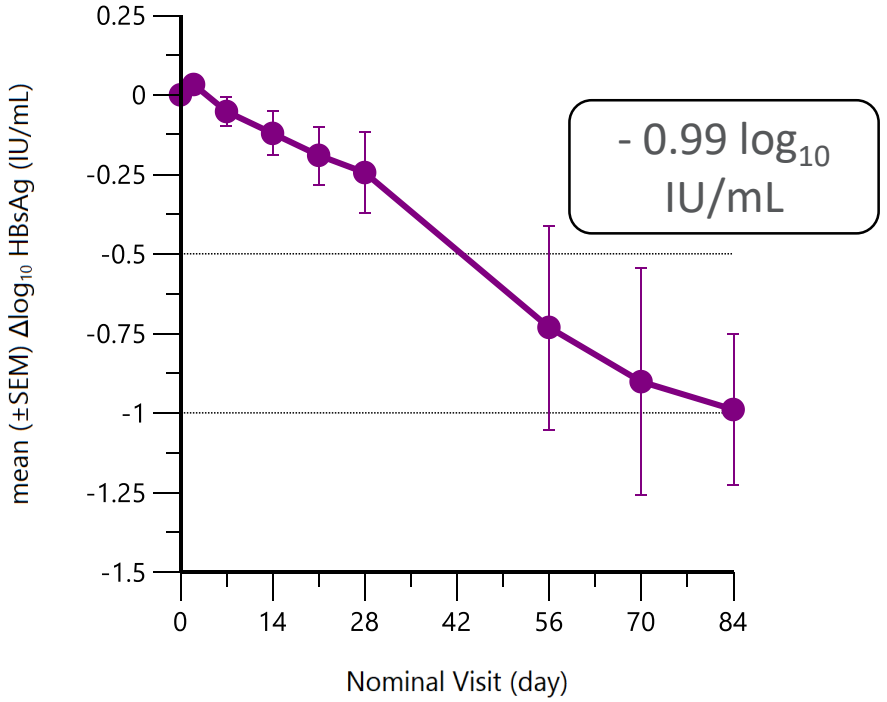
AB-729-001 Study Design



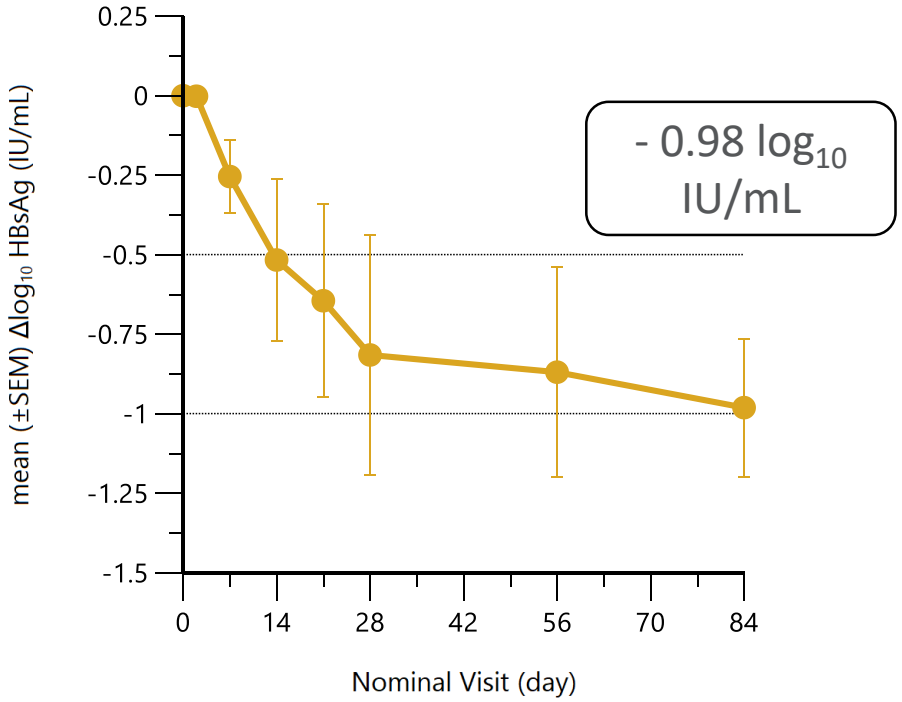
HBV: Hepatitis B Virus | TDF: tenofovir disoproxil fumarate | TBD: to be determined

Continuous Mean HBsAg Decline of ~1 log_{10} with a Single 60 mg Dose Matching HBsAg Decline of 180 mg at Week 12

AB-729 60 mg (N=6)



AB-729 180 mg (N=4)

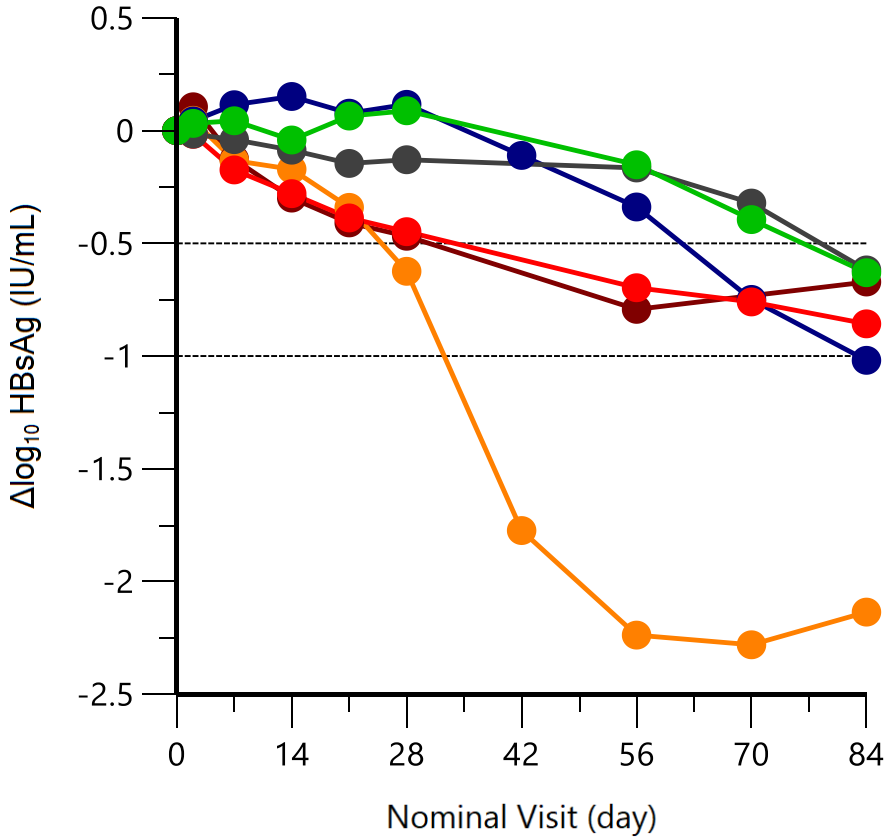


60 mg week 6 data (N=2) excluded for consistency as Week 6 not collected in 180 mg cohort

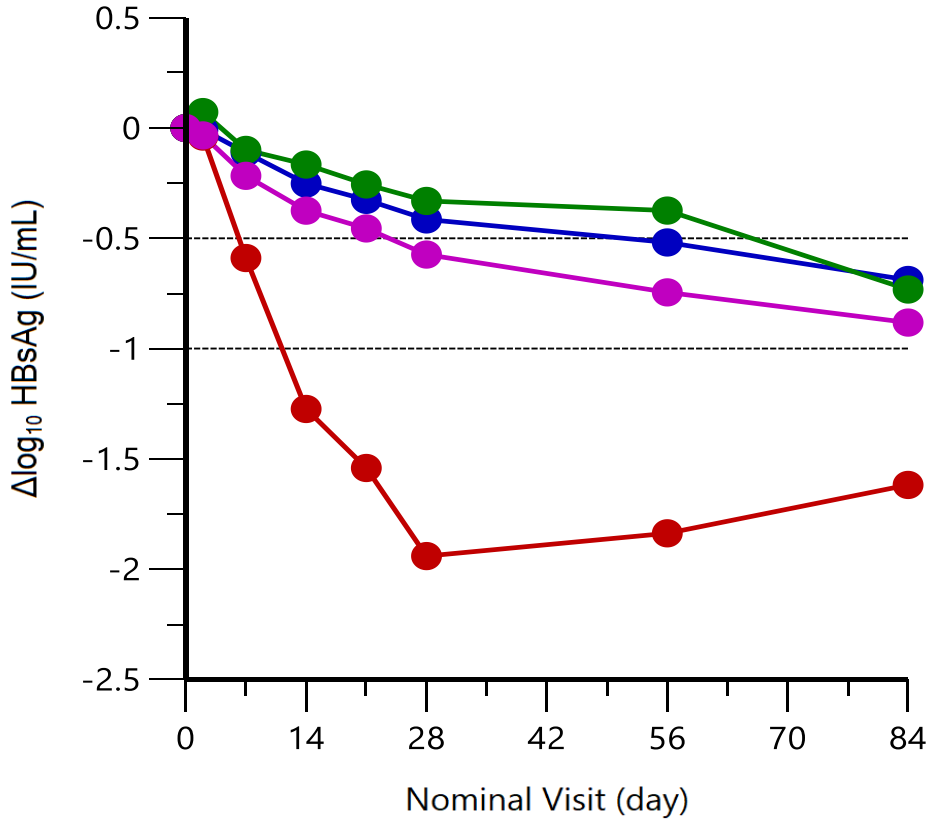
All Subjects Responded in the 60 mg Single-Dose Cohort

Minimum HBsAg decline of -0.62 log10 and maximum HBsAg decline of -2.14 log10 at week 12

AB-729 60 mg (N=6)

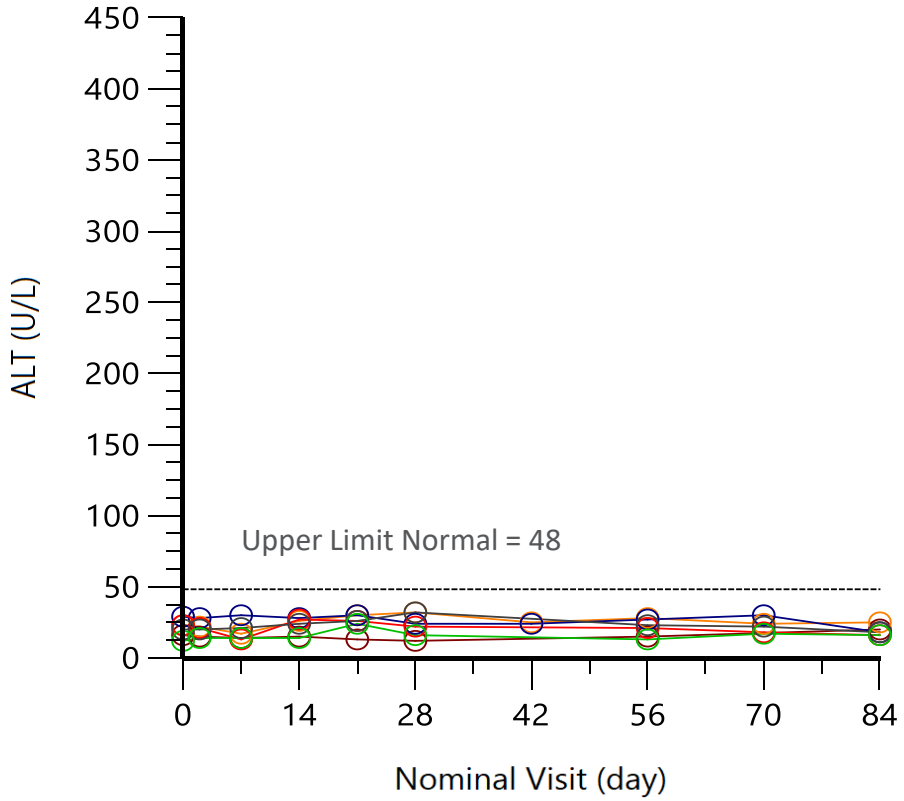


AB-729 180 mg (N=4)

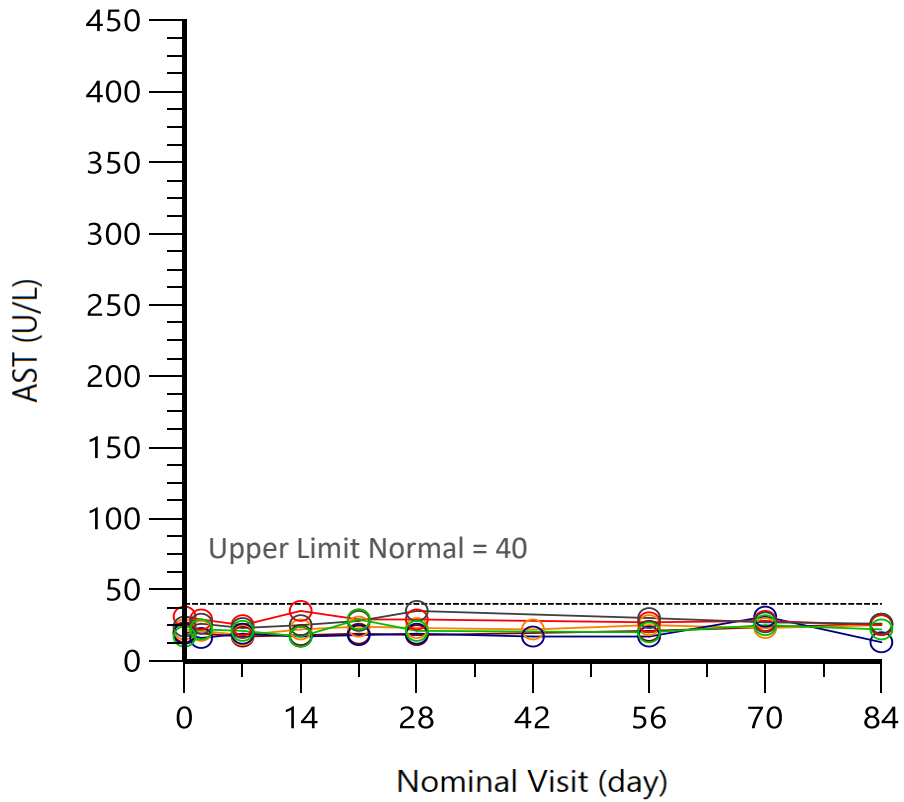


AB-729 60 mg Single-Dose Generally Safe and Well Tolerated with Normal ALT/AST Through 12 Weeks

Alanine Aminotransferase

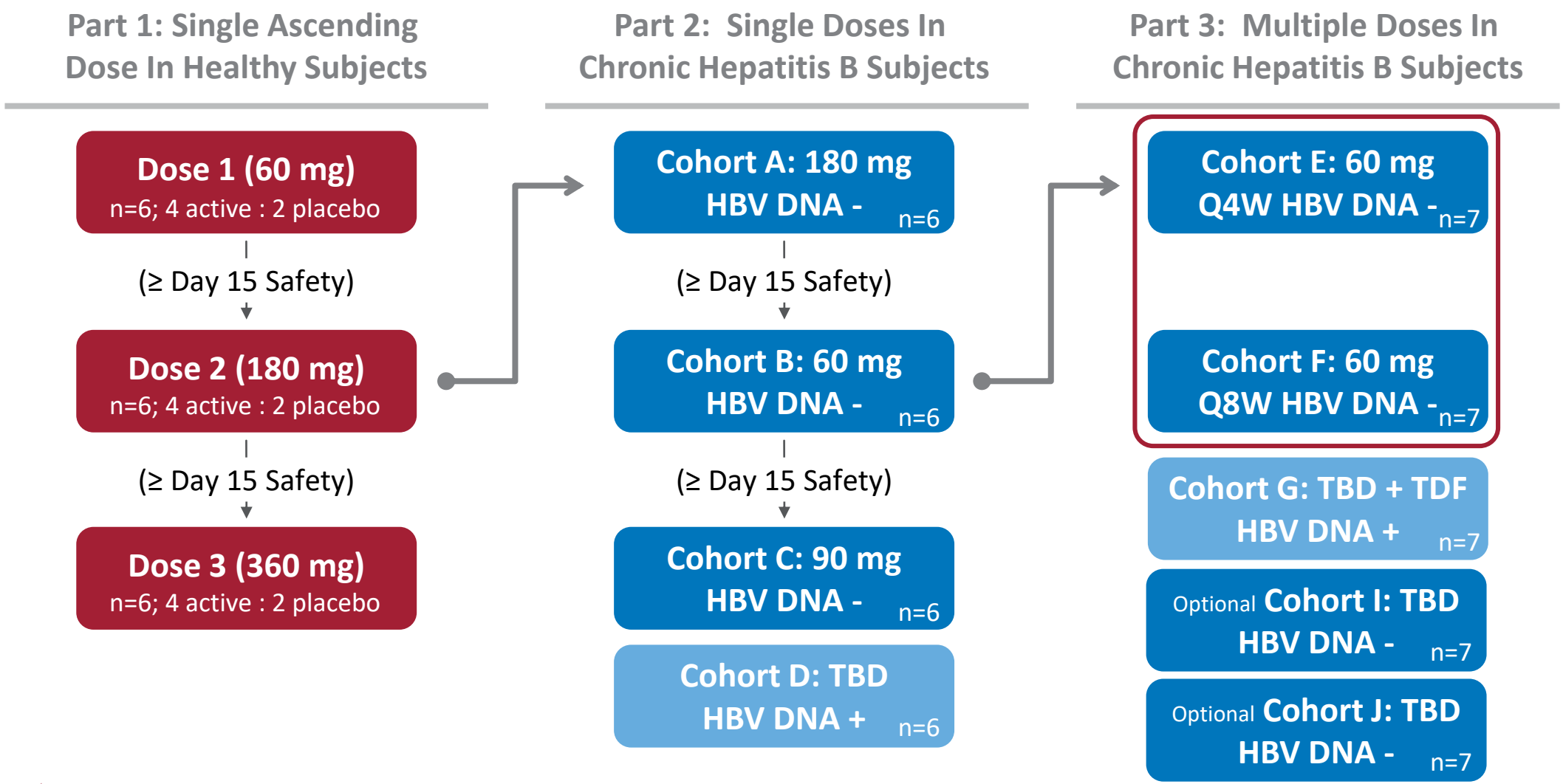


Aspartate Aminotransferase



Samples from week 8 and week 12 from one subject collected by local lab where Upper Limit Normal = 34 U/L for both ALT and AST

AB-729-001 Study – Next Steps



HBV: Hepatitis B Virus | TDF: tenofovir disoproxil fumarate | TBD: to be determined

AB-836
Capsid Inhibitor

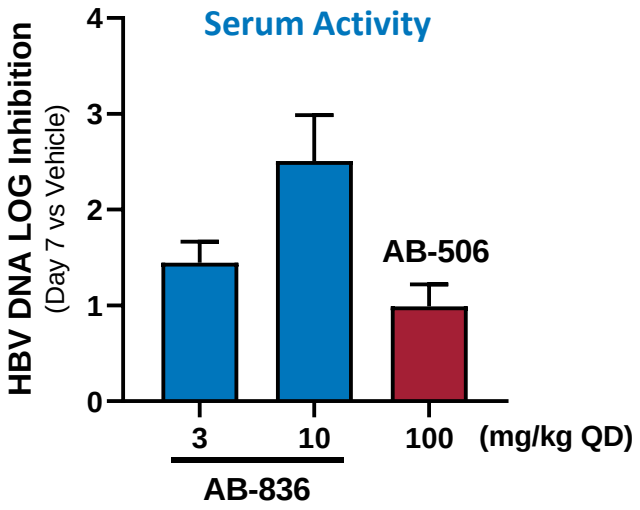
IND enabling studies ongoing

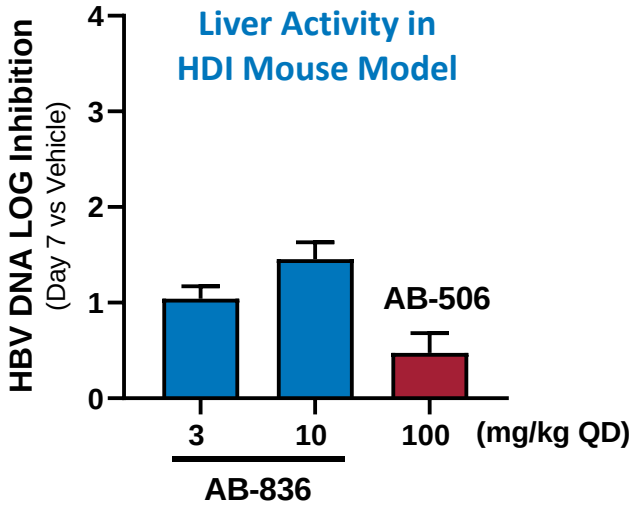
Potential for increased potency and enhanced resistance profile

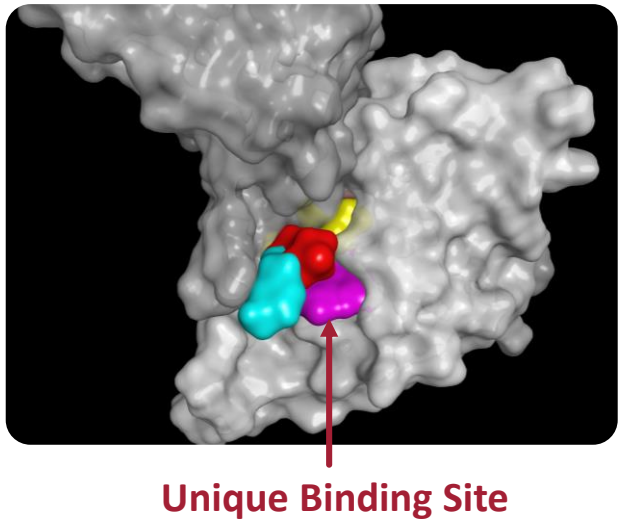
- Novel chemical series differentiated from AB-506 and other competitor compounds in the Class II capsid inhibitor space
- Leverages a novel binding site within the core protein dimer-dimer interface
- Improved intrinsic potency with EC50 $\leq$ 10 nM
- Active against NA resistant variants
- Potential to address known capsid resistant variants T33N and I105T
- Provides the potential for low dose and wide therapeutic window
- Projected to be once daily dosing
- Pangenotypic
- Combinable with other MOA agents

AB-836: A Next Generation Capsid Inhibitor

	HBV DNA / 1° Mechanism				cccDNA Formation / 2° Mechanism	Human Serum Shift
Compound	HepDE19 (EC_{50} µM)	HBV infected PHH (EC_{50} µM)	HBV infected HepG2-NTCP-C4 (EC_{50} µM)	Core I105T Mutation (EC_{50} mM)	HBV infected HepG2-NTCP-C4 (HBsAg EC_{50} µM)	(FC in EC_{50} in 40% Human Serum)
AB-506	0.077	0.032	0.101	1.26	1.430	6x
AB-836	0.010	0.002	0.012	0.118	0.196	2x







HAP: Heteroaryldihydropyrimidine | **SBA:** Sulfamoylbenzamide **I PHH:** Primary Human Hepatocytes

Next Gen RNA Destabilizer Program

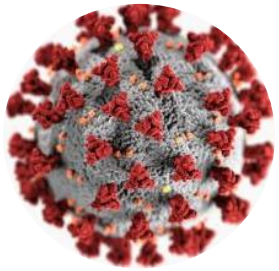
Offers a novel mechanism of action to reduce HBsAg and other viral proteins and viral RNA

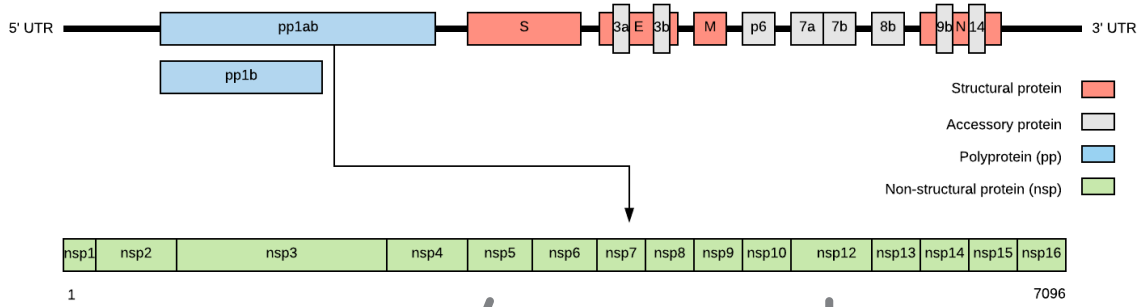
Continuing active research and development of a next generation small molecule

We believe this approach offers potential for an oral HBsAg reducing agent and all oral combination therapy

Coronavirus Strategy

Leveraging our proven expertise and capabilities in antiviral drug discovery and development

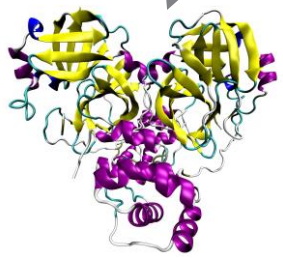




+RNA Virus

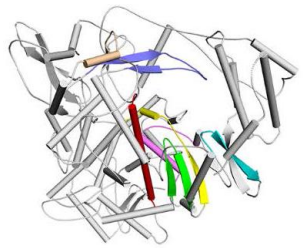
31 kb Genome

nsp5 protease & nsp12 polymerase essential enzymes for replication



COVID-19 Virus nsp5 / 3CLpro

Viral Protease



COVID-19 Virus nsp12

Viral Polymerase

Long term commitment

Pan-coronavirus focused

Small Molecule Direct-Acting Antivirals

Directed Effort

- nsp12 Viral Polymerase - nucleosid(t)es
- nsp5 Main Viral Protease - denovo design

Screening Effort

- Proprietary library screening through COVID R&D consortium

Key Objectives for 2020

Cash balance of $88.1M as March 31, 2020, cash runway into mid-2021

Objective	Anticipated Timing
AB-729 preliminary phase 1a/1b single-dose data	✓ Late 1Q 2020
AB-729 additional week 12 60 mg single-dose data	✓ May 2020
AB-729 multi-dose 60 mg data (4 and 8 wk dosing intervals)	2H 2020
AB-729 week 12 single-dose 90 mg data	2H 2020
AB-836 complete IND enabling studies	2H 2020