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): January 5, 2023

Arbutus Biopharma Corporation
(Exact name of registrant as specified in its charter)

British Columbia, Canada	**001-34949**	**98-0597776**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(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 January 5, 2023, Arbutus Biopharma Corporation (the "Company") issued a press release (the "Press Release") announcing its 2023 corporate objectives and provided certain estimated and projected financial information, including its estimated cash, cash equivalents and investments as of December 31, 2022. The amounts included in the Press Release are preliminary, have not been audited and are subject to change upon completion of the Company's audited financial statements for the year ended December 31, 2022. Additional information and disclosures would be required for a more complete understanding of the Company's financial position and results of operations as of December 31, 2022. A copy of the press release is filed herewith as Exhibit 99.1 and is incorporated by reference herein.

On January 5, 2023, the Company posted an updated corporate presentation on its website at www.arbutusbio.com (the "Corporate Presentation"), which included the Company's estimated cash, cash equivalents and investments as of December 31, 2022. A copy of the Corporate Presentation is filed herewith as Exhibit 99.2 and is incorporated by reference herein.

Item 8.01. Other Events.

On January 5, 2023, the Company issued the Press Release, a copy of which is filed herewith as Exhibit 99.1 hereto and is incorporated by reference herein.

A copy of the Corporate Presentation is filed herewith as Exhibit 99.2 hereto and is incorporated by reference herein.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

Exhibit Number	**Description**
99.1	Press release dated January 5, 2023
99.2	Corporate Presentation January 5, 2023
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: January 5, 2023

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

EXHIBIT 99.1

Arbutus Announces 2023 Corporate Objectives and Provides Financial Update

Data from multiple Phase 2a clinical trials combining AB-729 with other compounds expected in 2023

Plans to advance HBV assets, AB-101 and AB-161, and newly nominated coronavirus asset, AB-343, into Phase 1 clinical trials in 2023

Strong financial position; cash runway into Q4 2024

WARMINSTER, Pa., Jan. 05, 2023 (GLOBE NEWSWIRE) -- Arbutus Biopharma Corporation (Nasdaq: ABUS), a clinical-stage biopharmaceutical company leveraging its extensive virology expertise to develop novel therapeutics that target specific viral diseases, today announced its 2023 corporate objectives and provided a financial update.

William Collier, President and CEO of Arbutus Biopharma, stated, "Building upon our accomplishments in 2022, we are poised in this coming year to expand our clinical footprint in HBV with the initiation of clinical trials for two of our HBV assets: AB-101, our oral PD-L1 inhibitor, and AB-161, our next generation oral RNA destabilizer. In 2023, we also anticipate obtaining data in our AB-729 HBV clinical trials, which we believe will inform our path forward to a combination curative regimen for patients with cHBV. In addition, we are excited to move our newly nominated pan-coronavirus M^{pro} compound, AB-343, into the clinic. With a strong balance sheet, we are well capitalized to fund our 2023 corporate objectives and we expect our cash runway to extend into the fourth quarter of 2024."

2023 Corporate Objectives:
HBV Franchise:

- Announce additional off-treatment data from AB-729-001, our Phase 1a/1b clinical trial, in the first half of 2023.
- Announce preliminary data from patients receiving PEG-IFNα-2a (IFN) in the Phase 2a clinical trial evaluating the combination of AB-729, our RNAi therapeutic, nucleos(t)ide analogue (NA) therapy and IFN in the first half of 2023.
- Amend the Phase 2a clinical trial evaluating AB-729, NA therapy and Vaccitech's therapeutic vaccine, VTP-300, to include an additional arm with nivolumab (Opdivo®), and dose first patient in this arm in the first half of 2023. Announce preliminary data from patients who received AB-729, NA and VTP-300 in the second half of 2023.
- Initiate a Phase 1 healthy subject clinical trial with AB-161 in the first half of 2023; single-ascending dose data is expected from the clinical trial in the second half of 2023.
- Initiate a Phase 1 healthy subject clinical trial with AB-101 in the first half of 2023; data is expected from the single-ascending dose portion of the clinical trial in the second half of 2023.

Coronavirus Franchise:

- Complete IND-enabling studies and initiate a Phase 1 clinical trial with AB-343, our lead candidate that inhibits the SARS-CoV-2 nsp5 main protease (M^{pro}), in the second half of 2023.
- Nominate an nsp12 clinical candidate and initiate IND-enabling studies in the second half of 2023.

Financial Update:

- We had cash, cash equivalents and investments in marketable securities totaling approximately $185 million as of December 31, 2022.
- For the full year of 2022, we received $20.5 million of net proceeds from the issuance of common shares under Arbutus' "at-the-market" offering program. As of December 31, 2022, we had approximately 157.5 million common shares issued and outstanding, and approximately 15.5 million stock options outstanding.
- We expect our net cash burn in 2023 to range from $95 to $100 million. We believe our cash, cash equivalents and investments in marketable securities of approximately $185 million as of December 31, 2022 are sufficient to fund the Company's operations into the fourth quarter of 2024.
- The preliminary cash, cash equivalents and investments, the amount received from the issuance of common shares under Arbutus' "at-the-market" offering program and the common shares and stock options outstanding as of December 31, 2022 were calculated prior to the completion of an audit by Arbutus' independent registered public accounting firm and are therefore subject to adjustment.

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 enabling subcutaneous delivery. Clinical data generated thus far has shown single- and multi-doses of AB-729 to be generally safe and well-tolerated, while also providing meaningful reductions in hepatitis B surface antigen and hepatitis B DNA. AB-729 is currently in multiple Phase 2a clinical trials.

About AB-101

AB-101 is our lead oral PD-L1 inhibitor candidate that we believe will allow for controlled checkpoint blockade and enable oral dosing, while minimizing the systemic safety issues typically seen with checkpoint antibody therapies. Immune checkpoints such as PD-1/PD-L1 play an important role in the induction and maintenance of immune tolerance and in T-cell activation. Preclinical data generated thus far indicates that AB-101 mediates activation and reinvigoration of HBV-specific T-cells from cHBV patients. We believe AB-101, when used in combination with other approved and investigational agents, could potentially lead to a functional cure in HBV chronically infected patients. We are also exploring oncology applications for our internal PD-L1 portfolio.

About AB-161

AB-161 is our next generation oral small molecule RNA destabilizer, specifically designed to target the liver. Mechanistically, RNA destabilizers target the host proteins PAPD5/7, which are involved in regulating the stability of HBV RNA transcripts. In doing so, RNA destabilizers lead to the selective degradation of HBV RNAs, thus reducing HBsAg levels and inhibiting viral replication. To provide a proprietary all-oral treatment regimen for patients with cHBV, we believe inclusion of a small molecule RNA destabilizer is key.

About AB-343

AB-343 is our lead coronavirus drug candidate that inhibits the main protease (M^{pro}), a validated target for the treatment of COVID-19 and potential future coronavirus outbreaks. In our pre-clinical research conducted to date, AB-343 has shown pan-coronavirus antiviral activity, no reduction in potency against known SARS-CoV-2 variants, robust activity against SARS-CoV-2 M^{pro} resistant strains, and a favorable drug-drug interaction profile with no need for ritonavir boosting. We see an opportunity to pursue a potential combination therapeutic strategy focusing on M^{pro} and nsp12 viral polymerase targets to reduce hospitalizations, achieve better patient treatment outcomes and provide pre-exposure prophylactic therapy.

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 290 million people worldwide suffer from chronic HBV infection, while other estimates indicate that approximately 2.4 million people in the United States suffer from chronic HBV infection. Approximately 820,000 people die every year from complications related to chronic HBV infection despite the availability of effective vaccines and current treatment options.

About Coronaviruses

Coronaviruses are a large family of viruses that range from the common cold to more severe diseases such as severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), and COVID-19. COVID-19 has caused approximately 6.9 million deaths globally according to an analysis by the Institute for Health Metrics and Evaluation (IHME). As we strive to identify and develop new antiviral small molecules to treat COVID-19 and future coronavirus outbreaks, we have focused our research efforts on two essential targets critical for replication across all coronaviruses – nsp5 protease and nsp12 polymerase.

About Arbutus

Arbutus Biopharma Corporation (Nasdaq: ABUS) is a clinical-stage biopharmaceutical company leveraging its extensive virology expertise to develop novel therapeutics that target specific viral diseases. Our current focus areas include Hepatitis B virus (HBV), SARS-CoV-2, and other coronaviruses. To address HBV, we are developing a RNAi therapeutic, an oral PD-L1 inhibitor, and an oral RNA destabilizer to potentially identify a combination regimen with the aim of providing a functional cure for patients with chronic HBV by suppressing viral replication, reducing surface antigen and reawakening the immune system. We believe our lead compound, AB-729, is the only RNAi therapeutic with evidence of immune re-awakening. It is currently being evaluated in multiple phase 2 clinical trials. We also have an ongoing drug discovery and development program directed to identifying novel, orally active agents for treating coronavirus (including SARS-CoV-2). In addition, we are exploring oncology applications for our internal PD-L1 portfolio. 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 with respect to the release of data from our clinical trials and the expected timing thereof; 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; and our expected financial condition, including the anticipated duration of cash runways and timing regarding needs for additional capital.

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 and patent litigation matters.

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; uncertainties associated with litigation generally and patent litigation specifically; 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

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Arbutus BIOPHARMA

Corporate Presentation

NASDAQ: ABUS

www.arbutusbio.com

January 5, 2023

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; the expected timing and payments associated with strategic and/or licensing agreements; the patent infringement lawsuit against Moderna; 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 pre-clinical 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 and patent litigation matters. 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; uncertainties associated with litigation generally and patent litigation specifically; 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 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.

Our Strategy

Leverage the proven track record of success established with our team's expertise in understanding and treating viral infections by discovering and developing a broad, differentiated pipeline of therapies targeting chronic HBV, COVID-19, and future coronavirus outbreaks.

Develop a **combination therapy that includes antivirals and immunologics** to provide a finite duration treatment for people with cHBV that results in >20% functional cure rate.

Develop **novel oral pan coronavirus antivirals targeting essential viral proteins** with the goal of reducing hospitalizations and providing pre-exposure prophylactic therapy.

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HBV: Hepatitis B Virus | **cHBV:** chronic HBV

Investment Highlights

Indications with significant unmet medical need & large market opportunities	**Team with virology expertise and proven track record**	**Broad portfolio of internally discovered assets with distinct MOAs**	**Lead HBV compound – AB-729 RNAi therapeutic in multiple Phase 2a combination clinical trials**	**Strong financial position**	**Patented LNP technology**
Focused on developing functional cure for HBV and oral pan-coronavirus therapeutics	Discovered, developed & commercialized multiple drugs	RNAi therapeutic PD-L1 inhibitor RNA destabilizer M^{pro} inhibitor Nsp12 polymerase inhibitor	Data shows AB-729 is generally safe and well-tolerated and has shown meaningful suppression of HBsAg while on- or off-treatment	Cash runway into Q4 2024	Receiving licensing royalties arising from Alnylam's Onpattro® and seeking damages for Moderna-COVID-19 vaccine sales

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MOA: Mechanism of Action | **PD-L1:** Programmed death-ligand 1 | **M^{pro}:** Main protease
NSP12: Non-structural protein | **HBsAg:** Hepatitis B surface antigen

Broad Pipeline

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NA: Nucleoside Analogue

HBV Overview

Cause & Symptoms

- Life-threatening liver infection caused by hepatitis B virus (HBV)
- Transmitted through body fluids and from mother to child
- Long-term chronic infection (cHBV) leads to higher risk of cirrhosis and/or liver cancer

Diagnosis

- HBsAg detection
- Additional biomarkers necessary to determine stage of disease

Treatments

- NA therapy – lifelong daily therapy, aimed at reducing HBV DNA and risk of cirrhosis and/or HCC
- Peg-IFNα – administered weekly; poorly tolerated
- <5% of patients achieve functional cure

Rationale

- Need for finite and more efficacious HBV treatments that further improve long-term outcomes and increase functional cure rate
- Combination therapy with different MOAs will be required to reduce HBsAg, suppress HBV DNA, and boost immune system

Sources for all data on slide:

1 Hepatitis B Fact Sheet, WHO https://www.who.int/news-room/fact-sheets/detail/hepatitis-b ; Hep B Foundation link https://www.hepb.org/what-is-hepatitis-b/what-is-hepb/facts-and-figures/ ; Kowdley et al. Hepatology (2012) Prevalence of Chronic Hepatitis B Among Foreign-Born Persons Living in the US by Country of Origin

2 Pegasys, PEG-Intron, Baraclude and Viread Package Inserts

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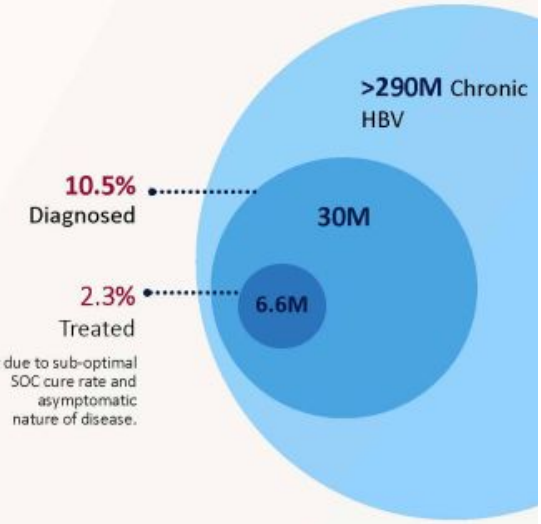
HBsAg: HBV Surface Antigen | **HCC:** Hepatocellular carcinoma

HBV Presents a Significant Unmet Medical Need

>290M
people are chronically infected with HBV, globally.

~820k
people die every year as a consequence despite the availability of effective vaccines and antivirals.



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

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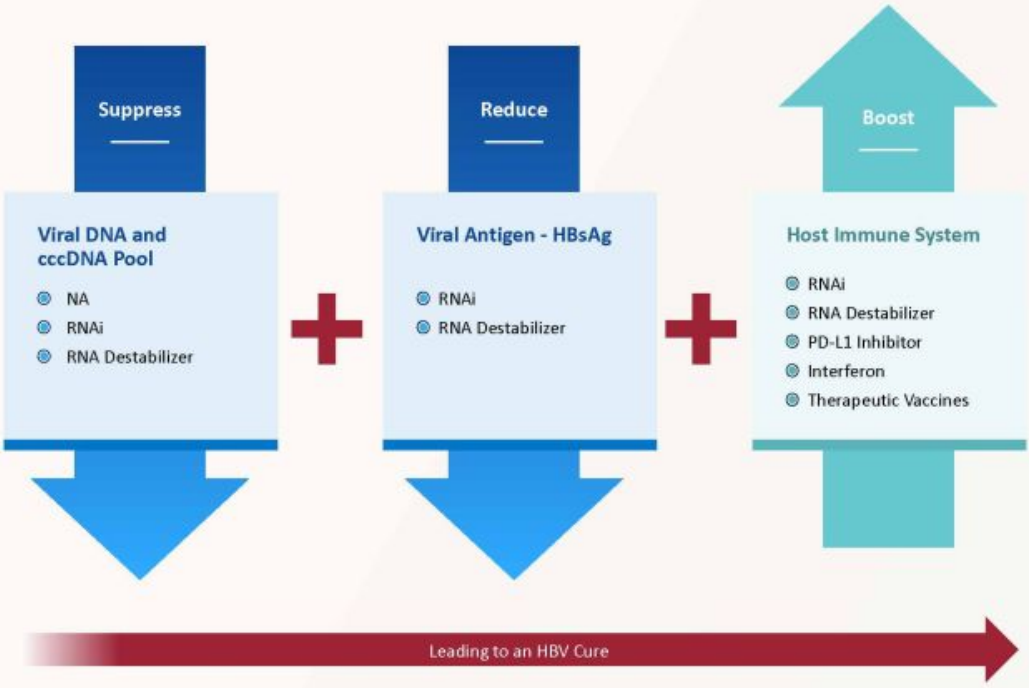
SOC: Standard of Care

Sources: https://www.who.int/news-room/fact-sheets/detail/hepatitis-b
https://www.hepb.org/what-is-hepatitis-b/what-is-hepb/facts-and-figures/

3-Pronged Approach to Therapeutic Success

- **Suppress** HBV DNA
- **Reduce** viral antigens
- **Boost** host immune response

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



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 other agents
- Actively targets the liver
- Active against cccDNA derived and integrated HBsAg transcripts
- Clean profile in long term preclinical safety studies

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

Part 1 & 2:

Single-ascending dose

AB-729 monotherapy conclusions:

- Robust HBsAg declines across all cohorts
- HBV DNA declines in HBV DNA+ patients

Part 3: Multiple Ascending Dose in cHBV Patients

- E: 60mg Q4W HBV DNA-
- F: 60mg Q8W HBV DNA-
- G: 90mg Q8W + TDF HBV DNA+
- I: 90mg Q8W HBV DNA-
- J: 90mg Q12W HBV DNA-
- K: 90mg Q8W HBV DNA-, HBeAg+ only

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HBeAg: HBV E antigen | **TDF:** tenofovir disoproxil fumarate

Data presented at EASL 2022

Robust HBsAg Declines Irrespective of Dose, Dosing Schedule, HBeAg or HBV DNA Status

Mean (SE) Baseline and Δ log_{10} HBsAg by Visit

Nominal Visit	HBV DNA-					HBV DNA+
	Cohort E (n=7)	Cohort F (n=7)	Cohort I (n=6)	Cohort J (n=7)	Cohort K (n=7)	Cohort G (n=7)
Baseline (IU/mL)	3.51 (0.20)	3.53 (0.17)	3.36 (0.23)	3.37 (0.28)	3.23 (0.14)	3.14 (0.14)
Week 48	-1.89 (0.18)	-1.90 (0.14)	1.91[#] (0.32)	-1.80* (0.41)	-2.57[#] (0.61)	-2.15 (0.34)
Week 24 Post Last Dose	-1.54 (0.19)	-1.48* (0.24)	-1.67* (0.40)	-1.52* (0.40)	-2.31[#] (0.78)	-1.59 (0.31)

Data shown as mean (SE) log_{10} IU/mL; Last AB-729 dose Cohort E: Week 44, Cohorts F, I, G, K: Week 40, Cohort J: Week 36; HBsAg Assay LLOQ = 0.07 IU/mL; *N=6; #N=5

- Mean declines in HBsAg on treatment and post treatment continue to be comparable across cohorts
- Results to date from a dedicated HBeAg+ cohort (Cohort K) further support preliminary observations suggesting that baseline HBeAg status has no effect on response
- Sustained HBsAg suppression up to 24 weeks post last dose

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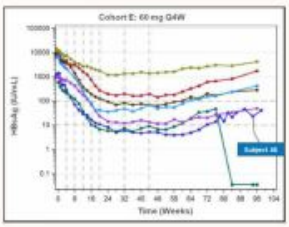
Data presented at EASL 2022 and AASLD 2022

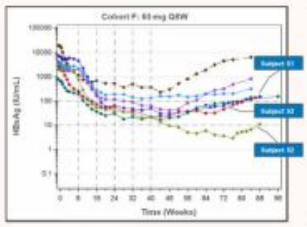
AB-729-001: Robust & Sustained HBsAg Declines While On- or Off-Treatment with AB-729

Change in HBsAg vs time

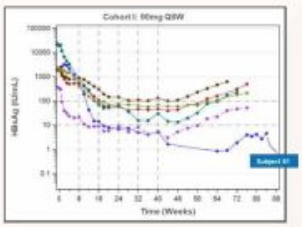
Cohort E



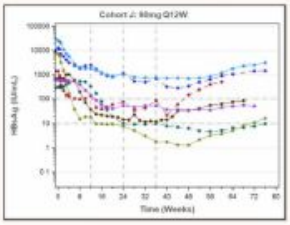
Cohort F



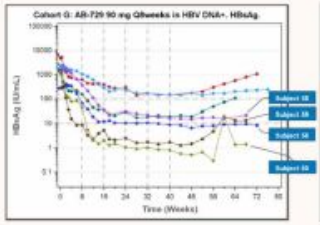
Cohort I



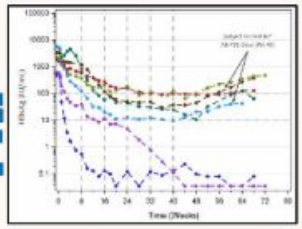
Cohort J



Cohort G



Cohort K

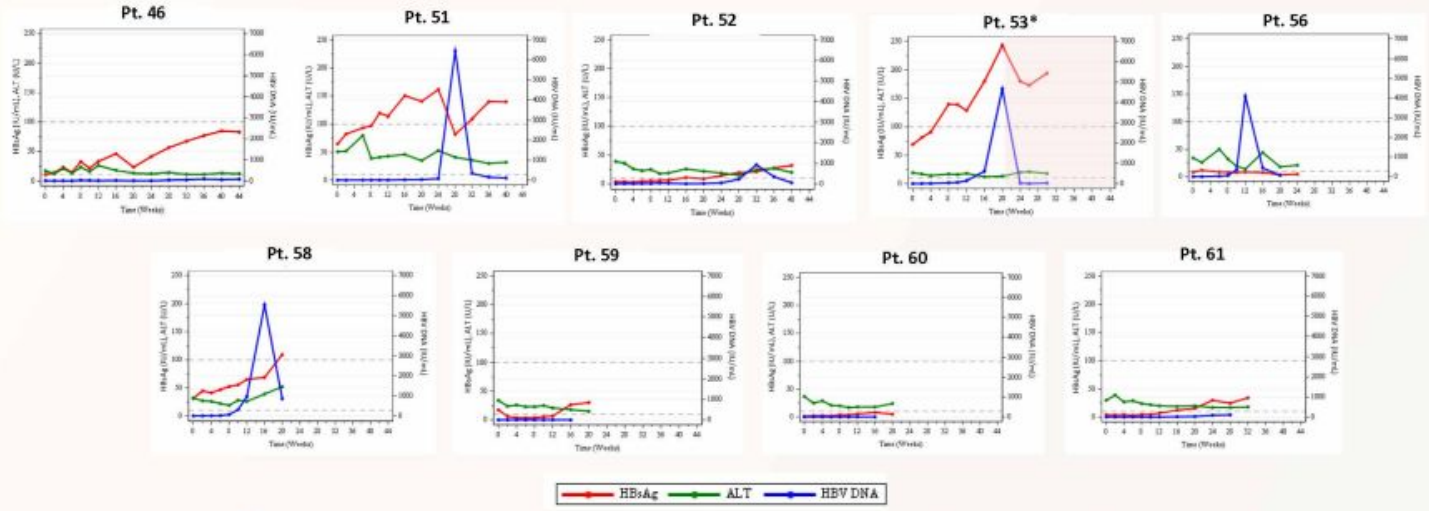


- 33 of 41 patients had HBsAg < 100 IU/mL at some point during the trial
- 1 patient in Cohort E (baseline HBsAg = 583.5 IU/mL) who qualified but declined to participate in NA discontinuation seroconverted at Week 84 (HBsAg < LLOQ and HBsAb = 189 IU/mL at last visit); liver enzymes remained within normal limits.
- 2 patients in Cohort K reached HBsAg<LLOQ on multiple visits with detectable HBsAb levels

Arbutus BIOPHARMA

Data presented at EASL 2022 and AASLD 2022

AB-729-001: HBV Control Maintained in cHBV Patients While Off-Treatment



- No patients have met virologic or clinical relapse criteria or restarted NA therapy to date
- HBV DNA has transiently increased in some patients and subsequently decreased with no intervention

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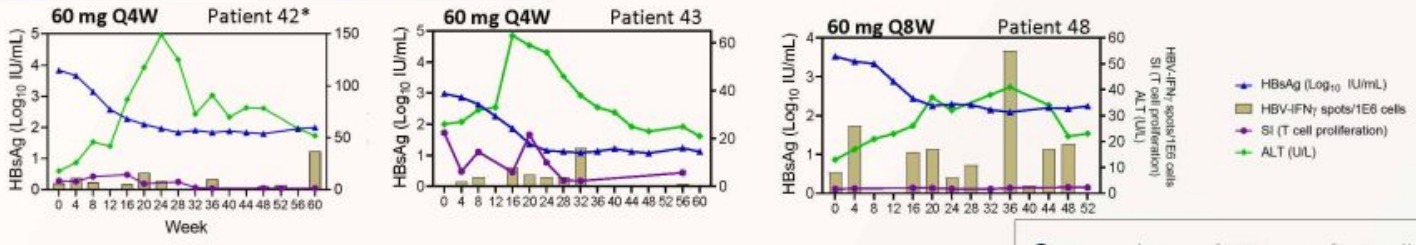
Data presented at AASLD 2022

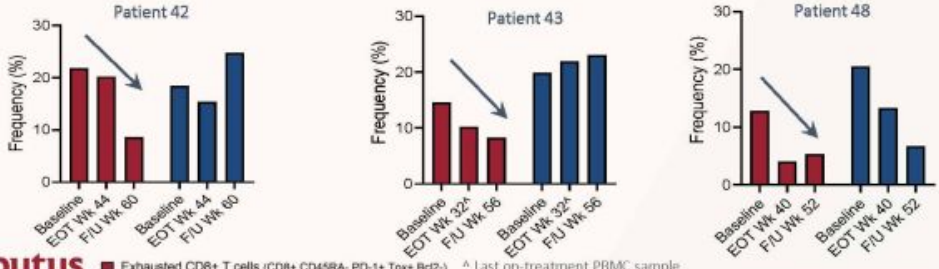
* Patient 53 restarted NA therapy at Investigator's request after the NA d/c FU W20 visit (pink shaded area).

AB-729-001: Treatment with AB-729 Reactivates HBV Specific Immunity in Some Patients

AB-729 Increased HBV-Specific T-Cell Activation



AB-729 Decreased Exhausted T-Cells



- Upregulation of HBV-specific T-cell activation markers observed in all 7 patients assessed to date
- Two profiles of HBV-specific T cell IFN-γ responses observed
  - Elevation between Wk 16-28 which coincides with nadir of HBsAg reduction
  - *Elevation after AB-729 dosing completed, between Wk 48-60

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Exhausted CD8+ T cells (CD8+ CD45RA- PD-1+ Tox+ Bcl2-)

Effector CD8+ T cells (CD8+ CD45RA- PD-1+ Tox- Bcl2+)

^ Last on-treatment PBMC sample available prior to last dose at Wk 44

Data presented at EASL 2022

AB-729-001 Safety Summary

- AB-729 is generally safe and well-tolerated after repeat dosing for up to 48 weeks
- 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 AEs were all Grade 1 (erythema, pain, bruising)
- No clinically meaningful changes in ECGs or vital signs

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SAE: Serious Adverse Event | AE: Adverse Event

AB-729-001 Clinical Trial Key Takeaways

AB-729 provided robust and comparable HBsAg declines regardless of dose, dosing interval, HBeAg or DNA status

- ~75% (26 of 34) patients had HBsAg levels <100 at some point during the trial
- 50% (16 of 32) patients maintained HBsAg <100 IU/mL for 24 weeks after stopping AB-729 treatment

Discontinuation of both AB-729 and NA-therapy results in a sustained reduction in HBsAg

- No evidence of virologic or biochemical relapse detected in 9 patients who discontinued all therapy from 12 to 44 weeks. No patient met protocol-defined criteria to restart NA-therapy as of date data was presented.*

AB-729 continues to result in HBV-specific T-cell immune restoration and decrease of exhausted T-cells

AB-729 was generally safe and well-tolerated after completing dosing in 41 patients

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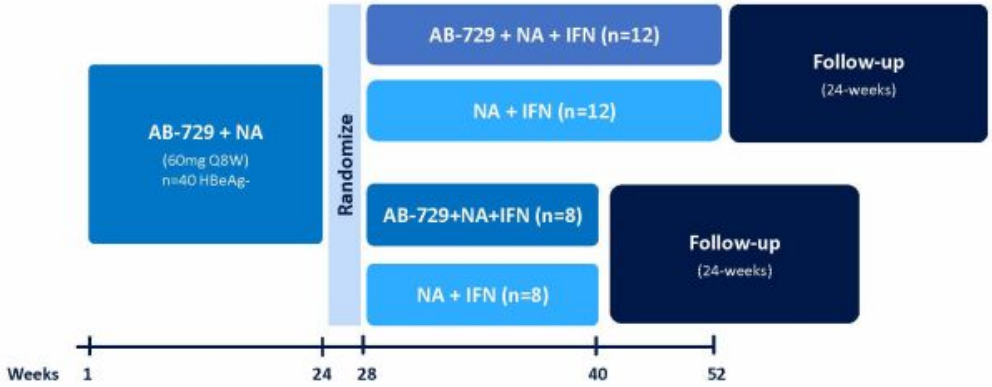
* Data presented at AASLD 2022

AB-729-201:

Phase 2a POC Clinical Trial

AB-729 in combination with **ongoing NA therapy and short courses of Peg-IFNα-2a in cHBV patients**

Enrollment complete. Additional preliminary data including IFN data expected in 1H '23



Multi-center, open-label Phase 2a

Primary objective: evaluate safety and tolerability of AB-729 in combination with Peg-IFNa-2a in patients with NA-suppressed cHBV

Preliminary results: First 15 patients who reached week 16 (two doses of AB-729), the mean HBsAg decline was 1.51 log

After 24-weeks follow-up, patients may elect to stop NA therapy. Those patients that stop NA therapy will be followed for an additional 48 weeks.

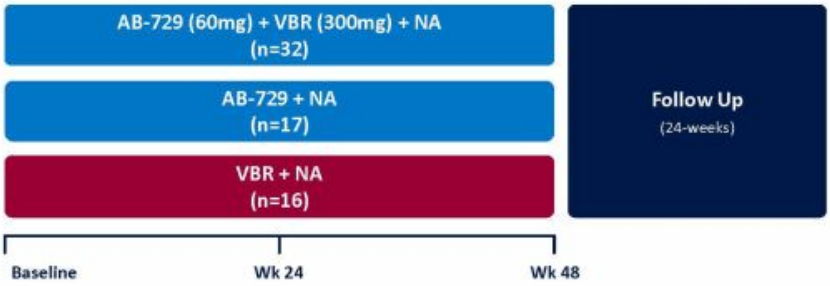
POC: Proof of Concept

AB-729

Clinical Collaboration

assemblybio

Provides accelerated AB-729 combination POC with Assembly's capsid inhibitor and a NA



Primary objective: evaluate safety and tolerability of vebicorvir (VBR) in combination with AB-729 in patients with cHBV receiving NA therapy

n= 65 virologically-suppressed patients with cHBV infection

Preliminary results:

Adding VBR to AB-729+NA:

- Does not result in greater on-treatment improvements in HBV biomarkers as compared to AB-729+NA alone.
- Does not have a negative impact on reducing sAg.

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AB-729-202:

Phase 2a POC Clinical Trial

vaccitech

POC Phase 2a clinical trial evaluating AB-729 in combination with Vaccitech's immunotherapeutic, VTP-300, and a NA

Preliminary data expected in 2H '23

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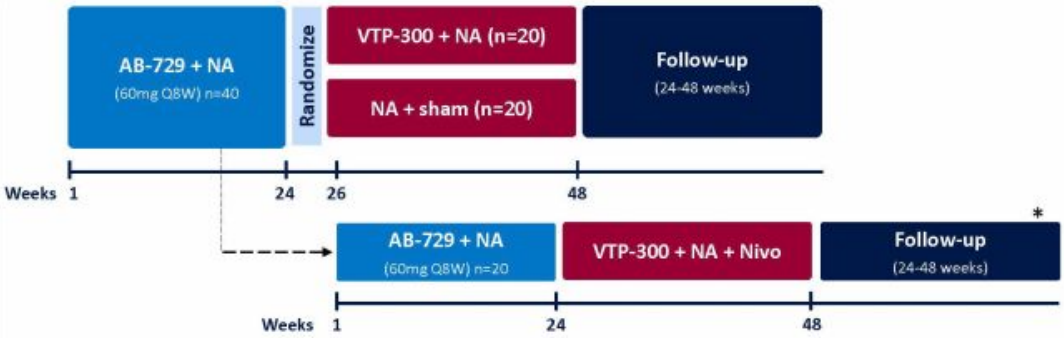

Primary objective: evaluate safety and reactogenicity of AB-729 followed by VTP-300 or placebo

At week 48 all participants who are eligible to discontinue NA therapy will be followed for 48-weeks

Expand the clinical trial to include an additional arm with nivolumab (Opdivo®), and dose first patient in this arm in the first half of 2023

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

* awaiting regulatory approval

AB-729

Strategic Collaboration

QILU PHARMACEUTICAL

Exclusive Licensing* and Strategic Partnership

Develop, manufacture and commercialize AB-729 in mainland China, Hong Kong, Macau and Taiwan

*ABUS retains the non-exclusive right to develop and manufacture in the Qilu territory for exploiting AB-729 in the rest of the world

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Deal economics for Arbutus:

$40M	Upfront payment (received in 2022)
$15M	Equity investment (received in 2022)
Up to $245M	Commercialization and milestone payments
Double-digit up to low twenties %	Tiered royalties on annual sales

Qilu Pharmaceutical:

One of the leading pharmaceutical companies in China, provides development, manufacturing, and commercialization expertise to this partnership

AB-161: Next Generation Oral RNA Destabilizer

Safety

Next generation small molecule anticipated to circumvent non-clinical safety findings with first generation molecule

Novelty

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

Convenience

Potential for an **oral HBsAg reducing agent** and all oral combination therapy

AB-161 is advancing into Phase 1 clinical trial in 1H 2023

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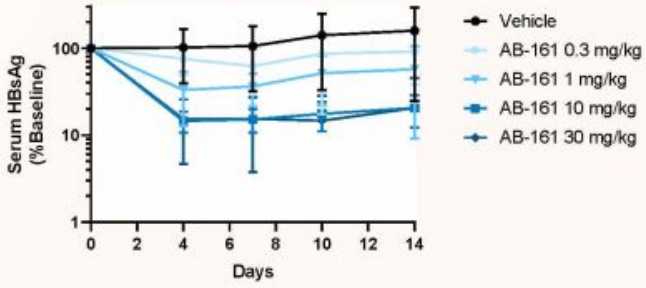
AB-161 Reduces HBsAg in AAV-HBV Mouse Model

Compound concentration in liver drives efficacy

- AB-161 effective as a once-daily dose in AAV-HBV mouse model (0.3, 1, 10, 30 mg/kg QD)
  - Dose-dependent reduction of HBsAg, also observed with BID dosing (0.3 and 1 mg/kg BID)
- HBsAg reduction achieved when fraction unbound C_{24h} > EC_{90} in liver

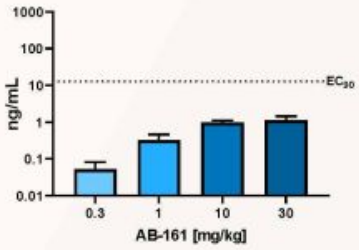
AAV-HBV mouse

AB-161 QD for 14 days

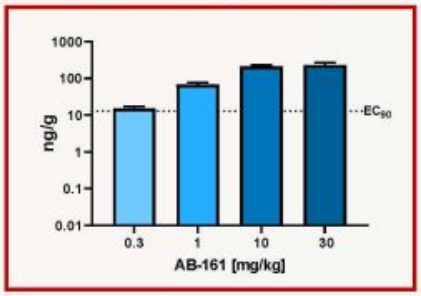


Fraction Unbound Concentrations (C_{24h})

$[AB\text{-}161]_{free}$: plasma



$[AB\text{-}161]_{free}$: liver



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Data presented at Discovery on Target Conference, October 2022

AB-101: Oral PD-L1 Inhibitor for HBV Immune Reactivation

Rationale

- HBV immune tolerance is a critical driver of cHBV infection
- PD-1:PD-L1 checkpoint axis plays a key role in immune tolerization in cHBV
- PD-L1 expression upregulated during HBV infection
- PD-1 upregulated on HBV-specific T- and B-cells
- Inhibition associated with HBsAg loss in some cHBV patients

Small-Molecule Inhibitor Approach

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

AB-101

- Blocks PD-L1/PD-1 interaction at sub-nM concentrations
- Activates HBV-specific immune responses in T-cells from cHBV patients in vitro
- Novel MOA identified
- Demonstrates a robust checkpoint mediated *in vivo* effect
- Improves HBV-specific T- and B-cell responses *ex vivo*

AB-101 is advancing into Phase 1 clinical trial in 1H 2023

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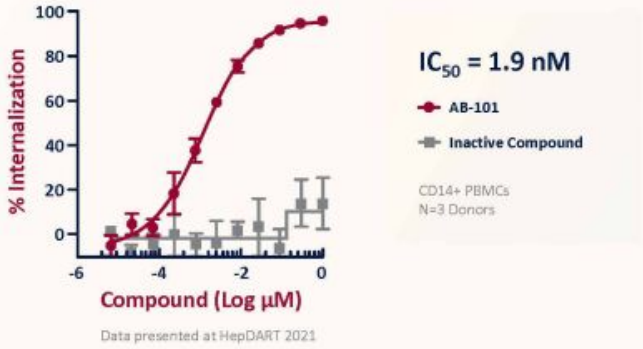
PD-1: Programmed death ligand protein | **Abs:** Antibodies

AB-101: Small-Molecule Oral PD-L1 Inhibitor for HBV

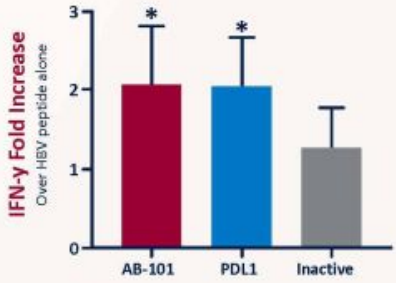
AB-101 is highly potent with demonstrated activity against PD-L1 in cells from chronic HBV patients

AB-101 reduces PD-L1 on the surface of human primary myeloid cells



Data presented at HepDART 2021

AB-101 reinvigorates HBV-specific cHBV patient T-cells



PBMCs
N= cells from 9 cHBV patients
*p<0.05

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PBMC: Peripheral Blood Mononuclear Cells

Coronavirus Program Overview

Cause & Symptoms

- Coronavirus Infections, such as COVID-19 caused by SARS-CoV-2
- Spreads through breathing out droplets and small particles that contain the virus
- Older adults and people with severe underlying conditions at higher risk of developing serious complications
- Virus continues to mutate with variant strains developing

Population

- ~6.9M deaths globally[1]
- In US: ~80M cases; 1M deaths (as of March 2022)

Treatments

Vaccines

- Durability of effect uncertain, boosters required, limited efficacy on variant strains

Therapies

- Sub-optimal

Rationale

- Pan-coronavirus focused: need for effective and safe therapies to combat COVID-19 and future coronavirus outbreaks
- Address essential viral targets – nsp12 viral polymerase and nsp5 viral protease
- Potential for combo therapy to enhance efficacy and reduce symptomology

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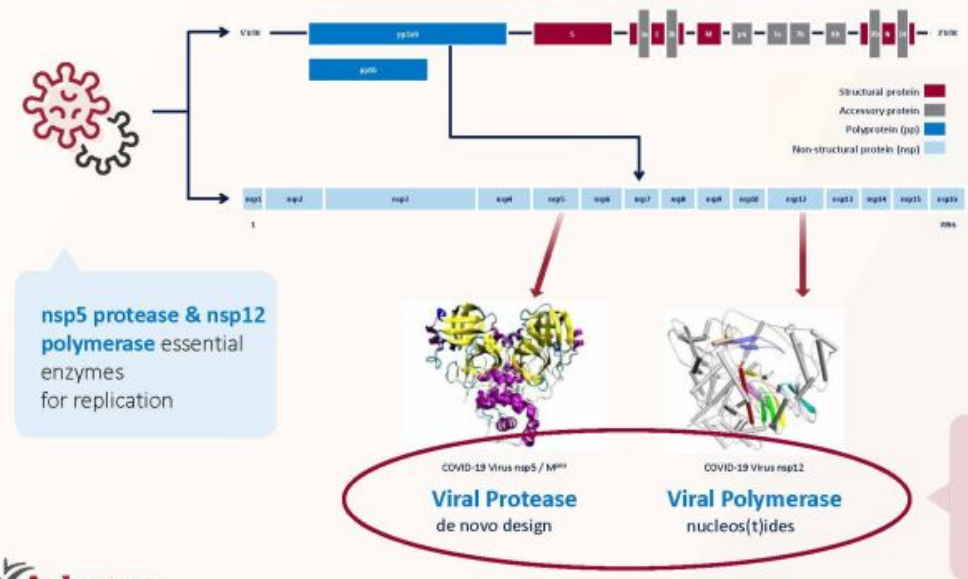
[1] https://www.healthdata.org/special-analysis/estimation-excess-mortality-due-covid-19-and-scalars-reported-covid-19-deaths

Coronavirus Strategy

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



nsp5 protease & nsp12 polymerase essential enzymes for replication

COVID-19 Virus nsp5 / M^{pro}

Viral Protease
de novo design

COVID-19 Virus nsp12

Viral Polymerase
nucleos(t)ides

X-CHEM | PROTEROS

Collaboration

- Proprietary DEL library screening and structural biology for M^{pro} inhibitor discovery
- First milestone reached; several unique compound series that inhibit nsp5 protease identified
- Advancing to lead optimization stage

Arbutus Strategy

- Pan-coronavirus focused
- Advance M^{pro} clinical candidate, AB-343, into IND-enabling studies in 1H 2023

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AB-343: M^{PRO} Coronavirus Candidate

Activity

- Highly potent (IC_{50} < 8nM)
- Equipotent against all known COVID-19 variants
- Robust activity against M^{pro} resistant variants

Safety

- Highly selective for coronavirus M^{pro} vs human proteases
- Clean cell toxicity profile
- Off-target assessment results unremarkable

Convenience

- Preclinical PK supports ritonavir-free dosing
- No anticipated drug-drug interactions
- Data supports combination strategy

AB-343 is currently in **IND-enabling studies**

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2023 Key Milestones

Cash balance* of $185M (unaudited) as of December 31, 2022, cash runway into Q4 2024; 2023 net cash burn of between $95 and $100M

Milestone	Anticipated Timing 2023
AB-729: Dose first patient in the AB-729+VTP-300+Nivo arm of the ongoing Phase 2a Vaccitech trial	1H
AB-729: Preliminary IFN data from patients in the AB-729-201 clinical trial	1H
AB-729: Follow-up off-treatment data from AB-729-001 clinical trial	1H
AB-729: Preliminary data from Phase 2a POC clinical trial with AB-729 + VTP-300 + NA therapy	2H
AB-101: Initial data from Phase 1 single-ascending dose portion of trial in healthy subjects	2H
AB-161: Initial data from Phase 1 single-ascending dose clinical trial in healthy subjects	2H
AB-343, COVID M^{pro}: Initiate Phase 1 clinical trial	2H
COVID Nsp12: Nominate a clinical candidate and initiate IND-enabling studies	2H

*Consists of cash, cash equivalents and marketable securities

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Thank You