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

<ul> <li>□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)</li> <li>□ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)</li> <li>□ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))</li> <li>□ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))</li> <li>Securities registered pursuant to Section 12(b) of the Act:</li> <li>Title of each class</li> <li>Trading Symbol(s)</li> <li>Name of each exchange on which registered</li> </ul>		FORM 8-K	
Of the Securities Exchange Act of 1934  Date of Report (Date of earliest event reported): November 10, 2021  Arbutus Biopharma Corporation (Exact name of registrant as specified in its charter)  British Columbia, Canada (State or Other Jurisdiction of Incorporation) (Commission File Number)  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 filling is intended to simultaneously satisfy the filling obligation of the registrant under any of the following provice of the pre-commencement 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 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		CURRENT REPORT	
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Emerging growth company $\square$	Emerging growth company $\square$		
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 revise financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. $\Box$			insition period for complying with any new or revised

#### Item 8.01. Other Events.

On November 10, 2021, Arbutus Biopharma Corporation (the "Company") issued a press release announcing new AB-729 safety and efficacy data, as well as long-term data from HBV patients following discontinuation of treatment with AB-729. The data are from part 3 of the Company's on-going Phase 1a/1b clinical trial with 60 mg or 90 mg of AB-729 dosed every four, eight or 12 weeks. The data will be presented at AASLD in a poster entitled, "Low HBsAg levels maintained following cessation of the GalNAc-siRNA, AB-729, in chronic hepatitis B subjects on nucleos(t)ide analogue therapy". A copy of the press release is filed herewith as Exhibit 99.1 hereto and is incorporated by reference herein.

On November 10, 2021, the Company posted an updated corporate presentation on its website at 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.

Exhibit Number	<u>Description</u>
<u>99.1</u>	Press release dated November 10, 2021
<u>99.2</u>	Corporate Presentation dated November 10, 2021
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

#### 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: November 12, 2021

By: <u>/s/ David C. Hastings</u>

David C. Hastings

Chief Financial Officer

#### Arbutus Announces New Data on AB-729 in Late Breaker Poster Presentation at AASLD - The Liver Meeting®

#### Arbutus' Lead Compound AB-729 Continues to be Safe and Effective at Reducing HBsAg in Patients with Chronic Hepatitis B

#### HBsAg remains suppressed up to 28 weeks after discontinuation of AB-729

#### Repeat dosing of both 60 mg and 90 mg of AB-729 results in comparable HBsAg reductions

WARMINSTER, Pa., Nov. 10, 2021 (GLOBE NEWSWIRE) -- Arbutus Biopharma Corporation (Nasdaq: ABUS), a clinical-stage biopharmaceutical company primarily focused on discovering, developing and commercializing a broad portfolio of wholly-owned assets with different modes of action to provide a cure for people with chronic hepatitis B virus (HBV) infection and to treat coronaviruses (including COVID-19), today announced new AB-729 safety and efficacy data, as well as long-term data from HBV patients following discontinuation of treatment with AB-729. The data are from part 3 of the Company's ongoing Phase 1a/1b clinical trial with 60 mg or 90 mg of AB-729 dosed every four, eight or 12 weeks. The data will be presented at AASLD in a poster entitled, "Low HBsAg levels maintained following cessation of the GalNAc-siRNA, AB-729, in chronic hepatitis B subjects on nucleos(t)ide analogue therapy".

Data from the poster presentation include long-term follow-up data for patients in cohort E (60 mg every four weeks) and cohort F (60 mg every eight weeks) who had been off AB-729 treatment for six months. Suppression of HBsAg to levels <100 IU/mL were maintained up to 24 weeks off-treatment in 3 of 7 patients in cohort E and 1 of 3 patients with available data in cohort F. Patients who remain below this clinically relevant threshold for six months after stopping AB-729 treatment could consider discontinuing their nucleos(t)ide analogue ("NA") therapy to assess the potential for functional cure.

Professor Man-Fung Yuen, D.Sc., M.D., Ph.D., Deputy Head of Department Medicine and Chief of Division of Gastroenterology and Hepatology, University of Hong Kong, and lead investigator of Arbutus' Phase 1a/1b clinical trial, stated, "I find this long-term off-treatment data very encouraging. Albeit small patient numbers, these data give us confidence that AB-729 is capable of reducing and maintaining suppression of HBsAg even after its discontinuation. We look forward to providing additional long-term follow up data on these patients, especially as some of them may elect to discontinue their NA therapy."

Also included in the poster presentation are data showing that robust mean declines (ranging from 1.8-2.0 log<sub>10</sub> at week 40) in HBsAg were sustained with repeat dosing of AB-729 up to 48 weeks, with no statistically significant differences observed to date between the 60 mg and 90 mg dose and/or dosing intervals.

Mean (SE) Baseline Change in HBsAg with Repeat Dosing of AB-729

		HBV DNA+			
Nominal Visit	Cohort E 60 mg Q4W (n=7)	Cohort F 60 mg Q8W (n=7)	Cohort I 90 mg Q8W (n=6)	Cohort J 90 mg Q12W (n=7)	Cohort G 90 mg Q8W (n=7)
Baseline (IU/mL)	3.51 (0.20)	3.53 (0.17)	3.36 (0.23)	3.37 (0.28)	3.14 (0.14)
Week 12	-1.10 (0.15)	-1.02 (0.11)	-1.30 (0.19)	-1.06 (0.31)	-1.56 (0.32)
Week 24	-1.84 (0.16)	-1.57 (0.09)	-1.79 (0.22)	-1.56 (0.25)	-1.82 <sup>#</sup> (0.29)
Week 40	-1.84 (0.19)	-1.78 (0.10)	-1.93 (0.25)	-1.89 <sup>^</sup> (0.35)	-2.03 <sup>+</sup> (0.33)
Week 44	-1.81 (0.17)	-1.88 (0.13)	-2.16 (0.31)	-1.86 <sup>^</sup> (0.38)	
Week 48	-1.89 (0.18)	-1.90 (0.14)			
Week 16 Post Last Dose	-1.74 (0.20)	-1.76 (0.19)			
Week 20 Post Last Dose	-1.61 (0.20)	-1.55* (0.28)			
Week 24 Post Last Dose	-1.54 (0.19)				

NOTE: Mean (SE) values presented only if n>3; there are no statistically significant differences between cohorts (data not shown); \*n=5; ^n=6, one patient in Cohort J chose not to extend treatment; <sup>#</sup> 6 of 7 patients had HBV DNA <LLOQ by Week 8, the 7th patient became <LLOQ at Week 16; <sup>+</sup> n=6.

Repeat dosing of both the 60 mg and 90 mg doses of AB-729 continues to be generally safe and well- tolerated. There were no treatment related serious adverse events or discontinuations. The most common treatment emergent adverse events were injection site related of which all were grade one and did not appear to be dose or interval dependent. ALT and AST elevations were asymptomatic and not considered adverse events by the study investigators.

Gaston Picchio, Ph.D., Chief Development Officer at Arbutus, commented, "AB-729 consistently delivers impressive efficacy and safety data at both the 60 mg and 90 mg doses at all dosing intervals. AB-729 represents a therapeutic option with a consistent profile that can

suppress HBsAg and has the potential to be a cornerstone agent in combination with other agents to cure HBV. I look forward to continuing to evaluate AB-729 in future clinical trials."

A total of 34 patients were enrolled in cohorts E, F, G, I, and J, all of which met the eligibility criteria (>0.5 log<sub>10</sub> HBsAg reduction at week 20) to participate in the treatment extension and 33 of which agreed to continue treatment. HBV DNA negative patients on stable NA therapy were enrolled in part 3 of this trial to receive 60 mg of AB-729 every 4 weeks (cohort E) or 8 weeks (cohort F) or 90 mg of AB-729 every 8 weeks (cohort I) or 12 weeks (cohort J). HBV DNA positive patients received 90 mg of AB-729 every 8 weeks in addition to current standard of care treatment, tenofovir disoproxil fumarate (cohort G). HBV DNA negative/HBeAg positive patients are continuing to be dosed with 90 mg of AB-729 every 8 weeks (cohort K).

The meeting platform with posters is now open and the e-poster is also available through the Investors section under Events & Presentations of Arbutus' website at www.arbutusbio.com.

#### About AB-729

AB-729 is an RNA interference (RNAi) therapeutic specifically designed to reduce all HBV viral proteins and antigens, including hepatitis B surface antigen, which is thought to be a key prerequisite to enable reawakening of a patient's immune system to respond to the virus. AB-729 targets hepatocytes using Arbutus' novel covalently conjugated N-acetylgalactosamine (GalNAc) delivery technology that enables subcutaneous delivery. Clinical data generated thus far has shown single- and multi-doses of AB-729 to be generally safe and well-tolerated while providing meaningful reductions in hepatitis B surface antigen and hepatitis B DNA.

#### **About HBV**

Hepatitis B is a potentially life-threatening liver infection caused by the hepatitis B virus (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 (Nasdaq: ABUS) is a clinical-stage biopharmaceutical company primarily focused on discovering, developing and commercializing a broad portfolio of wholly-owned assets with different modes of action to provide a cure for people with chronic hepatitis B virus (HBV) infection. The Company is advancing multiple product candidates with distinct mechanisms of action that suppress viral replication, reduce surface antigen and reawaken the immune system. Arbutus believes this three-prong approach is key to transforming the treatment and developing a potential cure for chronic HBV infection. Arbutus' HBV product pipeline includes RNA interference (RNAi) therapeutics, oral capsid inhibitors, oral compounds that inhibit PD-L1 and oral HBV RNA destabilizers. In addition, Arbutus has an ongoing drug discovery and development program directed to identifying orally active agents for treating coronaviruses (including COVID-19). For more information, visit 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 future development plans for our product candidates; the expected cost, timing and results of our clinical development plans and clinical trials with respect to our product candidates; our expectations and goals for our collaborations with third parties and any potential benefits related thereto; the potential for our product candidates to achieve success in clinical trials; our expected financial condition, including the anticipated duration of cash runways and timing regarding needs for additional capital; 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, 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 and its collaborators may never realize the expected benefits of the collaborations; 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 and at 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**

William H. Collier President and CEO Phone: 267-469-0914 Email: ir@arbutusbio.com

Lisa M. Caperelli Vice President, Investor Relations Phone: 215-206-1822

Email: lcaperelli@arbutusbio.com



# Corporate Presentation

November 10, 2021

NASDAQ: ABUS www

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 for the anticipated durations; the expected cost, timing and results of Arbutus' clinical development plans and clinical trials, including its clinical collaborations with third parties; the potential for Arbutus' product candidates to achieve their desired or anticipated outcomes; Arbutus' expectations regarding the timing and clinical development of Arbutus' product candidates, including its articulated clinical objectives; the timeline to a combination cure for HBV; Arbutus' coronavirus strategy; Arbutus' expectations regarding its technology licensed to third parties; and other statements relating to Arbutus' 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; market shifts may require a change in strategic focus; the parties may never realize the expected benefits of the collaborations; 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, Quarterly Report on Form 10-Q and Arbutus' periodic disclosure filings which are available at www.sec.gov and at www.sedar.com. All forward-looking statements o



### **Investment Highlights**

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

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



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









Chief Compliance Officer

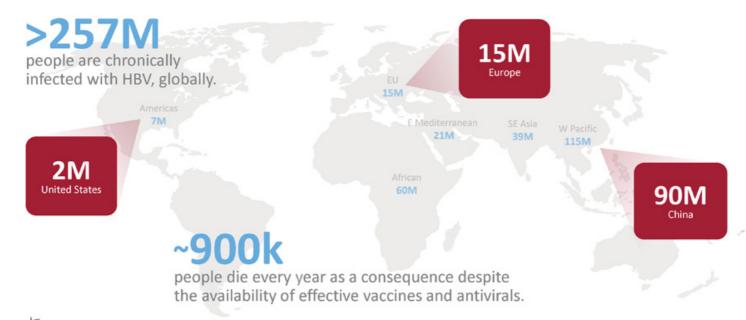
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Gaston Picchio, PhD

Chief Development Officer

# HBV Presents a Significant Unmet Medical Need



Arbutus NASDAQ: ABUS WWW.arbutusbio.com

Sources: Global Hepatitis Report and Hepatitis B Fact Sheet, WHO (2017) <a href="http://www.who.int/mediacentre/factsheets/fs204/en/">http://www.who.int/mediacentre/factsheets/fs204/en/</a> 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.



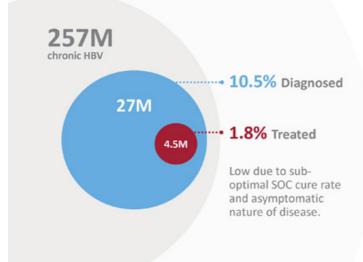
#### STANDARD OF CARE THERAPIES FOR CHRONIC HBV

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

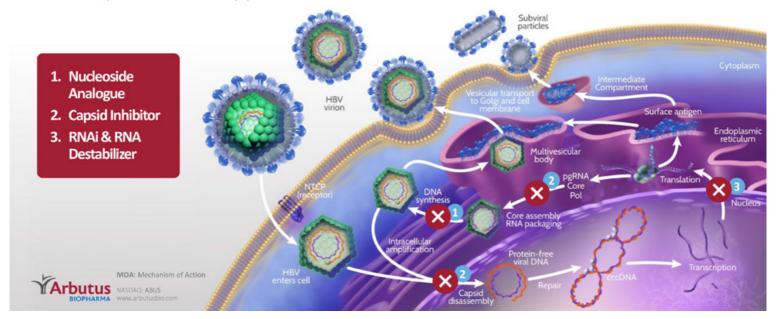
would substantially increase diagnosis and treatment rates to unlock significant market growth opportunities.



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

# A Combination of Agents with Complementary MOA is Needed for HBV Cure

HBV lifecycle illustrates key points for intervention



# 3-Prong Approach to Therapeutic Success

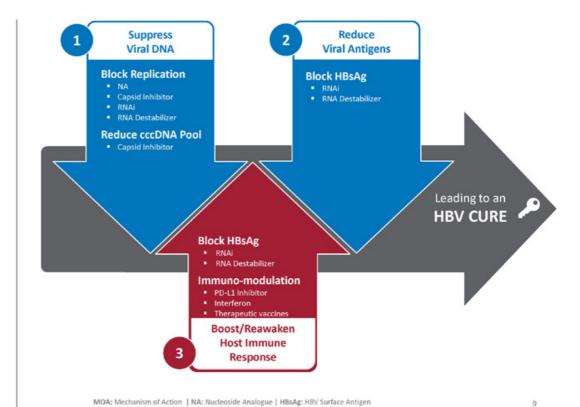
Suppress viral antigens

Reduce HBV DNA

Boost host immune response

Therapeutic success will require a combination of agents with complementary MOAs





# **Wholly-Owned Pipeline of Products**



#### **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

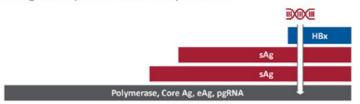
Pan-genotypic activity across HBV genotypes

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



### **Clinical Trial Key Takeaways**

- Clinical data continues to support evaluating AB-729 60 mg every 8 weeks in Phase 2a combination trials
- Long-term dosing with AB-729 resulted in 74% of patients reaching <100 IU/mL of HBsAg, a clinically relevant threshold which could inform when to stop all therapies
  - HBsAg suppression at levels of <100 IU/mL maintained up to 28 weeks off AB-729 treatment</li>
- Preliminary data suggest that long-term suppression of HBsAg with AB-729 results in increased HBV-specific immune response\*
- AB-729 monotherapy (90 mg single-dose) resulted in robust HBsAg and HBV DNA declines in HBV DNA + patients
- AB-729 was safe and well-tolerated through 40-48 weeks of dosing



# AB-729-001 Phase 1a/1b Clinical Trial

#### Part 1 & 2: Single-Ascending Dose **Dosing Completed**

	Healthy Subjects	cHBV Patients
Doses	60 mg / 180 mg / 360 mg	180 mg / 60 mg / 90 mg DNA-/ 90 mg DNA+
n=	6 per cohort	6 per cohort
Results	Up to 180 mg AB-729 was safe and well-tolerated	Single doses of AB-729 result in comparable mean HBsAg declines at week 12 followed by a sustained plateau phase

#### Part 3: Multiple Doses In cHBV Patients (n=7) - Ongoing

Criby Fatients (II-7) - Ongoing
E: 60 mg Q4W HBV DNA -
F: 60 mg Q8W HBV DNA -
G: 90 mg Q8W + TDF HBV DNA +
I: 90 mg Q8W HBV DNA -
J: 90 mg Q12W HBV DNA -
K: 90 mg Q8W HBV DNA -, HBeAg+ only



TArbutus
NASDAQ: ABUS
BIOPHARMA
NASDAQ: ABUS
WWW.arbutusbio.com
HBV: Hepatitis B Virus | TDF: tenofovir disoproxil fumarate | cHBV: chronic HBV

### **Baseline Characteristics**

		HBV DNA+			
Baseline Measure#	Cohort E <sup>‡</sup> (N=7)	Cohort F (N=7)	Cohort I (N=6)^	Cohort J (N=7)	Cohort G (N=7)
Age in years, mean (range)	45.1 (33 – 63)	44.0 (31 – 59)	45.7 (38 – 54)	44.3 (35 – 61)	43.9 (34 – 50)
Male gender, n (%)	4 (57%)	4 (57%)	4 (67%)	5 (71%)	3 (43%)
BMI, mean (SD)	27.7 (5.0)	23.7 (2.2)	25.5 (3.1)	28.7 (4.8)	23.8 (4.0)
Race, n (%)					
Asian	1 (14%)	5 (71%)	5 (83%)	4 (57%)	6 (86%)
Black	0	1 (14%)	0	0	0
White	6 (86%)	1 (14%)	1 (17%)	3 (43%)	1 (14%)
ALT (U/L), mean (SD)	22.4 (10.5)	23.4 (15.2)	26.0 (10.2)	20.1 (7.2)	32.7 (15.8)
HBV eAg negative, n (%)	7 (100%)	6 (71%)°	5 (83%)	4 (57%)	7 (100%)
HBsAg (IU/mL), mean (range)	5,372 (584 – 11,761)	5,354 (667 – 18,605)	4,691 (338 – 19,017)	6,911 (309 – 25,345)	1,818 (277 – 4,723)

<sup>\*</sup>Genotype not determined; \*Subjects switched to AB-729 60 mg Q12W for the extension phase; ^N = 6 due to one subject meeting exclusion criteria on Day 1 and a replacement subject receiving an incorrect dose on Day 1; both entered follow up and were excluded from the analysis; \*One subject counted as HBeAg negative was identified as "HBeAg borderline" (baseline HBeAg = 0.18 IU/mL, LLOQ = 0.11 IU/mL)



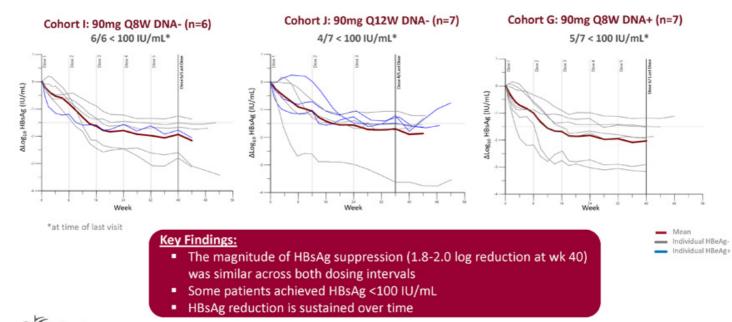
### Mean (SE) Baseline HBsAg Response Similar Regardless of **AB-729** Dose and Dosing Intervals to Date

		HBV DN	NA-		HBV DNA+
Visit	Cohort E 60mg Q4W <sup>†</sup> (n=7)	Cohort F 60mg Q8W (n=7)	Cohort I 90mg Q8W (n=6)	Cohort J 90mg Q12W (n=7)	Cohort G 90mg Q8W (n=7)
Baseline	3.51 (0.20)	3.53 (0.17)	3.36 (0.23)	3.37 (0.28)	3.14 (0.14)
Week 12	-1.10 (0.15)	-1.02 (0.11)	-1.30 (0.19)	-1.06 (0.31)	-1.56 (0.32)
Week 24	-1.84 (0.16)	-1.57 (0.09)	-1.79 (0.22)	-1.56 (0.25)	-1.82** (0.29)
Week 40	-1.84 (0.19)	-1.78 (0.10)	-1.93 (0.25)	-1.89 <sup>^</sup> (0.35)	-2.03* (0.33)
Week 44	-1.81 (0.17)	-1.88 (0.13)	-2.16 (0.31)	-1.86 <sup>^</sup> (0.38)	
Week 48	-1.89 (0.18)	-1.90 (0.14)			
ff Treatment (# w	eeks post last dose)				
Week 16	-1.74 (0.20)	-1.76 (0.19)			
Week 20	-1.61 (0.20)	-1.55* (0.28)			
Week 24	-1.54 (0.19)			***	



NOTE: Mean (SE) values presented only if n>3; there are no statistically significant differences between cohorts (data not shown); \*n=5; ^n=6, one patient in Cohort J chose not to extend treatment; "6 of 7 patients had HBV DNA <LLOQ by Week 8, the 7th patient became <LLOQ at Week 16; \*n=6
Data Presented at AASLD 2021

# AB-729 dosed at 90mg Q8W or Q12W Reduces HBsAg in both DNA- and DNA+ Patients

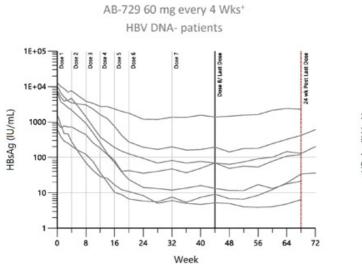


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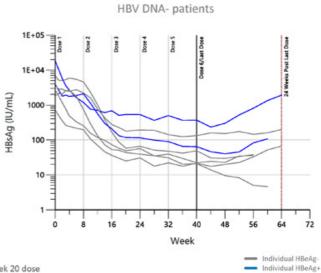
Arbutus NASDAQ: ABUS WWW.arbutusbio.com

Data presented at AASLD 2021

# HBsAg Suppression at levels <100 IU/mL Maintained up to 28 Weeks Off AB-729 Treatment



Cohort E



Cohort F

AB-729 60 mg every 8 Wks



<sup>†</sup>patients switched to AB-729 60 mg Q12W after Week 20 dose <sup>†</sup>Data presented at AASLD 2021

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

- No treatment-related SAEs or discontinuations due to AEs
- No treatment-related Grade 3 or 4 AEs\*
- No treatment-related Grade 3 or 4 laboratory abnormalities\*
  - Grade 1 and Grade 2 ALT elevations have improved or stabilized with continued treatment
- Injection site TEAEs were mostly mild (erythema, pain, bruising, pruritis)
- No clinically meaningful changes in ECGs or vital signs
- All but 1 patient to date has consented to an additional 6 months of dosing in the Extension period



\* 1 patient (Cohort A) with rapid decline in HBsAg of ~2.0 log10 IU/mL had an unrelated Gr 2 AE of food poisoning resulting in unrelated transient Grade 3 AEs of ALT/AST elevation (without bilirubin changes)

# Next Steps – Combine AB-729 with Different Compounds in Phase 2a to Inform Future Clinical Trials

- First patient dosed in a Phase 2a trial in combination with ongoing NA therapy and short courses of Peg-IFNα-2a in cHBV patients
- Three Phase 2a proof-of-concept clinical collaborations are on-going or expected to initiate shortly to accelerate key combination data
  - Assembly Biosciences, Inc. Phase 2a enrolling patients
  - Antios Therapeutics, Inc. collaboration announced in Q2 2021, additional cohort with AB-729 expected to be added to clinical trial in 2H 2021
  - Vaccitech plc collaboration announced in Q3 2021, clinical trial expected to initiate in early 2022



# Phase 2a POC clinical trial

n=40 stably NA-suppressed, HBeAg negative, non-cirrhotic CHB patients

After a 24-week dosing period of AB-729 (60 mg every 8 weeks), patients will be randomized into one of 4 groups:

- A1: AB-729 + NA + weekly Peg-IFN $\alpha$ -2a for 24 weeks (n=12)
- A2: NA + weekly Peg-IFNα-2a for 24 weeks (n=12)
- B1: AB-729 + NA + weekly Peg-IFN $\alpha$ -2a for 12 weeks (n=8)
- B2: NA + weekly Peg-IFNα-2a for 12 weeks (n=8)

AB-729 in combination with ongoing NA therapy and short courses of Peg-IFN $\alpha$ -in CHB patients

After completion of the assigned Peg-IFN $\alpha$ -2a treatment period, all patients will remain on NA therapy for the initial 24-week follow up period, and then will discontinue NA treatment if treatment stopping criteria are met

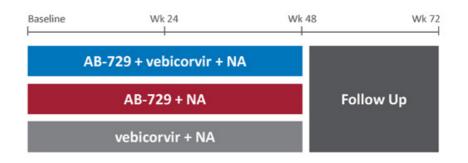


# AB-729 Clinical Collaboration



Provides accelerated
AB-729 combination
proof-of-concept (POC)
with Assembly's capsid
inhibitor and a NA





Phase 2 Clinical Trial enrolling

n= ~60 virologically-suppressed patients with chronic HBV infection

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

NA: Nucleoside Analogue

# AB-729 Clinical Collaboration



POC Phase 2a clinical trial

Evaluating AB-729 in combination with Vaccitech's immunotherapeutic, VTP-300, and a NA



Evaluate safety, pharmacokinetics, immunogenicity and anti-viral activity of triple combination - AB-729, VTP-300 and an NA compared to double combinations of AB-729 with an NA and VTP-300 with an NA

Expected to file CTA in the second half of 2021 and initiate clinical trial in early 2022

Full rights retained by the Companies of their respective product candidates and all costs will be split equally

Assuming positive results parties intend to undertake a larger Phase 2b clinical trial

# AB-729 Clinical Collaboration



POC Phase 2a clinical trial

AB-729 in combination with Antios' proprietary active site polymerase inhibitor nucleotide (ASPIN), ATI-2173, and a NA



Evaluate AB-729, ATI-2173 and a NA in a single cohort in the ongoing Antios Phase 2a ANTT201 clinical trial

Expected to initiate in the second half of 2021

Trial cohort will include 10 patients with chronic HBV assigned 8:2 to active drug or matching placebos; in combination with an NA

Antios responsible for costs and Arbutus responsible for supply of AB-729

#### **AB-836**

# Next-Generation Capsid Inhibitor

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



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 ≤ 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

Demonstrates high liver concentrations in multiple species

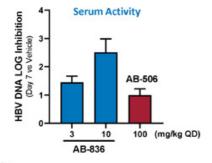
Projected to be once daily dosing

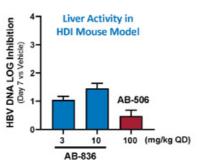
Pangenotypic

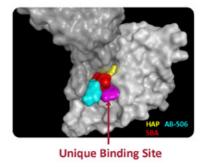
Combinable with other MOA agents

# AB-836: Next Generation Capsid Inhibitor

	HBV DNA / 1° Mechanism					Human Serum Shift
Compound	HepDE19 (EC <sub>so</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	6х
AB-836	0.010	0.002	0.012	0.118	0.196	2x



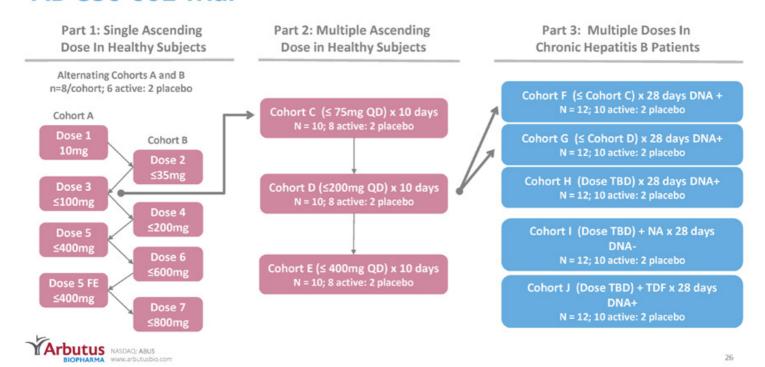






HAP: Heteroaryldihydropyrimidine | SBA: Sulfamoylbenzamide | PHH: Primary Human Hepatocytes

#### AB-836-001 Trial



### Next Gen Oral 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



### Oral PD-L1 Inhibitor Program for HBV Immune Reactivation

#### Rationale

- PD-L1 expressed by liver parenchymal and nonparenchymal cells
- PD-L1 upregulated during viral hepatitis
- PD-1 upregulated on HBVspecific T- and B-cells
- Inhibition in combination with other DAAs leads to sustained viral suppression in preclinical models of HBV

#### Small-Molecule Inhibitor Approach

- Allows controlled checkpoint blockade
- Enables oral dosing
- Designed to reduce systemic safety issues seen with Abs

#### Current Lead Candidates

- Block PD-L1/PD1 interaction at sub-nM concentrations
- Activate HBV-specific immune responses in T-cells from CHB patients in vitro
- Novel MOA identified
- Demonstrate a robust checkpoint mediated in vivo effect

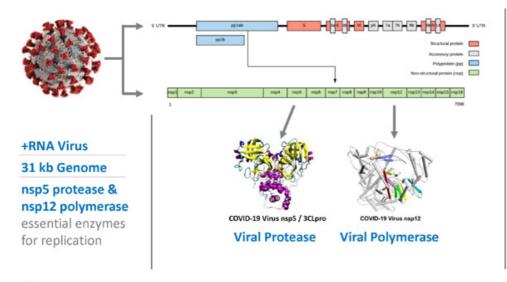
Lead PD-L1 candidate selected and moving forward into IND-Enabling studies



PD-L1: Programmed death-ligand 1 | PD-1: Programmed death ligand protein DAAs: Direct acting antivirals | Abs: Antibodies | MOA: Mechanism of action

## **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

#### X-Chem/Proteros

 Proprietary DEL library screening and structural biology for MPRO inhibitor discovery



# Key Objectives

Cash balance of \$151.9M as of September 30, 2021, cash runway into Q2 2023

Objective		ted 021
Additional data from AB-729 90 mg single-dose in HBV DNA positive patients	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	1
Initial data from AB-729 90 mg multi-dose (8 wk / 12 wk dosing intervals)	1H <b>√</b> /	2H 🗸
Initial data from AB-729 90 mg multi-dose (8 wk dosing interval) in HBV DNA positive patients	2Н 🔹	/
Initiate two Phase 2a combination clinical trials in HBV patients; both including AB-729, with one or more approved or investigational agents	2Н	
Initial Phase 1a/1b data for AB-836	2H	



