Arbutus Presents AB-729 Clinical Data and AB-101 Preclinical Data at AASLD - The Liver Meeting®

November 1, 2022

HBsAg and HBV DNA remain at low levels with no evidence of clinical relapse up to 44 weeks after discontinuing AB-729 and NA therapy

Preclinical data suggest that AB-101, an oral PD-L1 inhibitor, in combination with an RNAi, may provide enhanced HBV immune response

Data to be presented as poster presentations

Additional safety findings lead to discontinuation of AB-836 development

Conference call and webcast scheduled for Friday, November 4th at 8:45 AM ET

WARMINSTER, Pa., Nov. 01, 2022 (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 data from i) two separate clinical trials evaluating its RNAi therapeutic, AB-729, in a Phase 1a/1b clinical trial (AB-729-001) and in a combination Phase 2a clinical trial with a capsid inhibitor, and ii) a preclinical study of its oral PD-L1 inhibitor, AB-101. All of the data will be presented as poster presentations at AASLD – The Liver Meeting being held in Washington, DC, November 4-8, 2022.

“Based on the compilation of safety and efficacy data achieved to-date, we are confident in AB-729’s potential role as a cornerstone agent in a curative combination treatment for chronic hepatitis B virus infection (cHBV), said William Collier, Arbutus’ President and Chief Executive Officer. “We believe AB-729 is the only RNAi therapeutic in development for hepatitis B virus that has clinically shown its ability to suppress HBV DNA, reduce HBsAg and immunologically control HBV – three pillars that we consider to be key to developing a functional cure for HBV.”

AB-729-001 Clinical Trial Data

In the AB-729-001 clinical trial, patients with cHBV who completed 48 weeks of treatment with AB-729, and 24 weeks later met protocol-defined criteria to also stop nucleos(t)ide analogue (NA) therapy, were evaluated during an extended follow-up period to assess HBV biomarkers and ALT levels. Nine patients entered the follow-up period, currently ranging from 12 to 44 weeks, after stopping all therapies.

Select key findings:

- No evidence of clinical/biochemical relapse has been detected in the nine patients who have discontinued AB-729 and NA therapy.
- HBsAg remains at 1.05 to 2.35 $\log_{10}$ below pre-trial levels in all nine patients.
- Three patients experienced transient HBV DNA elevations that spontaneously resolved without intervention, which further supports AB-729's potential for immunological control.
- One patient restarted NA therapy at the investigator’s request after the week 20 visit; no ALT elevation or safety signals were observed.
- Eight patients remain off NA therapy and are continuing to be followed for an additional two years to monitor for sustained viral response and functional cure.

Dr. Gaston Picchio, Chief Development Officer of Arbutus Biopharma, stated, “I remain impressed with the longer follow up data we generated from our AB-729-001 trial. The data continues to demonstrate that AB-729 is capable of achieving long-lasting control of HBV biomarker levels after discontinuation of nucleoside therapy, most likely as a result of AB-729-induced HBV-specific immunological control. Based on the attributes of AB-729 that we have seen thus far, I believe that AB-729 will be a major contributor to future HBV curative regimens.”

In the same trial, a cohort of seven HBeAg positive patients who received 90 mg of AB-729 every 8 weeks (Cohort K) was also assessed. All patients in Cohort K had HBsAg levels of <100 IU/mL during AB-729 treatment or follow-up, with two patients reaching HBsAg below levels of quantitation on multiple visits. All seven patients had detectable HBeAg and therefore did not meet the protocol-defined NA discontinuation criteria. One patient reached HBeAg less than lower levels of quantitation (LLOQ) intermittently. No safety events were noted during the follow-up period for this cohort.

AB-729 + VBR Phase 2a Clinical Trial Preliminary Data

Arbutus and Assembly Biosciences, Inc. are conducting a Phase 2a clinical trial evaluating AB-729 in combination with Assembly’s first-generation HBV core inhibitor, vebicorvir (VBR), and NA therapy in cHBV patients. Preliminary data from sixty-five patients randomized to receive AB-729+VBR+NA (n=32), AB-729+NA (n=17) or VBR+NA (n=16) for 48 weeks showed that adding VBR to AB-729+NA does not result in greater on-treatment improvements in markers of HBV infection as compared to AB-729+NA alone. The addition of VBR did not negatively impact the reduction of HBsAg in the triple combination arm. All regimens were generally safe and well-tolerated in this trial. The patients are continuing to be followed.

AB-101 Preclinical Data

A preclinical study was conducted to assess the ability of monotherapy and combination treatment with AB-101, a small molecule oral PD-L1 inhibitor, and an HBV-targeting RNAi agent, to reinvigorate HBV-specific T-cell activity in an HBV mouse model. The results showed that monotherapy with AB-101 reduced PD-L1 in liver immune cells, confirming liver target engagement of the compound. Combination treatment with AB-101 and an HBV targeting GalNAc-siRNA agent resulted in activation and increased frequency of HBV-specific T-cells and greater anti-HBsAg antibody production.

Dr. Michael J. Sofia, Chief Scientific Officer of Arbutus Biopharma, stated, “The HBV immune enhancement seen with AB-101 further supports our development strategy of using AB-101 in combination with AB-729 and other approved and investigational agents to potentially achieve a functional cure in cHBV patients. We are currently conducting IND-enabling studies with AB-101 that we anticipate completing this year.”

The above poster presentations can be accessed through the Publications section of the Arbutus website at https://www.arbutusbio.com/publications/.

AB-836 Clinical Update

As mentioned in our press release dated June 25, 2022, Arbutus decided to dose a new cohort of healthy volunteers for a longer period in the AB-836-001 clinical trial to clarify the earlier safety signal seen in cHBV patients in the same trial. In this healthy volunteer arm, two subjects dosed with AB-836 experienced low grade ALT elevations after more than 20 days of dosing, causing the Company to stop dosing. Based on these additional safety findings, the Company has decided to discontinue clinical development of AB-836.

Conference Call and Webcast:

Arbutus will hold a conference call and webcast on Friday, November 4 at 8:45 AM Eastern Time. To dial-in for the conference call by phone, please register using the following link: Registration Link. A live webcast of the conference call can be accessed through the Investors section of Arbutus' website at www.arbutusbio.com.

An archived webcast will be available on the Arbutus website after the event.

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

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. We have identified a class of small molecule oral PD-L1 inhibitors that we believe will allow for controlled checkpoint blockade, enable oral dosing, and mitigate systemic safety issues typically seen with checkpoint antibody therapies. Our lead oral PD-L1 inhibitor candidate, AB-101, is currently in IND-enabling studies. We believe AB-101, when used in combination with other approved and investigational agents, could potentially allow us to realize our mission of achieving a functional cure for HBV chronically infected patients. We are also exploring oncology applications for our internal PD-L1 portfolio.

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 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 capsid inhibitor, an oral PD-L1 inhibitor, and oral RNA destabilizer that we intend to combine 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; and the potential for our product candidates to achieve success in 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 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

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

Lisa Caperelli
Vice President, Investor Relations
Phone: 215-206-1822
Email: lcaperelli@arbutusbio.com