Arbutus BIOPHARMA

Curing Chronic Hepatitis B

Fourth Quarter and Year End 2020 Financial Results and Corporate Update

March 4, 2021

NASDAQ: ABUS www.arbutusbio.com

Arbutus Speakers

Pam Murphy, IR Consultant
William Collier, President and CEO
Dr. Gaston Picchio, Chief Development Officer
Dr. Michael Sofia, Chief Scientific Officer
David Hastings, Chief Financial Officer

Forward-Looking Statements

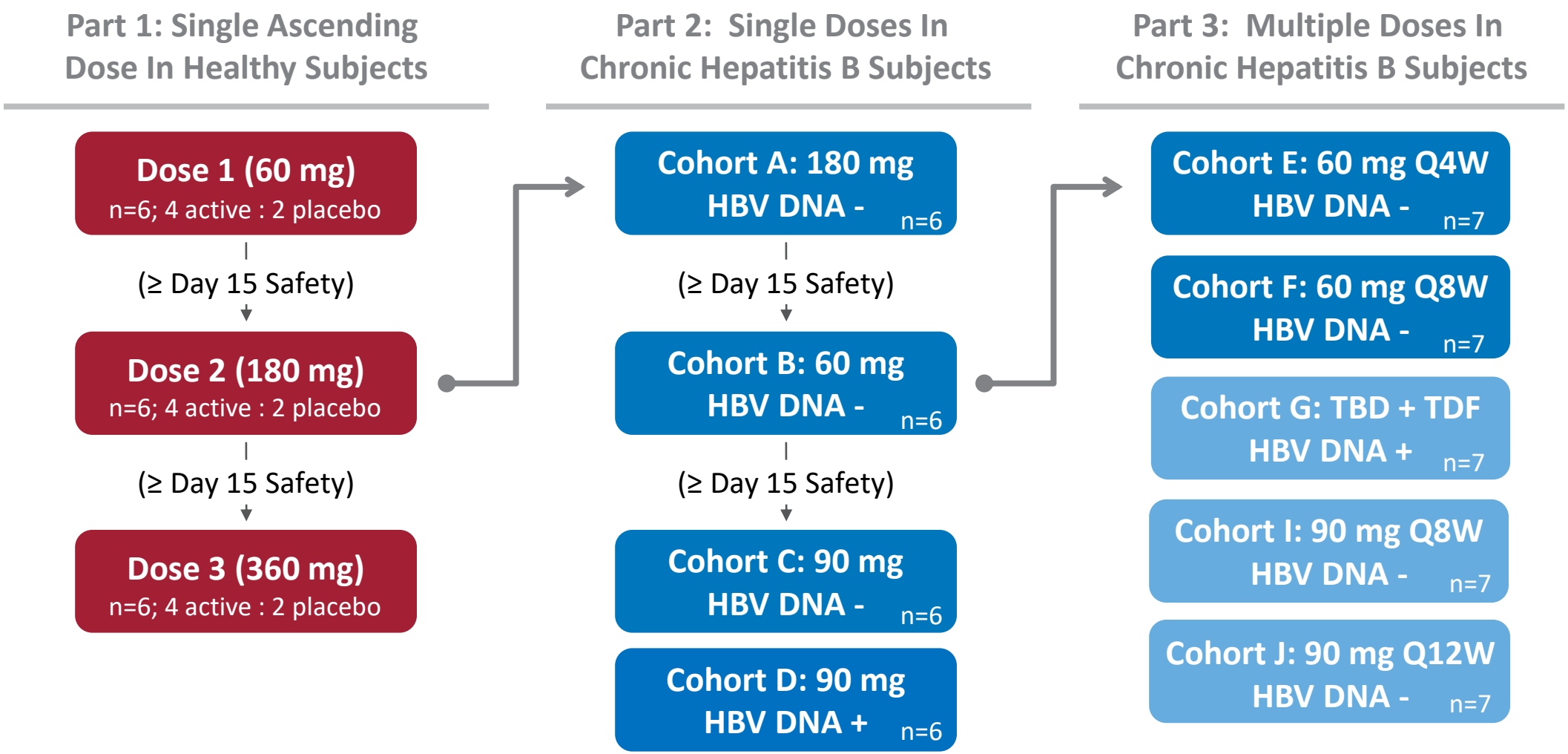
This presentation contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and Canadian securities laws. All statements that are not historical facts are hereby identified as forward-looking statements for this purpose and include, among others, statements relating to: the potential market opportunity for HBV; Arbutus' ability to meet a significant unmet medical need; the sufficiency of Arbutus' cash and cash equivalents to extend through the third quarter of 2022; the potential for AB-729 to be a well-tolerated low dose treatment for HBV with a minimum of injections; the potential for AB-836 to be low dose with a greater therapeutic window and to address known capsid resistant variants T33N and I105T; the potential for AB-836 to be once daily dosing; Arbutus' expectations regarding the timing and clinical development of Arbutus' product candidates including its 2021 key clinical objectives with respect to AB-729 and AB-836 and its clinical collaboration with Assembly Biosciences; the timeline to a combination cure for HBV; Arbutus' coronavirus strategy; Arbutus' expectations regarding its technology licensed to Genevant; and other statements relating to our future operations, future financial performance, future financial condition, prospects or other future events.

With respect to the forward-looking statements contained in this presentation, Arbutus has made numerous assumptions regarding, among other things: the timely receipt of expected payments; the effectiveness and timeliness of preclinical studies and clinical trials, and the usefulness of the data; the timeliness of regulatory approvals; the continued demand for Arbutus' assets; and the stability of economic and market conditions. While Arbutus considers these assumptions to be reasonable, these assumptions are inherently subject to significant business, economic, competitive, market and social uncertainties and contingencies including uncertainties and contingencies related to the ongoing COVID-19 pandemic. Forward-looking statements herein involve known and unknown risks, uncertainties and other factors that may cause the actual results, events or developments to be materially different from any future results, events or developments expressed or implied by such forward-looking statements. Such factors include, among others: anticipated pre-clinical and clinical trials may be more costly or take longer to complete than anticipated, and may never be initiated or completed, or may not generate results that warrant future development of the tested drug candidate; changes in Arbutus' strategy regarding its product candidates and clinical development activities; Arbutus may not receive the necessary regulatory approvals for the clinical development of Arbutus' products; economic and market conditions may worsen; and market shifts may require a change in strategic focus; and the ongoing COVID-19 pandemic could significantly disrupt our clinical development programs. A more complete discussion of the risks and uncertainties facing Arbutus appears in Arbutus' Annual Report on Form 10-K, Quarterly Report on Form 10-Q and Arbutus' periodic disclosure filings which are available at www.sec.gov 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.

William Collier
President and CEO

Dr. Gaston Picchio
Chief Development Officer

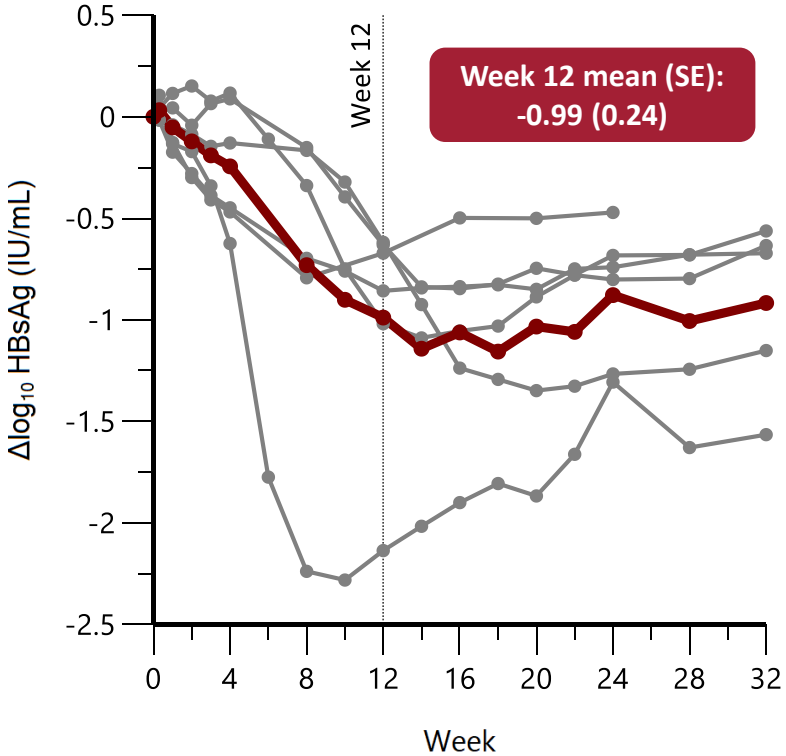
AB-729-001 Study



HBV: Hepatitis B Virus | TDF: tenofovir disoproxil fumarate | TBD: to be determined

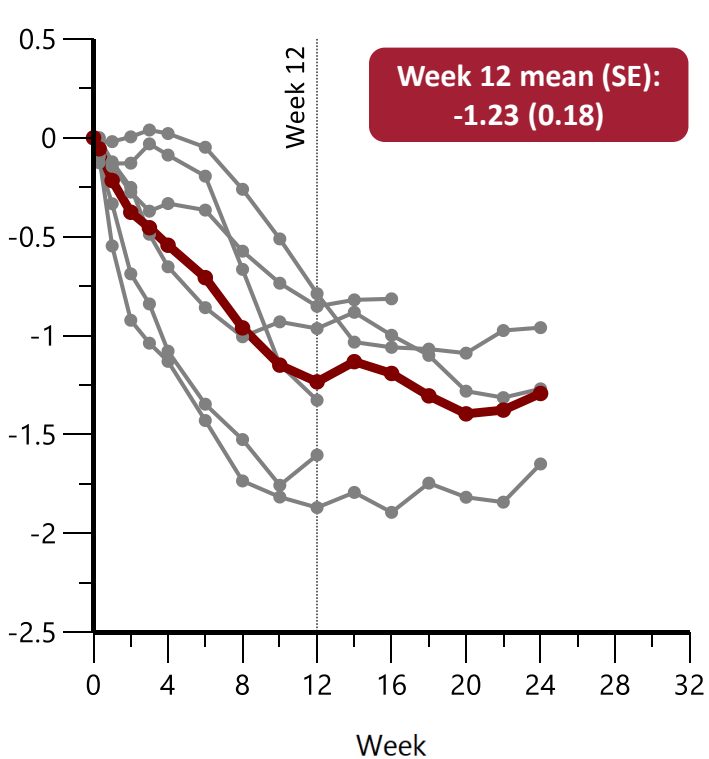
Single Doses of AB-729 Result in Comparable Mean HBsAg Declines at Week 12 Followed by a Sustained Plateau Phase

AB-729 60 mg single dose (N=6)*



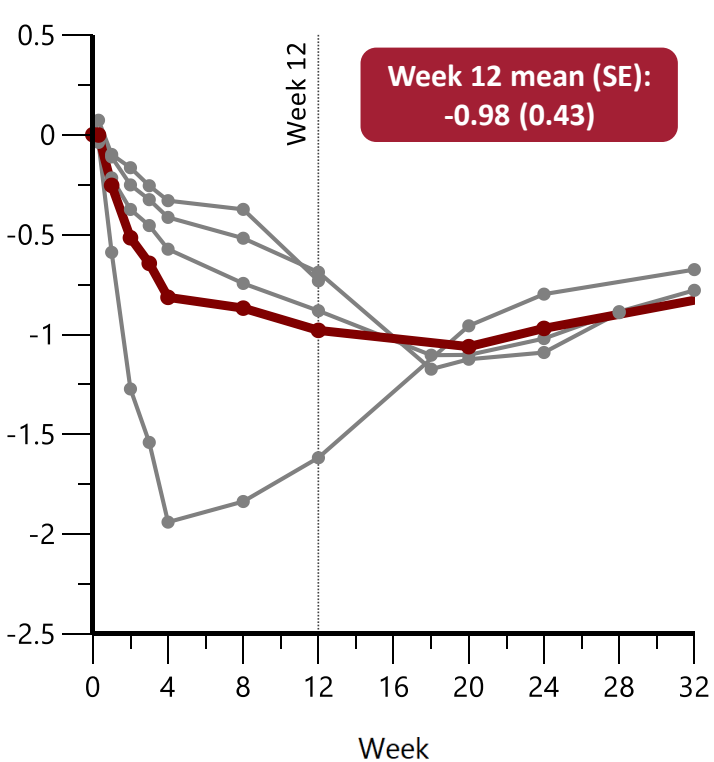
3/6 HBsAg <100 IU/mL
1/6 HBsAg <10 IU/mL

AB-729 90 mg single dose (N=6)**



5/6 HBsAg <100 IU/mL
1/6 HBsAg <10 IU/mL

AB-729 180 mg single dose (N=4)#



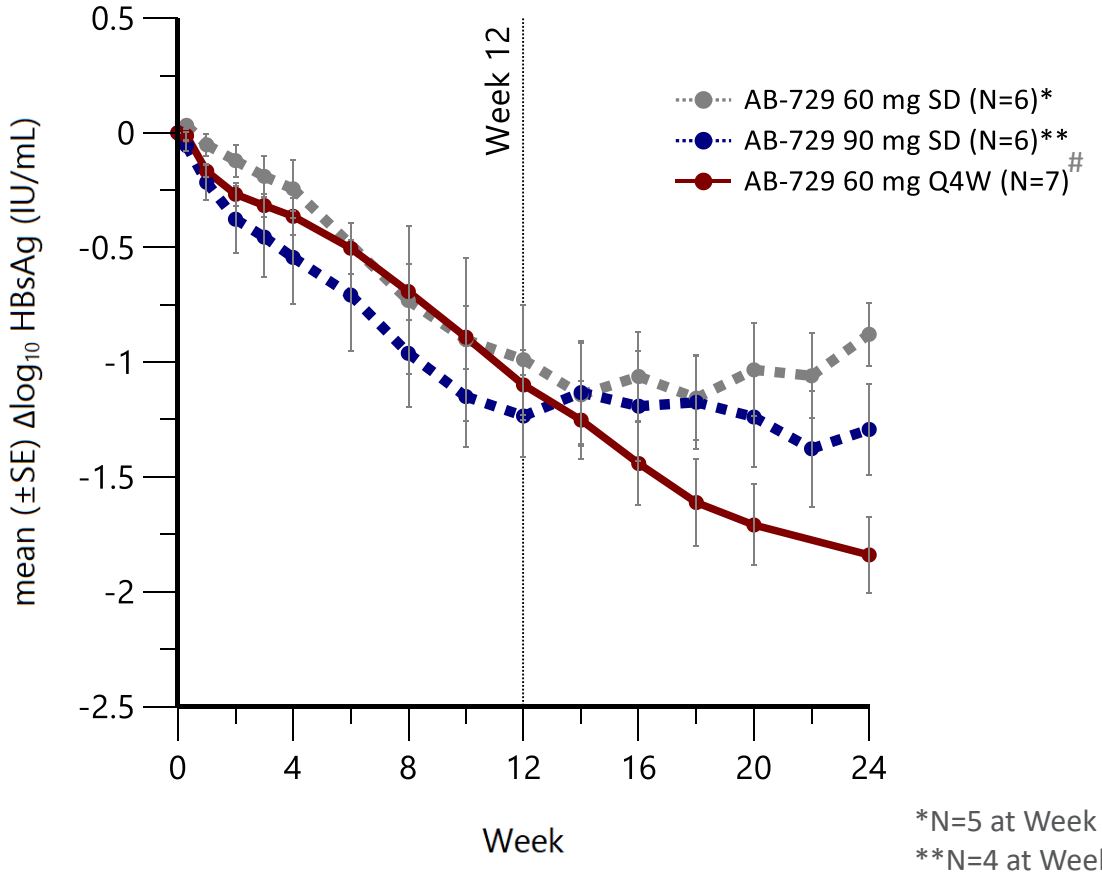
0/4 HBsAg <100 IU/mL

mean
individual

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

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

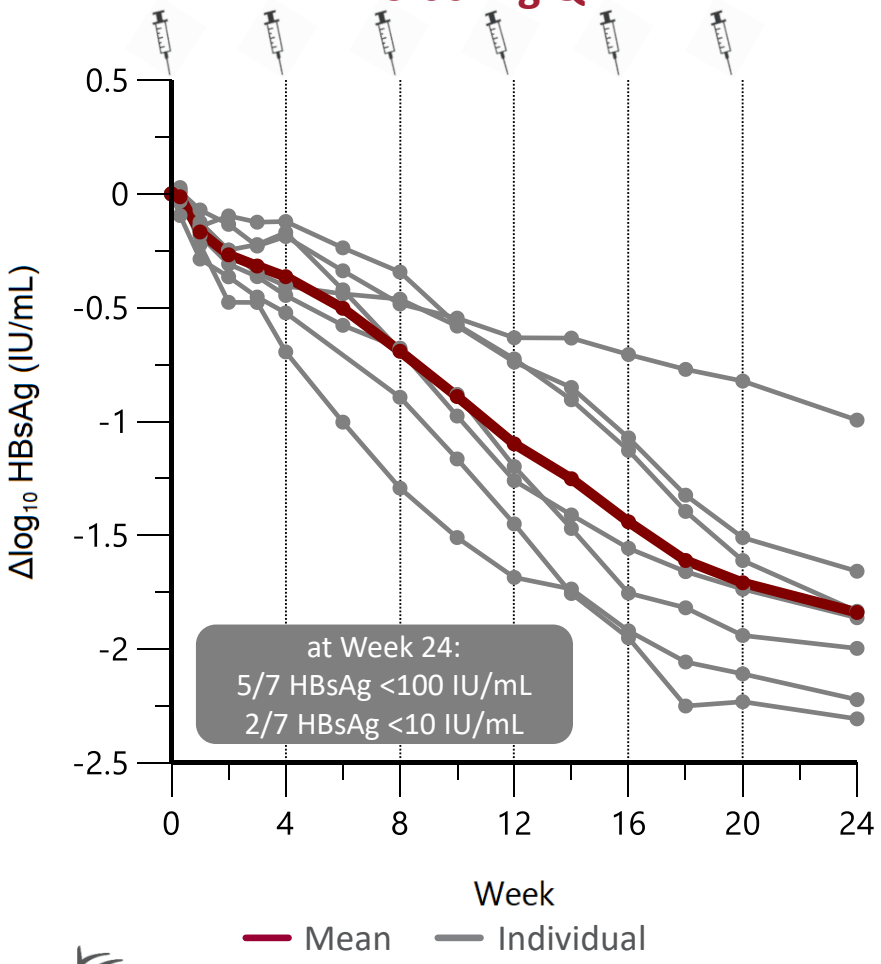
Mean (±SE) HBsAg declines across single and repeat dose Cohorts



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

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

AB-729 60 mg Q4W



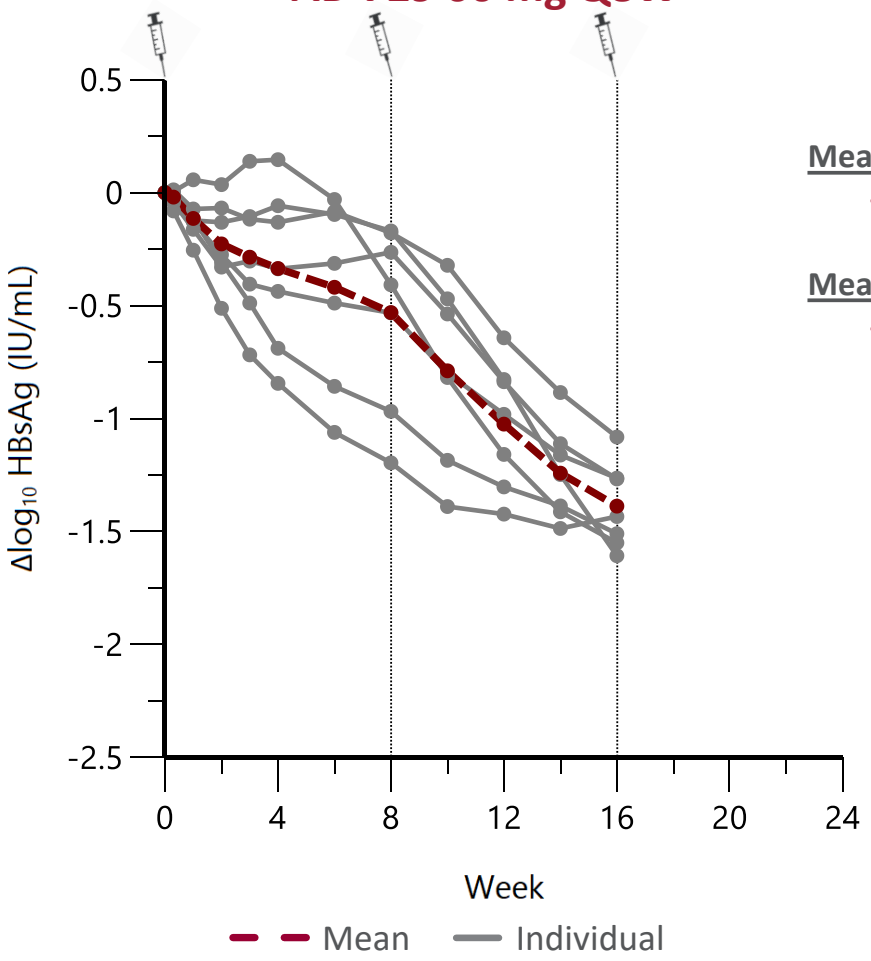
Mean (SE) Week 12:
-1.10 (0.15)

Mean (SE) Week 16:
-1.44 (0.18)

Mean (SE) Week 20:
-1.71 (0.18)

Mean (SE) Week 24:
-1.84 (0.16)

AB-729 60 mg Q8W

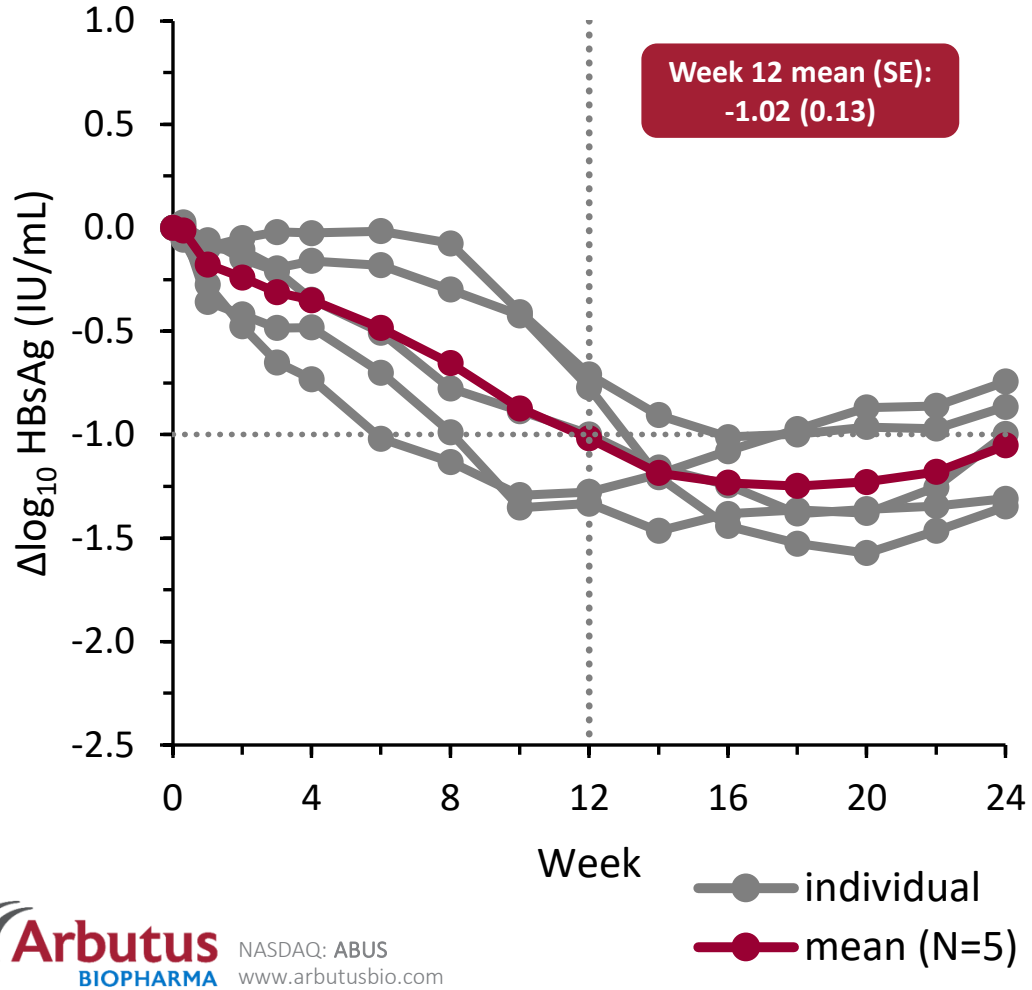


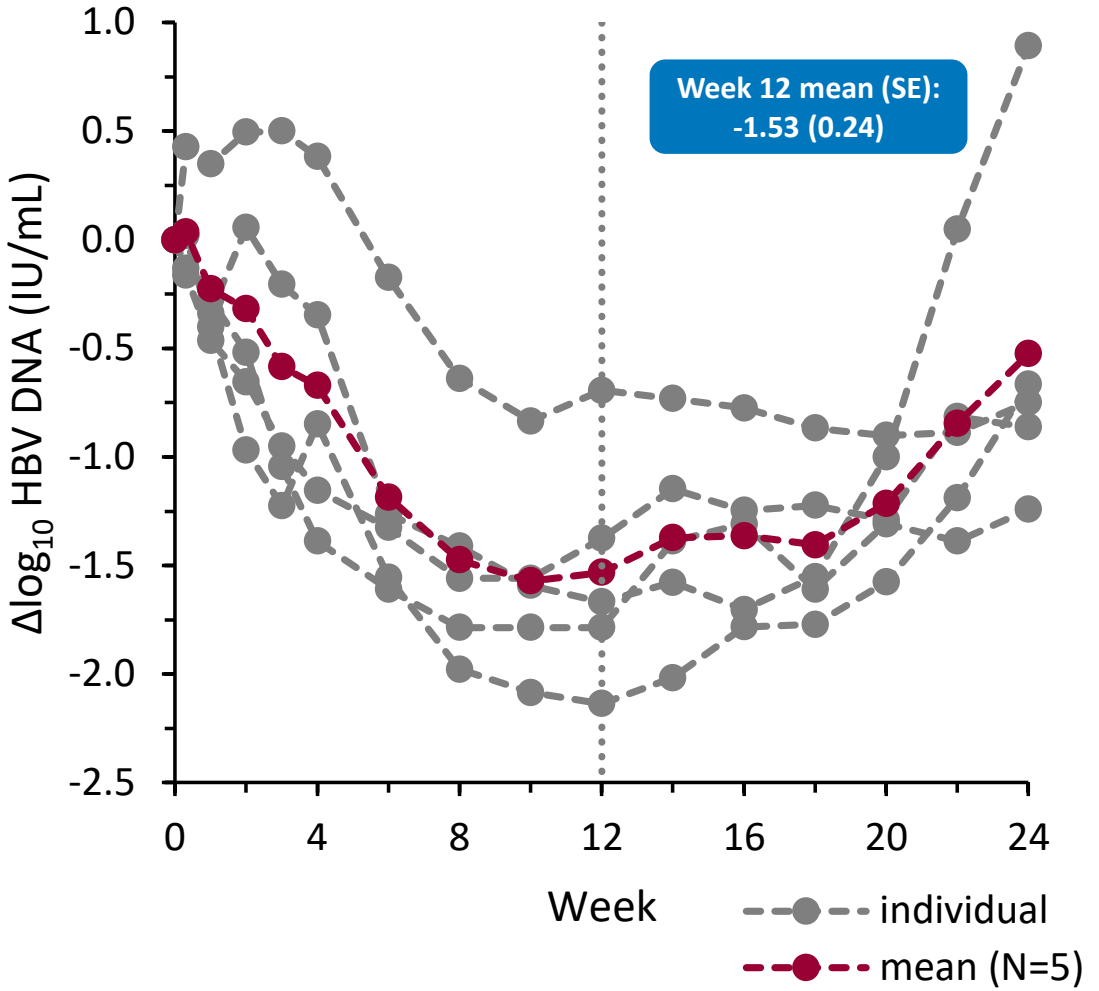
Mean (SE) Week 12:
-1.02 (0.11)

Mean (SE) Week 16:
-1.39 (0.07)

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

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





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

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

* 1 subject (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)

Dr. Michael Sofia
Chief Scientific Officer

David Hastings
Chief Financial Officer

Q&A

2021 Key Objectives

Cash balance of ~ $123M as December 31, 2020, cash runway through 3Q 2022

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