Arbutus BIOPHARMA

Curing Chronic Hepatitis B

Singularly Focused on HBV

March 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 expected cash burn rate for 2020; our expectation for AB-729 for preliminary results from our Phase I trial to be available late in the first quarter 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; 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. 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. A more complete discussion of the risks and uncertainties facing Arbutus appears in Arbutus' Annual Report on Form 10-K 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.

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**

=

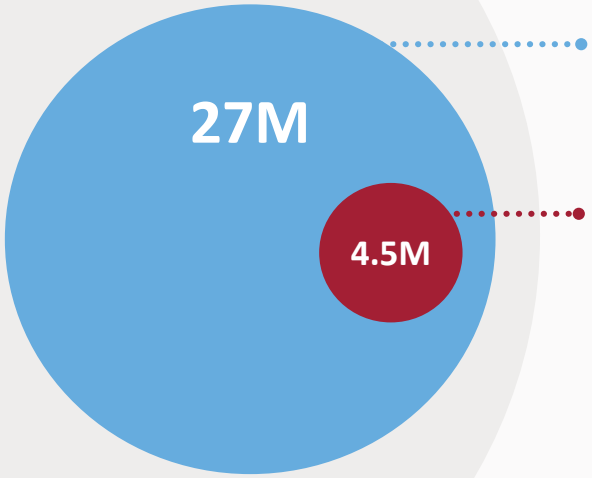
HIGHER **CURES RATES**

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

257M chronic HBV



10.5% Diagnosed

1.8% Treated

Low due to sub-optimal SOC cure rate and asymptomatic nature of disease.

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/

Investment Highlights

Singular 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 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

Strong Financial Position

$90.8M cash at 12/31/19 with cash runway into mid 2021 and expected burn rate of $54-$58M in 2020

Team With Antiviral Expertise & Proven Track Record

Applying knowledge gained from HIV and HCV success to find HBV cure through proprietary drug combinations

HCV: Hepatitis C Virus | **HIV** Human Immunodeficiency Virus

Proven Leadership Team

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

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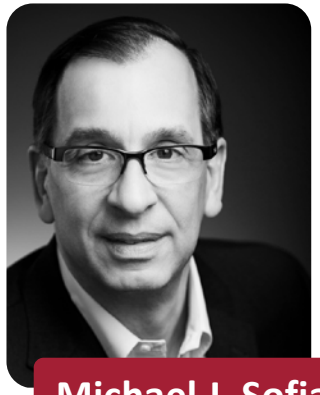
President and CEO

ViiV Healthcare · gsk



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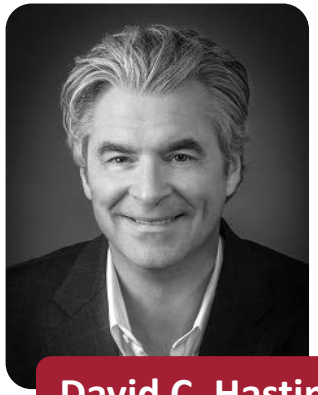

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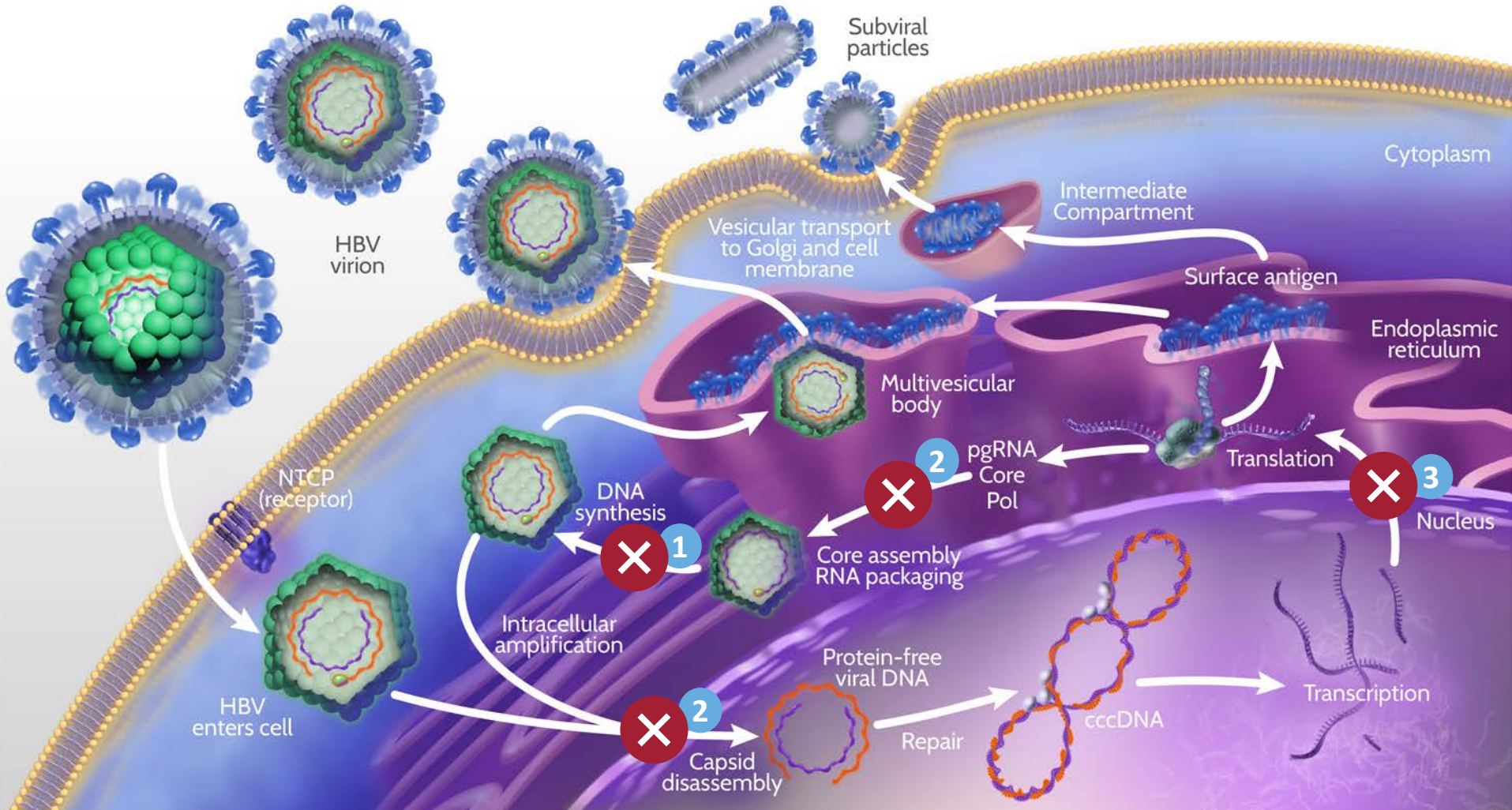
HBV Lifecycle Illustrates Key Points for Intervention

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

1 – Nucleoside Analogue
2 – Capsid Inhibitor
3 – RNAi & RNA Destabilizer

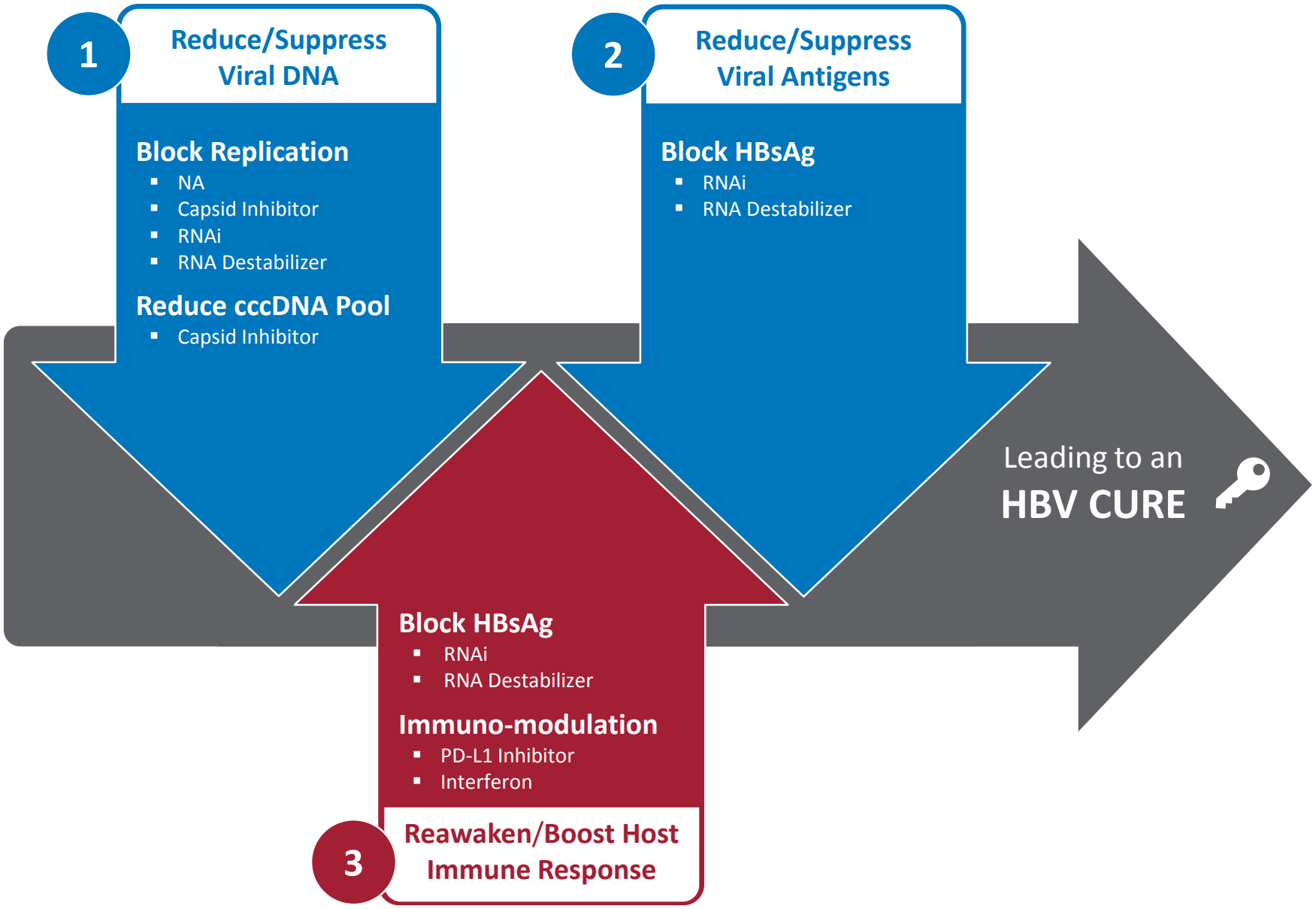


Keys to Therapeutic Success

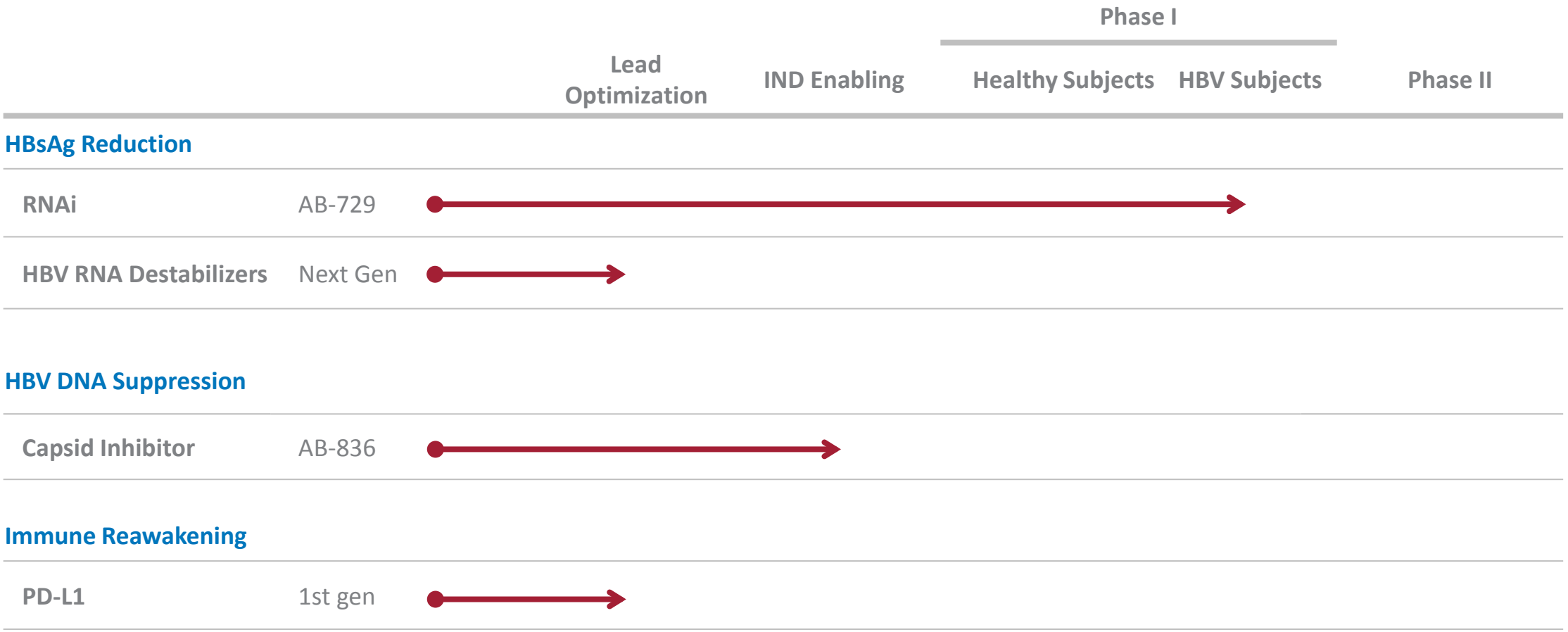
Suppress HBV DNA and viral antigens

Reawaken host immune response

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



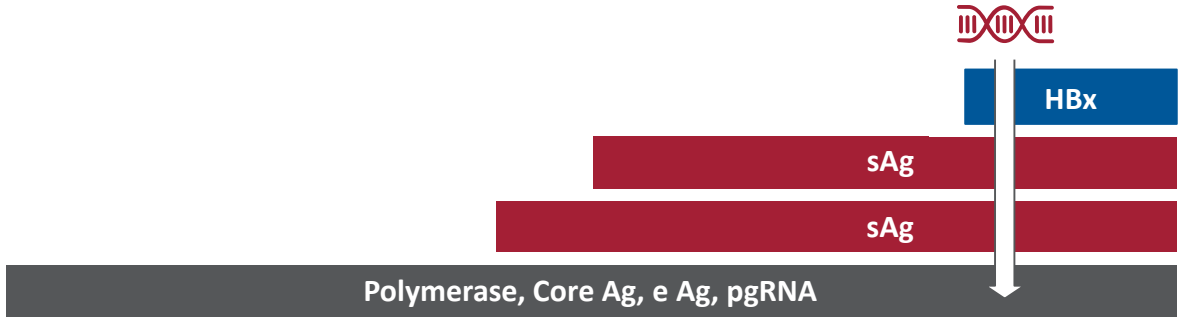
Arbutus HBV Pipeline



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
- Duration of HBsAg reduction supports once per month dosing
- Demonstrated complementarity with capsid inhibitors
- Phase I initiated in July 2019
- Preliminary results in healthy volunteer and HBV subjects expected in late Q1 2020

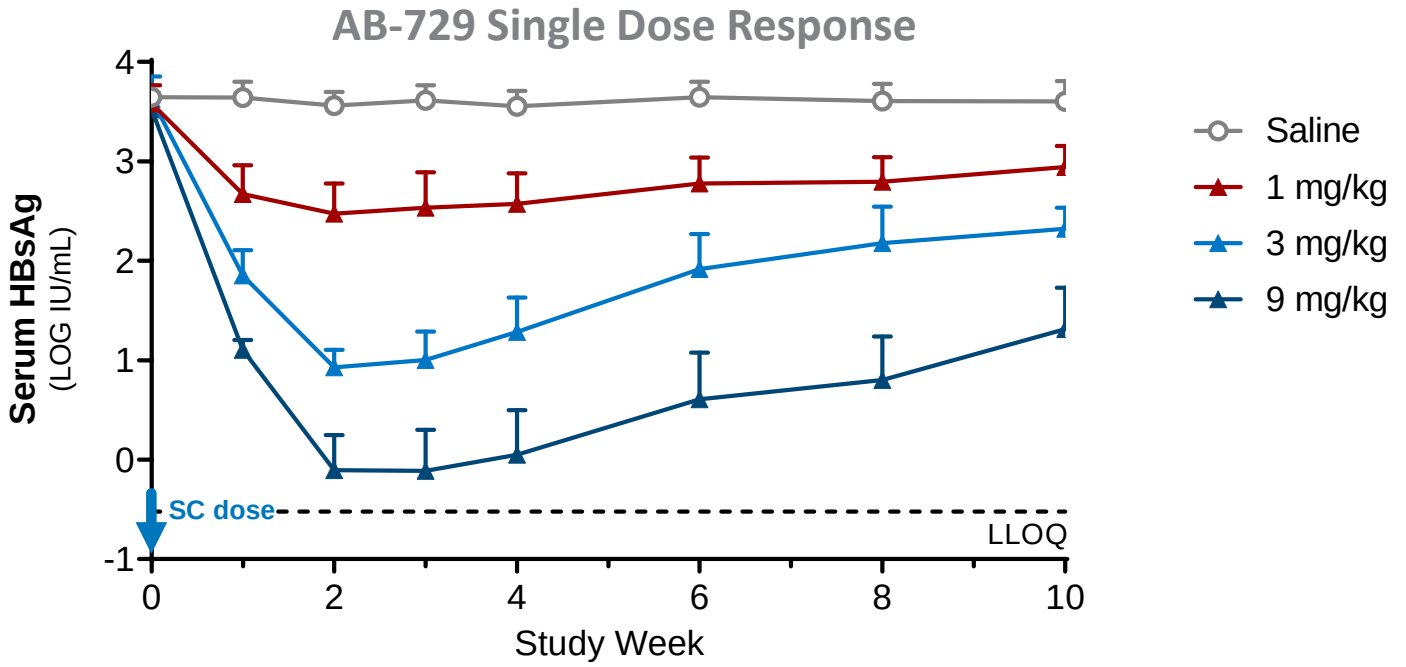


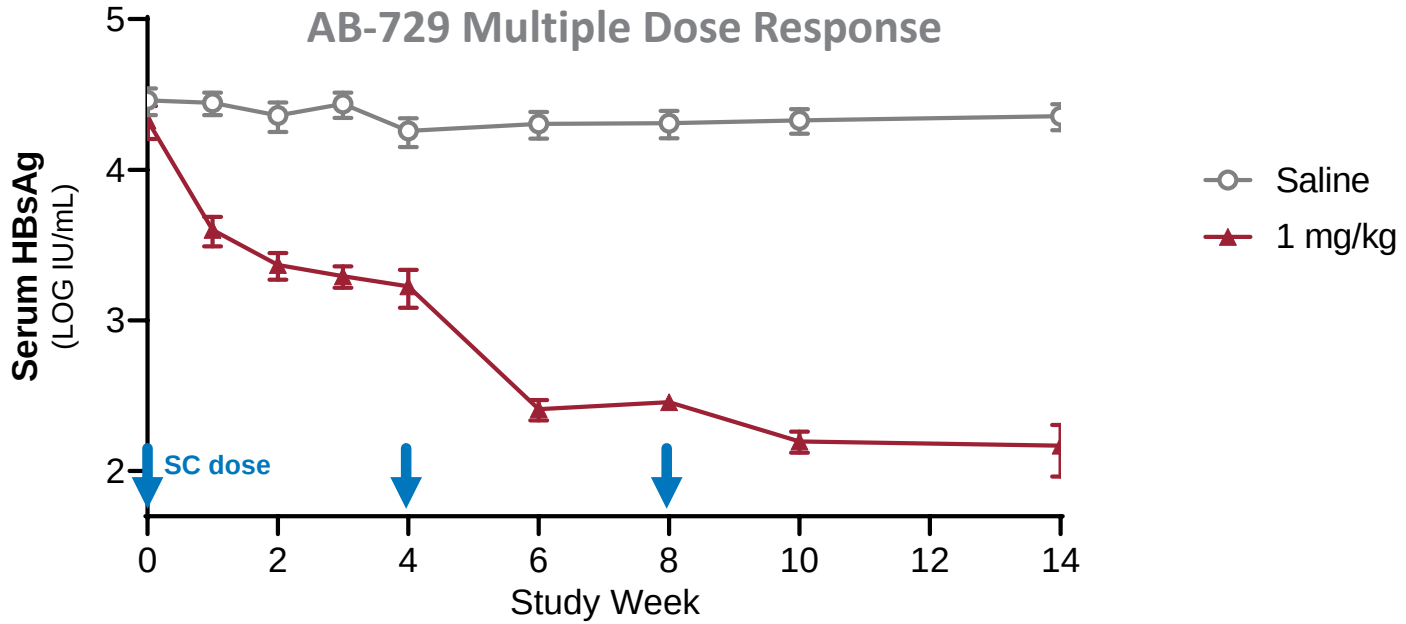
AB-729

In Vivo Single & Multiple Dose Response & Duration

Strong dose response in AAV mouse model

Stepwise reduction of HBsAg with monthly repeat dose administration





AB-729
Phase 1a/b Study Design

Preliminary results anticipated **late Q1 2020**

Part 1: Blinded SAD in Healthy Volunteers	**Part 2:** SAD in HBV Subjects	**Part 3:** 3 and 6 Month Multiple-dose in HBV Subjects
Starting dose 60 mg	Starting dose selected from Part 1	Dose selected from part 2
6 subjects per cohort (4 active, 2 placebo)	6 subjects per cohort	7 subjects per cohort
	CHB on stable NA Rx (HBV DNA neg-), HBeAg pos+ or neg-	CHB on stable NA Rx (HBV DNA neg-), HBeAg pos+ or neg-
	Naïve CHB, HBeAg pos+ or neg-	Rx Naïve CHB, HBeAg pos+ or neg-

SAD: Single Ascending Dose | **HBeAg:** Hepatitis B e Antigen | **CHB**: Chronic Hepatitis B

AB-452 and Next Gen RNA Destabilizer Program

- AB-452 development discontinued following extensive pre-clinical evaluations
- However, we believe this target offers potential for an oral HBsAg reducing agent and potential all oral combination therapy
- Continuing active research and development of a next generation small molecule

AB-836
Capsid Inhibitor

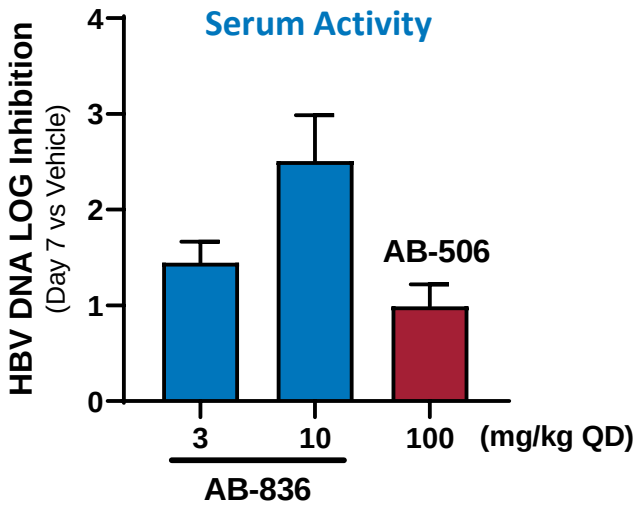
IND enabling studies ongoing

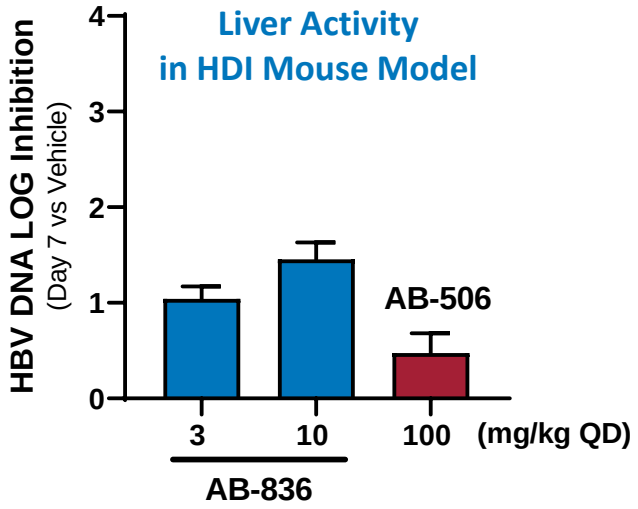
Potential for **increased potency** and **enhanced resistance profile**

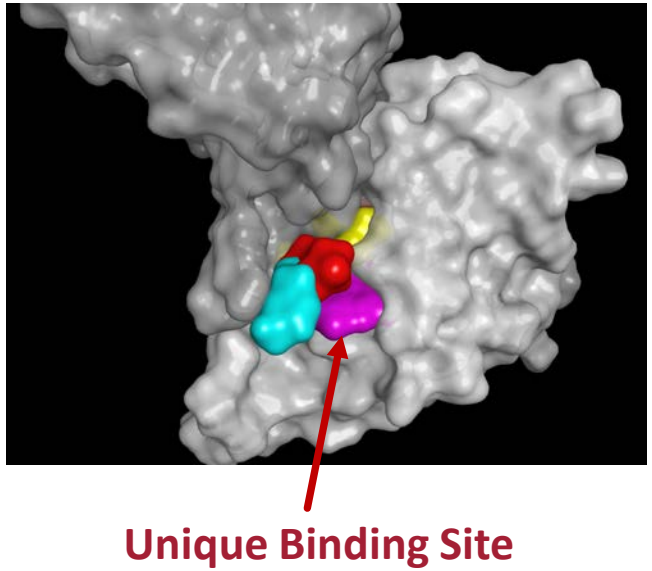
- Novel chemical series differentiated from AB-506 and other competitor compounds in the Class II capsid inhibitor space
- Leverages a novel binding site within the core protein dimer-dimer interface
- Improved intrinsic potency with EC50 $\leq$ 10 nM
- Active against NA resistant variants
- Potential 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} µM)	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

Key Objectives for 2020

Objective	Anticipated Timing
AB-729 preliminary phase 1a/1b single dose data	Late 1Q 2020
AB-729 multiple dose data	2H 2020
AB-836 complete IND enabling studies	2H 2020

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