

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**FORM 8-K**

**CURRENT REPORT**

**Pursuant to Section 13 or 15(d)  
of the Securities Exchange Act of 1934**

**Date of Report (Date of earliest event reported): May 5, 2021**

**Arbutus Biopharma Corporation**

(Exact name of registrant as specified in its charter)

**British Columbia, Canada**  
(State or Other Jurisdiction of Incorporation)

**001-34949**  
(Commission File Number)

**98-0597776**  
(I.R.S. Employer Identification No.)

**701 Veterans Circle**  
**Warminster, Pennsylvania 18974**  
(Address of Principal Executive Offices) (Zip Code)

**(267) 469-0914**  
(Registrant's telephone number, including area code)

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Shares, without par value	ABUS	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

**Item 2.02. Results of Operations and Financial Condition.**

On May 5, 2021, Arbutus Biopharma Corporation (the "Company") issued a press release announcing its financial results for the first quarter ended March 31, 2021 and certain other information. A copy of the press release is furnished as Exhibit 99.1 hereto.

**Item 8.01. Other Events.**

On May 5, 2021, the Company posted an updated corporate presentation on its website at [www.arbutusbio.com](http://www.arbutusbio.com). A copy of the presentation is filed herewith as Exhibit 99.2 and is incorporated by reference herein.

**Item 9.01. Financial Statements and Exhibits.****(d) Exhibits.**

<u>Exhibit Number</u>	<u>Description</u>
<a href="#">99.1</a>	<a href="#">Press release dated May 5, 2021</a>
<a href="#">99.2</a>	<a href="#">Corporate Presentation dated May 2021</a>
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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**SIGNATURE**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

**Arbutus Biopharma Corporation**

Date: May 5, 2021

By: /s/ David C. Hastings  
David C. Hastings  
Chief Financial Officer

## Arbutus Reports First Quarter 2021 Financial Results and Provides Corporate Update

**AB-729, Arbutus' proprietary subcutaneously delivered RNAi agent, continues to demonstrate robust and continuous declines in hepatitis B surface antigen (HBsAg) in subjects with chronic hepatitis B (HBV) with favorable safety and tolerability data**

**Additional data from the ongoing Phase 1a/1b clinical trial of AB-729, including 60 mg multi-dose data (dosing interval every 4 and 8 weeks) and 90 mg multi-dose data (dosing interval every 8 weeks), expected in 2Q/2021**

**A proof-of-concept Phase 2 triple combination clinical trial evaluating AB-729, and Assembly Biosciences' core inhibitor candidate, vebicorvir (VBR), with an approved standard of care nucleoside/nucleotide reverse transcript (NRTI) initiated by Arbutus and Assembly in 1Q/2021**

**Phase 1a/1b clinical trial with AB-836, Arbutus' proprietary oral capsid inhibitor, initiated with initial data expected in 2H/2021**

**Arbutus, X-Chem, and Proteros biostructures announced an innovative Pan-Coronavirus Discovery Research and License Agreement in April 2021**

**Conference Call and Webcast Scheduled Today at 8:45 AM ET**

WARMINSTER, Pa., May 05, 2021 (GLOBE NEWSWIRE) -- Arbutus Biopharma Corporation (Nasdaq: ABUS), a clinical-stage biopharmaceutical company primarily focused on developing a cure for people with chronic hepatitis B virus (HBV) infection, as well as therapies to treat coronaviruses (including COVID-19), today reports its first quarter 2021 financial results and provides a corporate update.

William Collier, President and Chief Executive Officer of Arbutus, stated, "We had a productive first quarter of 2021. With the initiation of the Phase 1a/1b clinical trial of AB-836, our oral capsid inhibitor, together with the ongoing clinical development of AB-729, we now have two proprietary HBV agents in development. This progress reflects our objective to develop a combination regimen that provides a functional cure for people living with HBV. We were also gratified to establish an innovative collaboration with X-Chem, Inc. and Proteros biostructures GmbH. The objective of this alliance is to expedite our efforts to discover an effective oral antiviral therapy against coronaviruses including SARS-CoV-2 targeting the main protease."

Mr. Collier added, "Looking ahead, we expect an eventful 2021 including: continued longer term Phase 1a/1b dosing results for AB-729; initiation of two Phase 2 proof-of-concept clinical trials for AB-729 with one or more approved or investigational agents; and initial Phase 1a/1b data from our proprietary oral capsid inhibitor, AB-836."

### Pipeline Update

#### AB-729

- Arbutus is currently conducting a single- and multi-dose Phase 1a/1b clinical trial to determine the safety, tolerability, pharmacokinetics, and pharmacodynamics of AB-729 in healthy subjects and in subjects with chronic HBV infection.
- Results to date demonstrate that treatment of AB-729 using the 60 mg and 90 mg doses has been well tolerated after a single dose. Efficacy results to date suggest that repeat dosing using the 60 mg dose every 4 weeks resulted in a continuous and robust mean HBsAg decline at week 24 (-1.84 log<sub>10</sub> IU/mL, N=7). Repeat dosing using the 60 mg dose every 8 weeks results in comparable mean HBsAg declines relative to the 60 mg dose every 4 weeks at week 16 (-1.39 log<sub>10</sub> IU/mL vs -1.44 log<sub>10</sub> IU/mL, p<0.7). In HBV DNA positive CHB subjects, a single 90 mg AB-729 dose resulted in robust mean HBsAg (-1.02 log<sub>10</sub> IU/mL) and HBV DNA (-1.53 log<sub>10</sub> IU/mL) declines at week 12, as well as decreases in HBV RNA and core-related antigen.
- Arbutus expects to provide additional data from ongoing cohorts of the Phase 1a/1b clinical trial in the second quarter of 2021, including 60 mg multi-dose data (dosing interval every 4 and 8 weeks) and 90 mg multi-dose data (dosing interval every 8 weeks). Data from the 90 mg every 12 weeks in HBV DNA negative subjects and the 90 mg every 8 weeks in the HBV DNA positive subjects is expected in the second half of 2021. Arbutus also intends to advance AB-729 into two additional proof-of-concept Phase 2 combination trials with one or more approved or investigational agents in the second half of 2021 with dosing of AB-729 as infrequently as every 8 or 12 weeks.
- Arbutus and Assembly initiated a Phase 2 proof-of-concept combination clinical trial to evaluate AB-729 in combination with Assembly's lead core (capsid) inhibitor candidate VBR and an NrtI for the treatment of subjects with chronic HBV infection. The randomized, multi-center, open-label Phase 2 clinical trial will evaluate the safety, pharmacokinetics, and antiviral activity of the triple combination of VBR, AB-729 and an NrtI compared to the double combinations of VBR with an NrtI and AB-729 with an NrtI. Approximately 60 virologically-suppressed subjects with HBeAg negative chronic HBV are expected to be enrolled in the first cohort of the trial. Subjects will be dosed for 48 weeks with VBR 300 mg orally once daily and AB-729 60 mg subcutaneously every 8 weeks, with a 48-week follow-up period.

#### AB-836: Oral Capsid Inhibitor

- In January 2020, Arbutus selected AB-836 as its next-generation oral capsid inhibitor. AB-836 is from a novel chemical series differentiated from competitor compounds, with the potential for increased efficacy and an enhanced resistance profile. Arbutus completed CTA/IND-enabling studies in the fourth quarter of 2020 and initiated a Phase 1a/1b clinical trial for AB-836 in the first quarter of 2021, with initial data expected in second half of 2021.

#### HBV Discovery Programs

- Arbutus' drug discovery efforts are focused on follow-on compounds for its current HBV pipeline. Arbutus expects to continue to advance its research in its oral PD-L1 inhibitor and RNA-destabilizer programs.

## Research Efforts to Combat COVID-19 and Future Coronavirus Outbreaks

- Based on its extensive antiviral drug discovery experience, Arbutus has established an internal research program to identify new small molecule antiviral medicines to treat COVID-19 and future coronavirus outbreaks. This effort, led by Dr. Michael Sofia, Arbutus' Chief Scientific Officer, is focused on the discovery and development of new molecular entities that address specific viral targets including the nsp12 viral polymerase and the nsp5 viral protease. These targets are essential viral proteins which Arbutus has experience in targeting. Arbutus recently entered into a discovery research and license agreement with X-Chem, Inc. and Proteros biostructures GmbH focused on the discovery of novel inhibitors targeting the SARS-CoV-2 nsp5 main protease (Mpro). The agreement is designed to accelerate the development of pan-coronavirus agents to treat COVID-19 and potential future coronavirus outbreaks.

## Financial Results

### Cash, Cash Equivalents and Investments

Arbutus had cash, cash equivalents and investments totaling \$132.0 million as of March 31, 2021, as compared to \$123.3 million as of December 31, 2020. During the three months ended March 31, 2021, Arbutus used \$17.9 million in operating activities, which was offset by \$26.4 million of net proceeds from the issuance of common shares under Arbutus's ATM program. The Company believes its cash, cash equivalents and investments of \$132.0 million as of March 31, 2021 are sufficient to fund the Company's operations through the third quarter of 2022.

### Net Loss

Net loss attributable to common shares for the three months ended March 31, 2021 was \$19.6 million (\$0.21 basic and diluted loss per common share) as compared to \$16.8 million (\$0.25 basic and diluted loss per common share) for the three months ended March 31, 2020. Net loss attributable to common shares for the three months ended March 31, 2021 and 2020 included non-cash expense for the accrual of coupon on the Company's convertible preferred shares of \$3.2 million and \$3.0 million, respectively.

### Operating Expenses

Research and development expenses were \$13.4 million for the three months ended March 31, 2021 compared to \$10.4 million in the same period in 2020. The increase in research and development expenses for the three months ended March 31, 2021 versus the same period in 2020 was due primarily to higher expenses for the Company's clinical development and discovery programs, including activities under our collaboration with Assembly and internal research efforts to treat COVID-19 and future coronavirus outbreaks, both of which initiated in mid-2020. General and administrative expenses were \$3.8 million for the three months ended March 31, 2021 compared to \$3.6 million for the same period in 2020. This increase was due primarily to an increase in non-cash stock-based compensation expense.

### Outstanding Shares

The Company had approximately 96.2 million common shares issued and outstanding as of March 31, 2021. In addition, the Company had approximately 13.4 million stock options outstanding and 1.164 million convertible preferred shares outstanding, which (including the annual 8.75% coupon) will be mandatorily convertible into approximately 23 million common shares on October 18, 2021.

### COVID-19 Impact

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. While we have been able to progress with our clinical and pre-clinical activities to date, it is not possible to predict if the COVID-19 pandemic will negatively impact our plans and timelines in the future.

## UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF LOSS

(in thousands, except share and per share data)

	Three Months Ended March 31,	
	2021	2020
<b>Revenue</b>		
Collaborations and licenses	\$ 1,154	\$ 835
Non-cash royalty revenue	959	656
<b>Total Revenue</b>	<b>2,113</b>	<b>1,491</b>
<b>Operating expenses</b>		
Research and development	13,370	10,416
General and administrative	3,847	3,553
Depreciation	443	500
Change in fair value of contingent consideration	129	112

Site consolidation	—	57
<b>Loss from operations</b>	(15,676)	(13,147)
Other income (loss)		
Interest income	39	345
Interest expense	(772)	(1,041)
Foreign exchange gain (loss)	28	(18)
<b>Total other loss</b>	(705)	(714)
<b>Net loss</b>	\$ (16,381)	\$ (13,861)
Dividend accretion of convertible preferred shares	(3,212)	(2,978)
<b>Net loss attributable to common shares</b>	\$ (19,593)	\$ (16,839)
<b>Loss per share</b>		
Basic and diluted	\$ (0.21)	\$ (0.25)
<b>Weighted average number of common shares</b>		
Basic and diluted	93,434,378	67,683,586

**UNAUDITED CONDENSED CONSOLIDATED BALANCE SHEETS  
(in thousands)**

	<b>March 31, 2021</b>	<b>December 31, 2020</b>
Cash, cash equivalents and marketable securities, current	\$ 131,961	\$ 123,268
Accounts receivable and other current assets	5,380	4,436
<b>Total current assets</b>	137,341	127,704
Property and equipment, net of accumulated depreciation	6,584	6,927
Right of use asset	2,315	2,405
Other non-current assets	—	44
<b>Total assets</b>	\$ 146,240	\$ 137,080
Accounts payable and accrued liabilities	\$ 6,063	\$ 8,901
Liability-classified options	198	250
Lease liability, current	432	390
<b>Total current liabilities</b>	6,693	9,541
Liability related to sale of future royalties	19,366	19,554
Contingent consideration	3,555	3,426
Lease liability, non-current	2,477	2,593
Total stockholders' equity	114,149	101,966
<b>Total liabilities and stockholders' equity</b>	\$ 146,240	\$ 137,080

**UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOW  
(in thousands)**

	<b>Three Months Ended March 31,</b>	
	<b>2021</b>	<b>2020</b>
Net loss	\$ (16,381)	\$ (13,861)
Other non-cash items	2,222	2,448
Changes in working capital	(3,722)	(4,040)
<b>Net cash used in operating activities</b>	(17,881)	(15,453)
<b>Net cash provided by (used in) investing activities</b>	18,221	(2,401)
<b>Net cash provided by financing activities</b>	26,874	12,481
Effect of foreign exchange rate changes on cash and cash equivalents	(44)	(10)
<b>Increase (decrease) in cash and cash equivalents</b>	\$ 27,170	\$ (5,383)
Cash and cash equivalents, beginning of period	52,251	31,799
<b>Cash and cash equivalents, end of period</b>	\$ 79,421	\$ 26,416
Investments in marketable securities	52,540	61,690
<b>Cash, cash equivalents and marketable securities, end of period</b>	\$ 131,961	\$ 88,106

**Conference Call and Webcast Today**

Arbutus will hold a conference call and webcast today, Wednesday, May 5, 2021 at 8:45 AM Eastern Time to provide a corporate update. You can access a live webcast of the call, which will include presentation slides, through the Investors section of Arbutus' website at [www.arbutusbio.com](http://www.arbutusbio.com) or directly at Live Webcast. Alternatively, you can dial (866) 393-1607 or (914) 495-8556 and reference conference ID 4445858.

An archived webcast will be available on the Arbutus website after the event. Alternatively, you may access a replay of the conference call by calling (855) 859-2056 or (404) 537-3406, and reference conference ID 4445858.

### **About AB-729**

AB-729 is an RNA interference (RNAi) therapeutic targeted to hepatocytes using Arbutus' novel covalently conjugated N-acetylgalactosamine (GalNAc) delivery technology that enables subcutaneous delivery. AB-729 inhibits viral replication and reduces all HBV antigens, including hepatitis B surface antigen in preclinical models. Reducing hepatitis B surface antigen is thought to be a key prerequisite to enable reawakening of a patient's immune system to respond to the virus. Based upon clinical data generated thus far in an ongoing single- and multi-dose Phase 1a/1b clinical trial, AB-729 has demonstrated positive safety and tolerability data and meaningful reductions in hepatitis B surface antigen.

### **About AB-836**

AB-836 is an oral HBV capsid inhibitor. HBV core protein assembles into a capsid structure, which is required for viral replication. The current standard-of-care therapy for HBV, primarily nucleos(t)ide analogues that work by inhibiting the viral polymerase, significantly reduce virus replication, but not completely. Capsid inhibitors inhibit replication by preventing the assembly of functional viral capsids. They also have been shown to inhibit the uncoating step of the viral life cycle thus reducing the formation of new covalently closed circular DNA (cccDNA), the genetic reservoir which the virus uses to replicate itself.

### **About HBV**

Hepatitis B is a potentially life-threatening liver infection caused by HBV. HBV can cause chronic infection which leads to a higher risk of death from cirrhosis and liver cancer. Chronic HBV infection represents a significant unmet medical need. The World Health Organization estimates that over 250 million people worldwide suffer from chronic HBV infection, while other estimates indicate that approximately 2 million people in the United States suffer from chronic HBV infection. Approximately 900,000 people die every year from complications related to chronic HBV infection despite the availability of effective vaccines and current treatment options.

### **About Arbutus**

Arbutus Biopharma Corporation is a publicly traded (Nasdaq: ABUS) biopharmaceutical company primarily dedicated to discovering, developing and commercializing a cure for people with chronic hepatitis B virus (HBV) infection. The Company is advancing multiple drug product candidates that may be combined into a potentially curative regimen for chronic HBV infection. Arbutus has also initiated a drug discovery and development effort for treating coronaviruses (including COVID-19). For more information, visit [www.arbutusbio.com](http://www.arbutusbio.com).

### **Forward-Looking Statements and Information**

This press release contains forward-looking statements within the meaning of the Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, and forward-looking information within the meaning of Canadian securities laws (collectively, "forward-looking statements"). Forward-looking statements in this press release include statements about our objective to develop a combination regimen that provides a functional cure for people living with HBV; our expectation to provide additional data from the ongoing cohorts of the Phase 1a/1b clinical trials of AB-729 in the second quarter of 2021, including 60 mg multi-dose data (dosing interval every 4 and 8 weeks) and 90 mg multi-dose data (dosing interval every 8 weeks); our expectation to provide data from the 90 mg every 12 weeks in HBV DNA negative subjects and the 90 mg every 8 weeks in the HBV DNA positive subjects of Phase 1a/1b clinical trial of AB-729 in the second half of 2021; our intention to advance AB-729 into two additional proof-of-concept Phase 2 combination trials with one or more approved or investigational agents in the second half of 2021 with dosing of AB-729 as infrequently as every 8 or 12 weeks; our plans with respect to the Phase 2 proof-of-concept combination clinical trial to evaluate AB-729 in combination with Assembly Biosciences' lead core/capsid inhibitor candidate VBR and an NrtI inhibitor for the treatment of subjects with chronic HBV infection, including the expected trial design, the expected number and type of patients to be enrolled in the trial and the expected dosing schedule; the potential for AB-836 to have increased efficacy and an enhanced resistance profile; our expectation for initial data from the Phase 1a/1b clinical trial for AB-836 in the second half of 2021; the expected continued advancement of our research in the oral PD-LE inhibitor and RNA-destabilizer programs; our expectations and goals for the collaboration with X-Chem and Proteros and any potential benefits related thereto, including our expectation that the alliance will expedite our efforts to discover an effective oral antiviral therapy against coronaviruses including SARS-CoV-2 targeting the main protease; our expected cash runway through the third quarter of 2022; and our expectations regarding the impact of the COVID-19 pandemic on our business and clinical trials.

With respect to the forward-looking statements contained in this press release, Arbutus has made numerous assumptions regarding, among other things: 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.

Additionally, there are known and unknown risk factors which could cause Arbutus' actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements contained herein. Known risk factors include, among others: anticipated pre-clinical studies 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 product candidate; Arbutus may elect to change its 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; Arbutus, X-Chem and Proteros may never realize the expected benefits of the collaboration; market shifts may require a change in strategic focus; and the ongoing COVID-19 pandemic could significantly disrupt Arbutus' clinical development programs.

A more complete discussion of the risks and uncertainties facing Arbutus appears in Arbutus' Annual Report on Form 10-K, Arbutus' Quarterly Reports on Form 10-Q and Arbutus' continuous and periodic disclosure filings, which are available at [www.sedar.com](http://www.sedar.com) and at [www.sec.gov](http://www.sec.gov). All forward-looking statements herein are qualified in their entirety by this cautionary statement, and Arbutus disclaims any

obligation to revise or update any such forward-looking statements or to publicly announce the result of any revisions to any of the forward-looking statements contained herein to reflect future results, events or developments, except as required by law.

**Contact Information**

**Investors and Media**

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Investor Relations Consultant  
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# Corporate Presentation

May 2021

NASDAQ: ABUS

[www.arbutusbio.com](http://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 market opportunity for HBV; Arbutus' ability to meet a significant unmet medical need; the sufficiency of Arbutus' cash and cash equivalents to extend through the third quarter of 2022; the potential for AB-729 to be a well-tolerated low dose treatment for HBV with a minimum of injections; 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; Arbutus' expectations regarding the timing and clinical development of Arbutus' product candidates including its 2021 key clinical objectives with respect to AB-729 and AB-836 and its clinical collaboration with Assembly Biosciences; the timeline to a combination cure for HBV; Arbutus' coronavirus strategy; Arbutus' expectations regarding its technology licensed to Genevant; 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](http://www.sec.gov) and at [www.sedar.com](http://www.sedar.com). All forward-looking statements herein are qualified in their entirety by this cautionary statement, and Arbutus disclaims any obligation to revise or update any such forward-looking statements or to publicly announce the result of any revisions to any of the forward-looking statements contained herein to reflect future results, events or developments, except as required by law.

# 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

16 % Ownership in Genevant

Rights to potential future royalties and sublicense revenues for LNP Technology

# 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



**Michael J. Sofia, PhD**

Chief Scientific Officer



**Gaston Picchio, PhD**

Chief Development Officer



**David C. Hastings**

Chief Financial Officer



**Elizabeth Howard, PhD, JD**

EVP, General Counsel and Chief Compliance Officer



**Michael J. McElhaugh**

Chief Business Officer



# 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.

# 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.

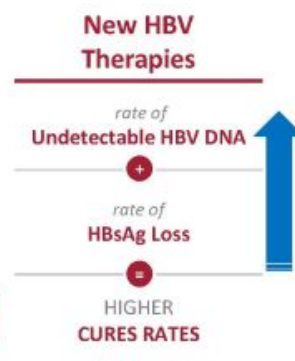
\*undetectable HBsAg and HBV DNA 6 months after end-of-treatment accepted as a functional cure.



## 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%
<b>HBsAg Loss</b>	<b>~3-7%</b>	<b>~1-2%</b>	<b>~1-3%</b>

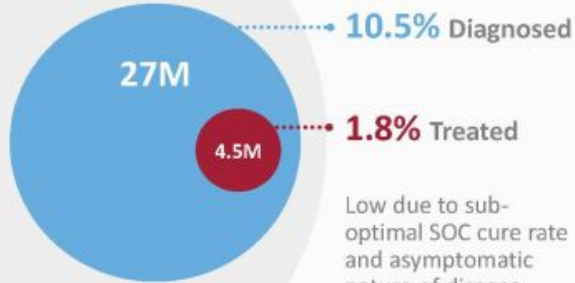
Achievable **HBV Cure Rates** with Current SOC



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



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

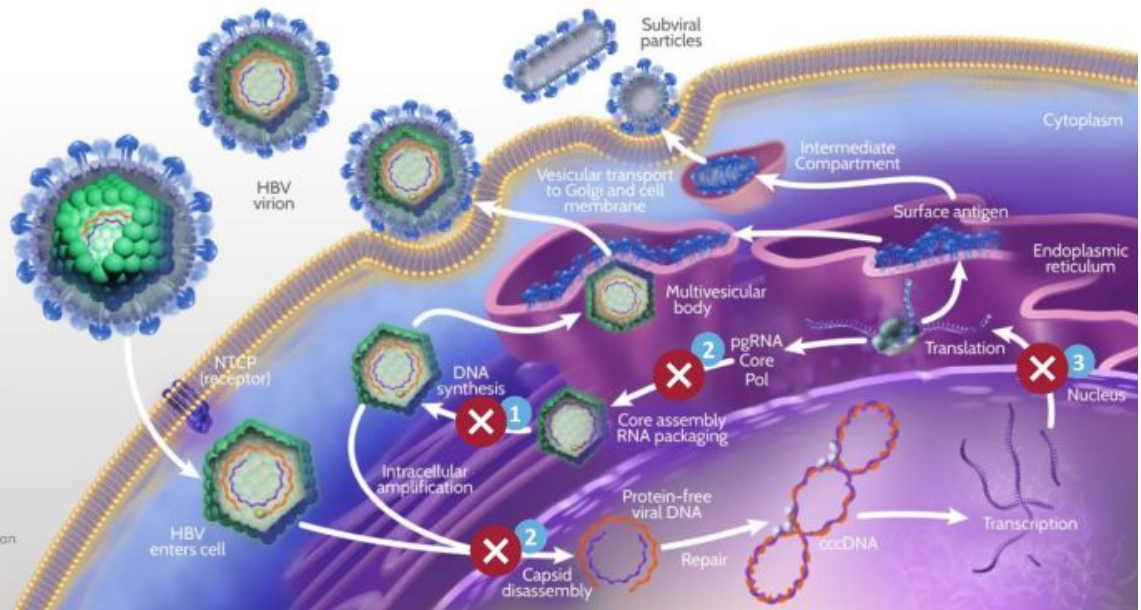
**An HBV curative regimen** would substantially increase **diagnosis** and **treatment** rates to unlock significant **market growth opportunities.**



# 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



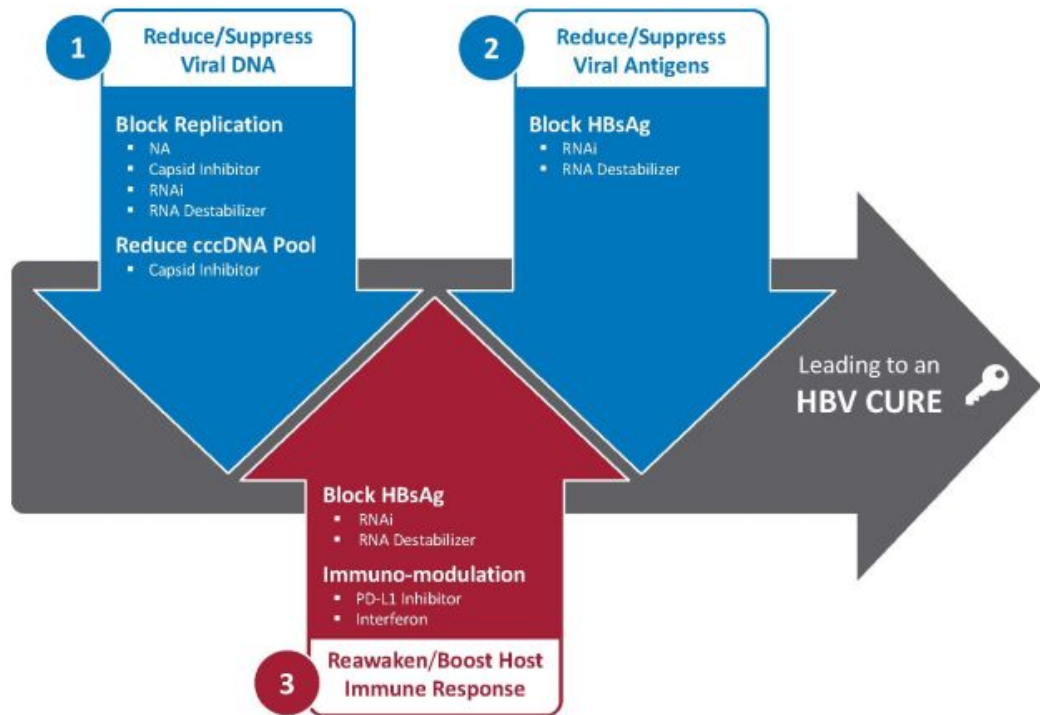


# Keys to Therapeutic Success

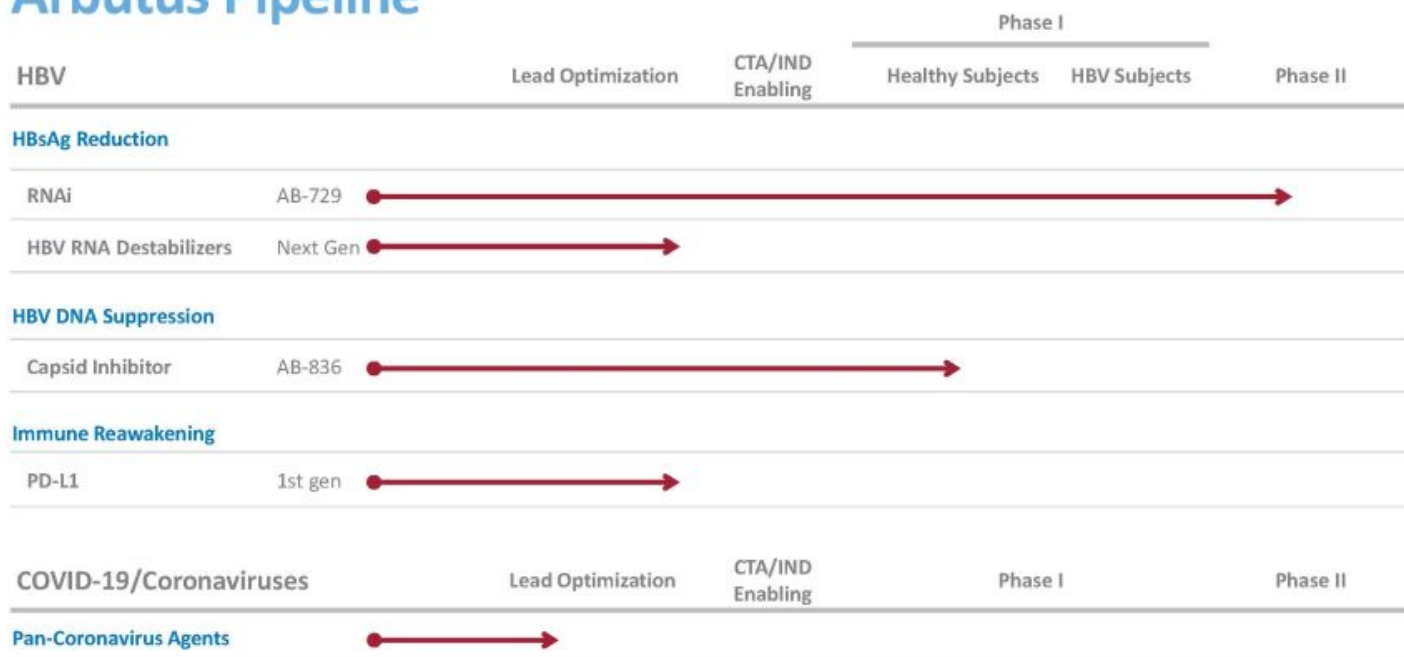
Suppress HBV DNA and viral antigens

Reawaken host immune response

Therapeutic success will require a combination of agents with complementary MOAs



# Arbutus 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

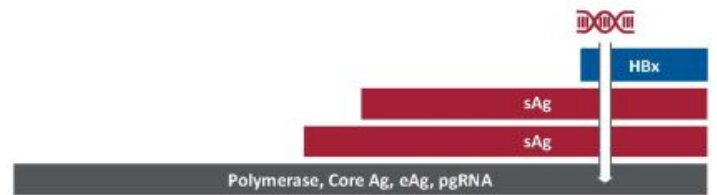
Pan-genotypic activity across HBV genotypes

Demonstrated complementarity with capsid inhibitors

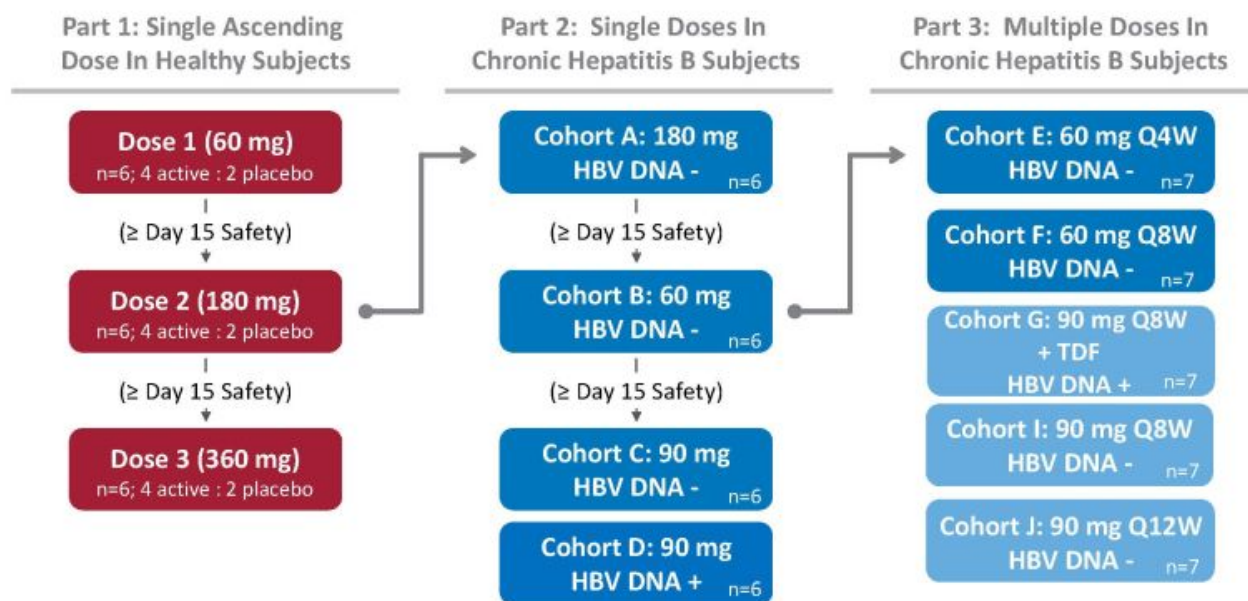
Actively targets the liver

Active against cccDNA derived and integrated HBsAg transcripts

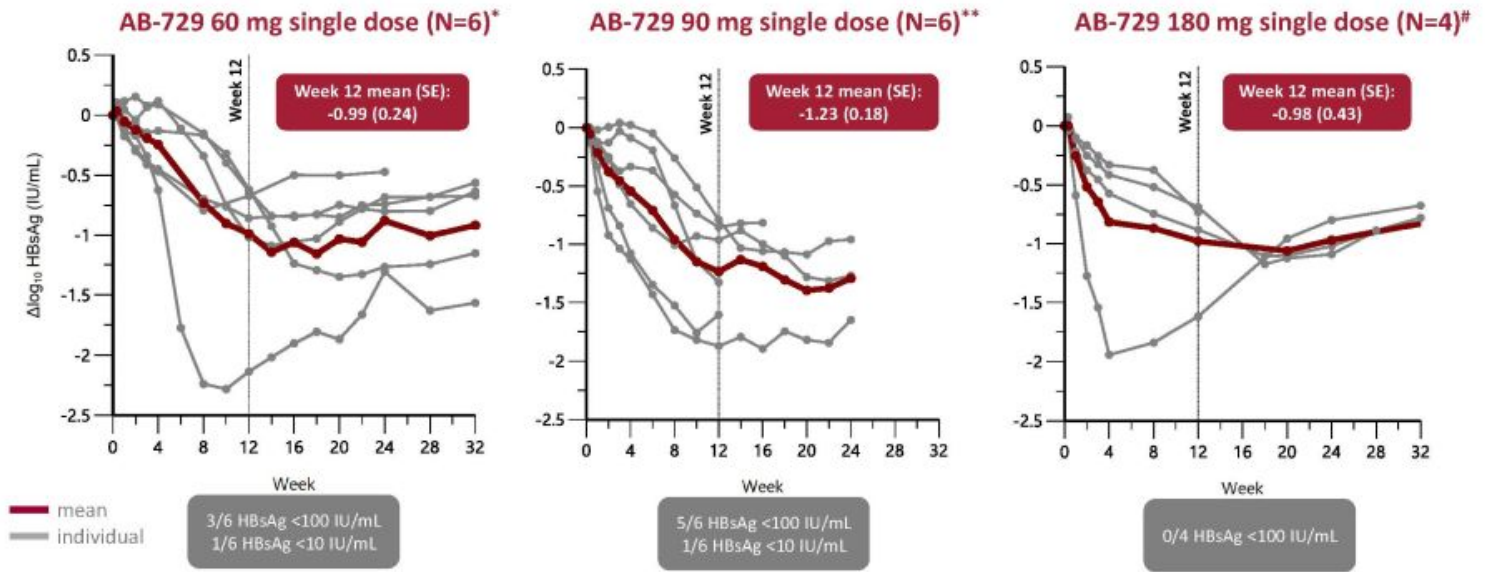
Clean profile in long term preclinical safety studies



# AB-729-001 Study



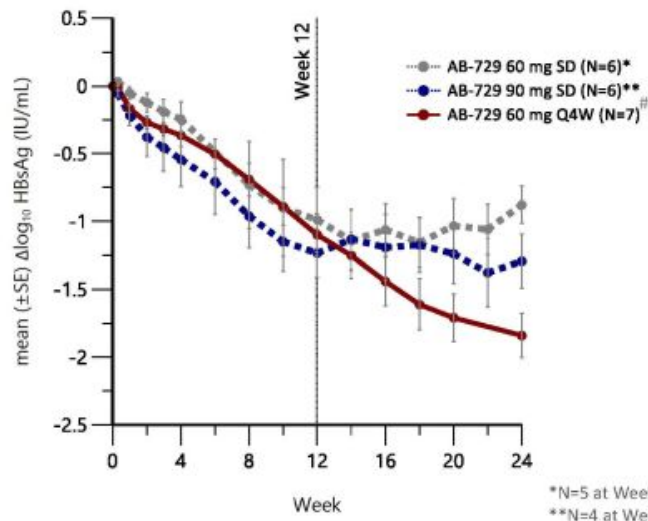
# Single Doses of AB-729 Result in Comparable Mean HBsAg Declines at Week 12 Followed by a Sustained Plateau Phase



\*N=5 at Week 10, 14, 18, 22, 28, and 32  
 \*\*N=4 at Week 14 and 16; N=3 at Weeks 18 – 24  
 #N=3 after Week 12; nominal visits  $\pm$  7 days

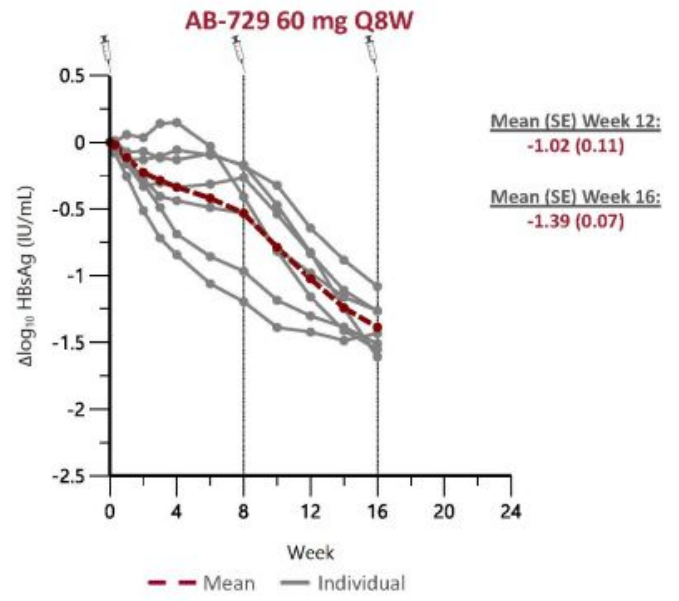
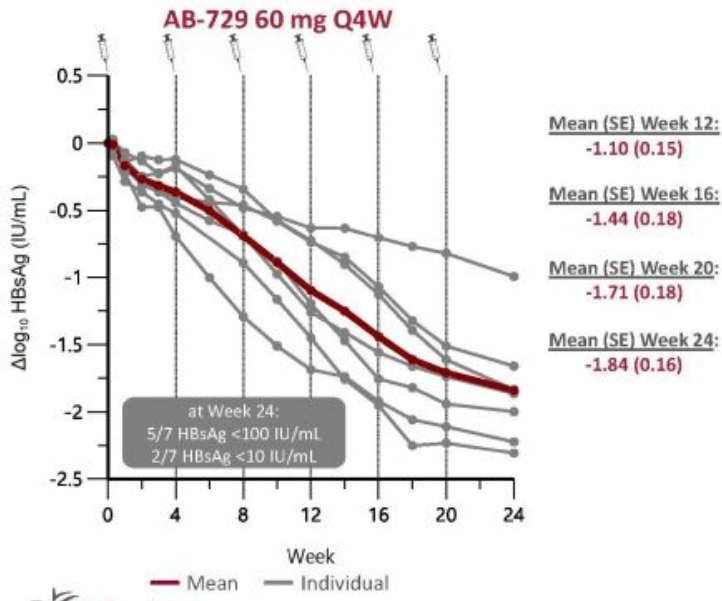
# Repeat Dosing of AB-729 60 mg Every 4 Weeks Results in Continuous Mean HBsAg Declines Beyond Week 12

Mean ( $\pm$ SE) HBsAg declines across single and repeat dose Cohorts

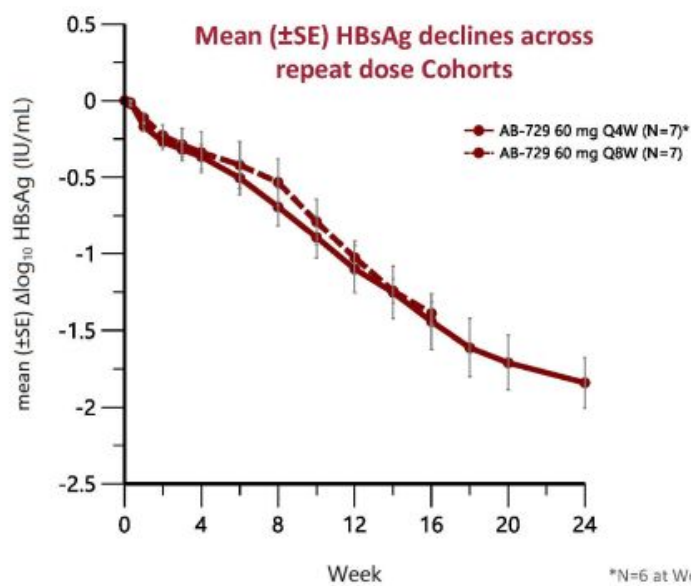


\*N=5 at Week 10, 14, 18 and 22  
 \*\*N=4 at Week 14 - 20; N=3 at Weeks 22 - 24  
 †N=6 at Week 6  
 SD: single dose; Q4W: every 4 weeks

# Repeat Dosing of AB-729 60 mg Every 8 Weeks Results in Comparable Mean HBsAg Declines to 60 mg Every 4 Weeks at Week 16



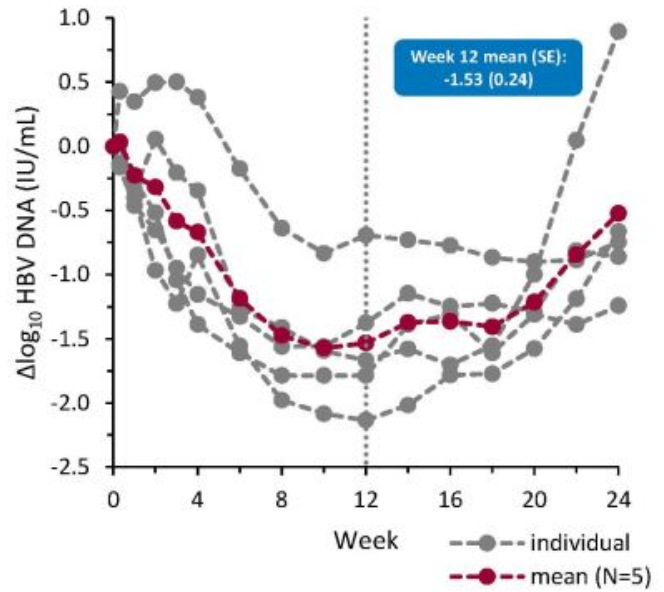
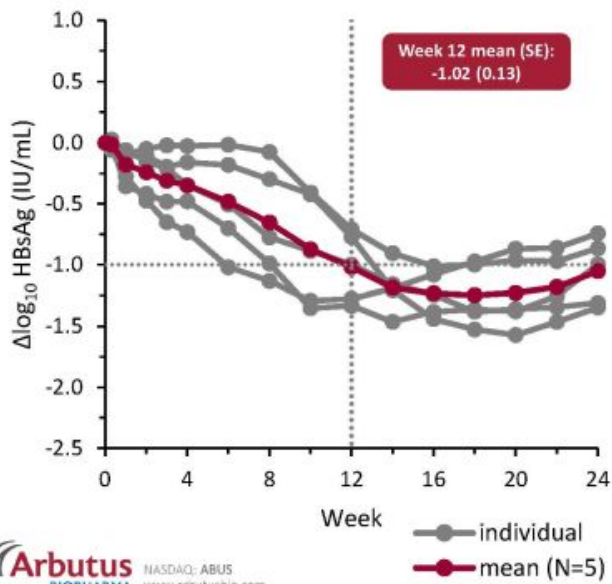
# Repeat Dosing of AB-729 60 mg Every 8 Weeks Results in Comparable Mean HBsAg Declines to 60 mg Every 4 Weeks at Week 16





# AB-729 90 mg Single Dose Reduces HBsAg and HBV DNA in HBV DNA Positive CHB subjects

These data continue to support dosing intervals of up to 12 weeks



# AB-729 Was Safe and Well Tolerated After Single and Repeat Doses

- No SAEs or discontinuations due to AEs
- No treatment-related Grade 3 or 4 AEs\*
- No Grade 3 or 4 laboratory abnormalities\*
  - Grade 1 and Grade 2 ALT elevations have decreased with continued treatment
- Injection site TEAEs were mild (erythema, pain, pruritis, bruising) or moderate (pain) and transient
- No clinically meaningful changes in ECGs or vital signs
- All subjects in cohort E consented to an additional 6 months of dosing

# AB-729 Clinical Summary

Repeat 60 mg Q4W dosing with AB-729 resulted in a continuous and robust mean HBsAg decline at week 24 (-1.84 log<sub>10</sub> IU/mL, N=7)

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Repeat dosing of AB-729 60 mg every 8 weeks results in comparable mean HBsAg declines relative to 60 mg every 4 weeks at week 16 (-1.44 log<sub>10</sub> IU/mL vs -1.37 log<sub>10</sub> IU/mL, *p*<0.7)

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In HBV DNA positive CHB subjects, a single 90 mg AB-729 dose resulted in robust mean HBsAg (-1.02 log<sub>10</sub> IU/mL) and HBV DNA (-1.53 log<sub>10</sub> IU/mL) declines at week 12, as well as decreases in HBV RNA and core-related antigen

- Similar mean HBsAg reductions were observed in HBV DNA positive and negative CHB subjects
  - These findings support complete target engagement by AB-729
- 

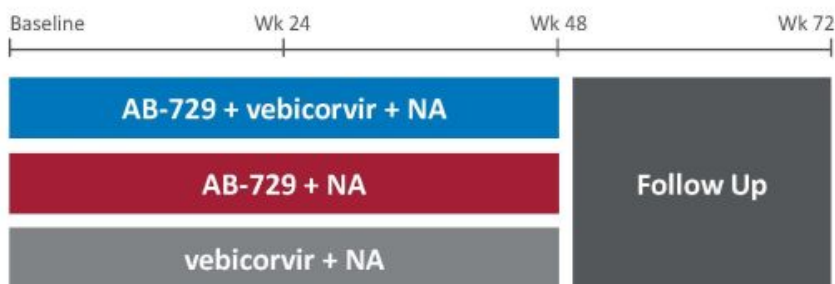
AB-729 remains generally safe and well tolerated

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These results support advancing AB-729 to Phase 2 combination studies with AB-729 dosing as infrequently as every 8 or 12 weeks

# AB-729 Clinical Collaboration with Assembly Biosciences

Provides accelerated AB-729 combination proof of concept (POC) with a capsid inhibitor and NA with the potential for functional cure



Initiated Phase 2 Clinical Trial Feb 2021

~60 virologically-suppressed subjects with chronic HBV infection

Equal sharing of expertise and costs for this POC open-label trial

No financial requirements or restrictions and no business requirements or restrictions

NA: Nucleoside Analogue | HBeAg: HBV e Antigen

# AB-836

## Capsid Inhibitor

**In March 2021, received regulatory approval to initiate Phase 1a/1b clinical trial**

Potential for increased efficacy and enhanced resistance profile relative to earlier generation capsid inhibitors



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Novel chemical series differentiated from AB-506 and other competitor compounds in the Class II capsid inhibitor space

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Leverages a novel binding site within the core protein dimer-dimer interface

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Improved intrinsic potency with  $EC_{50} \leq 10$  nM

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Active against NA resistant variants

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Potential to address known capsid resistant variants T33N and I105T

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Provides the potential for low dose and wide therapeutic window

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Projected to be once daily dosing

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Pangenotypic

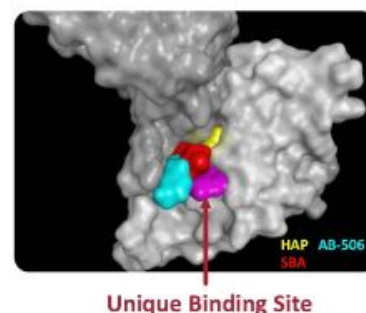
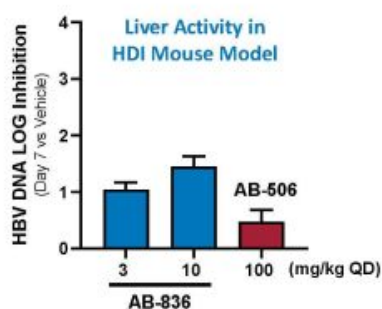
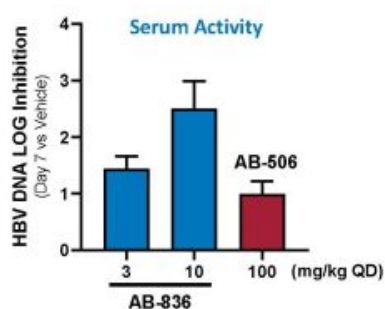
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Combinable with other MOA agents

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# AB-836: A Next Generation Capsid Inhibitor

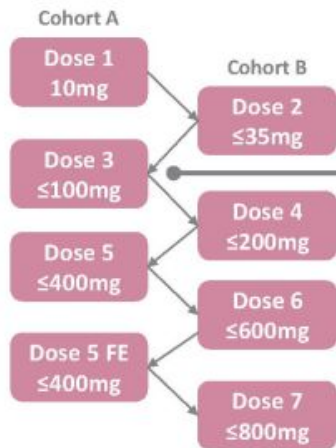
Compound	HBV DNA / 1 <sup>o</sup> Mechanism				cccDNA Formation / 2 <sup>o</sup> Mechanism	Human Serum Shift
	HepDE19 (EC <sub>50</sub> μM)	HBV infected PHH (EC <sub>50</sub> μM)	HBV infected HepG2-NTCP-C4 (EC <sub>50</sub> μM)	Core I105T Mutation (EC <sub>50</sub> μM)	HBV infected HepG2-NTCP-C4 (HBsAg EC <sub>50</sub> μM)	(FC in EC <sub>50</sub> 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



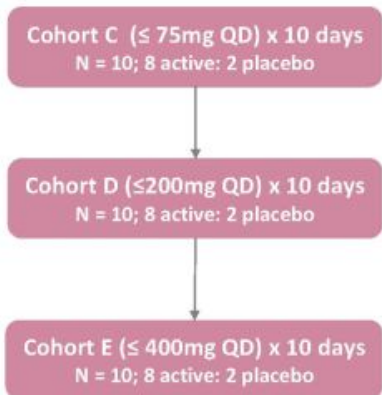
# AB-836-001 Study

## Part 1: Single Ascending Dose In Healthy Subjects

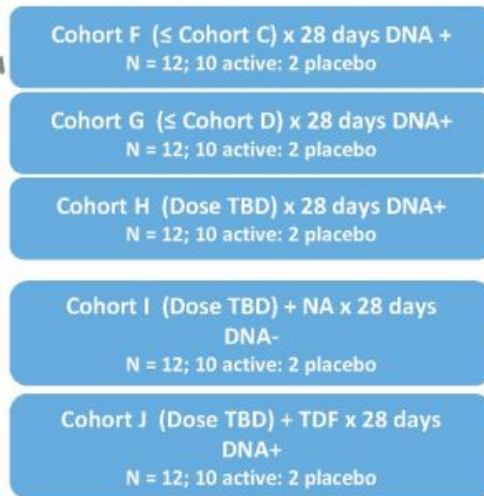
Alternating Cohorts A and B  
n=8/cohort; 6 active: 2 placebo



## Part 2: Multiple Ascending Dose in Healthy Subjects



## Part 3: Multiple Doses In Chronic Hepatitis B Subjects



# Next Gen RNA Destabilizer Program

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

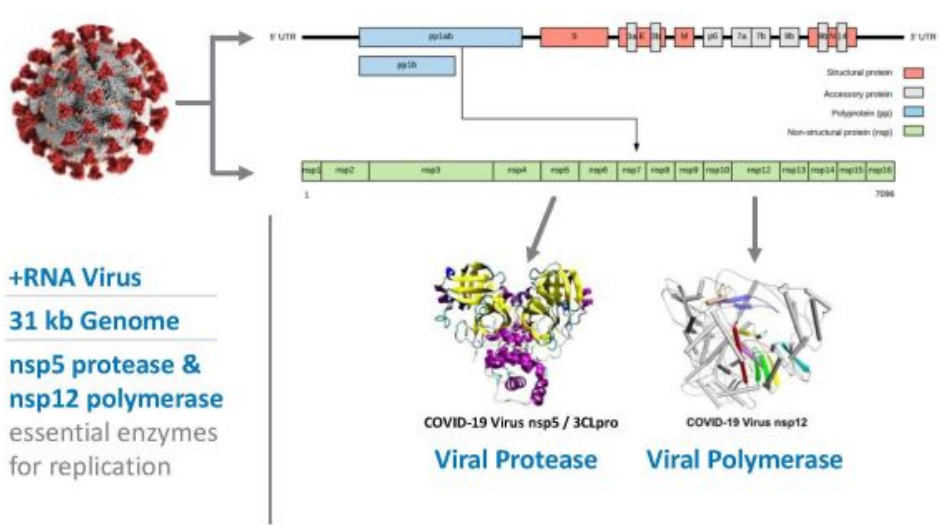
**Continuing active research** and development of a next generation small molecule

**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



**Long term commitment**  
**Pan-coronavirus focused**  
**Small Molecule Direct-Acting Antivirals**

Directed Effort

- nsp12 Viral Polymerase - nucleos(t)ides
- nsp5 Main Viral Protease - de novo design

**Screening Effort**

- Proprietary library screening through COVID R&D consortium

## 2021 Key Objectives

Cash balance of ~ \$132M as of March 31, 2021, cash runway through 3Q 2022

Objective	Anticipated Timing 2021
Additional data from AB-729 90 mg single-dose in HBV DNA positive subjects	1H ✓
Initiate a Phase 2 combination clinical trial to evaluate AB-729 in combination with Assembly Biosciences' lead core/capsid inhibitor candidate vebicorvir (VBR) and an NrtI	1H ✓
Initiate a Phase 1a/1b clinical trial of AB-836, our next-generation oral capsid inhibitor	1H ✓
Additional data from AB-729 60 mg multi-dose (4 wk / 8 wk dosing intervals)	1H / 1H
Initial data from AB-729 90 mg multi-dose (8 wk / 12 wk dosing intervals)	1H / 2H
Initial data from AB-729 90 mg multi-dose (8 wk dosing interval) in HBV DNA positive subjects	2H
Initiate two Phase 2 combination clinical trials in HBV subjects; both including AB-729, with one or more approved or investigational agents	2H