EASL Data Presentation & AB-836 Clinical Update

NASDAQ: ABUS

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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.

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

Part 1 & 2:

Single-ascending dose

Robust HBsAg and HBV DNA declines in HBV DNA+ patients with AB-729 monotherapy (90mg single-dose)

Part 3: Multiple Ascending Dose in cHBV Patients (n=7/cohort)

- **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

Baseline Characteristics

Baseline Measure[#]	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)
Age in years, mean (range)	45.1 (33 – 63)	44.0 (31 – 59)	45.7 (38 – 54)	44.3 (35 – 61)	41.4 (21 – 57)	43.9 (34 – 50)
Male gender, n (%)	4 (57)	4 (57)	4 (67)	5 (71)	4 (57)	3 (43)
BMI, mean (SD)	27.7 (5.0)	23.7 (2.2)	25.5 (3.1)	28.7 (4.8)	25.0 (4.7)	23.8 (4.0)
Race, n (%)						
Asian	1 (14)	5 (71)	5 (83)	4 (57)	6 (86)	6 (86)
Black	0	1 (14)	0	0	0	0
White	6 (86)	1 (14)	1 (17)	3 (43)	0	1 (14)
Pacific Islander	0	0	0	0	1 (14)	0
ALT (U/L), mean (SD)	22.4 (10.5)	23.4 (15.2)	26.0 (10.2)	20.1 (7.2)	25.1 (8.9)	32.7 (15.8)
HBV eAg-, n (%)[◊]	7 (100)	6 (71)[◊]	5 (83)	4 (57)	0	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)	2,221 (545 – 5,273)	1,818 (277 – 4,723)

[#] Genotype not determined
[‡] Patients switched to AB-729 60 mg Q12W for the extension phase
^ n=6 due to 1 patient meeting exclusion criteria on D1 and a replacement patient receiving an incorrect dose on D1; both entered follow up and were excluded from analysis
[◊] One patient counted as HBeAg- was identified as "HBeAg borderline" (baseline HBeAg = 0.18 IU/mL, LLOQ = 0.11 IU/mL)
*Cohort K Mean (SD) Baseline HBeAg = 22.7 (37.5) IU/mL

HBeAg: HBV E antigen | TDF: tenofovir disoproxil fumarate

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

Mean (SE) Baseline and Δ log10 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 12	-1.10 (0.15)	-1.02 (0.11)	-1.30 (0.19)	-1.06 (0.31)	-1.63 (0.39)	-1.56 (0.32)
Week 24	-1.84 (0.16)	-1.57 (0.09)	-1.80 (0.23)	-1.56 (0.25)	-1.99 (0.35)	-1.82 (0.29)
Week 36	-1.84 (0.19)	-1.78 (0.10)	-2.06 (0.28)	-1.70 (0.39)	-2.50 (0.39)	-2.08 (0.32)
Week 48	-1.89 (0.18)	-1.90 (0.14)	1.91 (0.32)	-1.80* (0.41)		-2.15 (0.34)
Week 12 Post Last Dose	-1.81 (0.17)	-1.74 (0.16)	-1.77 (0.31)	-1.80* (0.41)		-1.97 (0.28)
Week 24 Post Last Dose	-1.54 (0.19)	-1.48 (0.24)	-1.67 (0.40)	**-1.52 (0.40)**		-1.59 (0.31)

Note: Last dose Cohort E, Week 44; Cohorts F, I, G, K: Week 40; Cohort J: Week 36; Mean (SE) values presented only if N≥5; ✧ one subject in Cohort J chose not to extend treatment after Week 24; *Week 48 and 12 weeks post last dose are at the same visit for Cohort J

- 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

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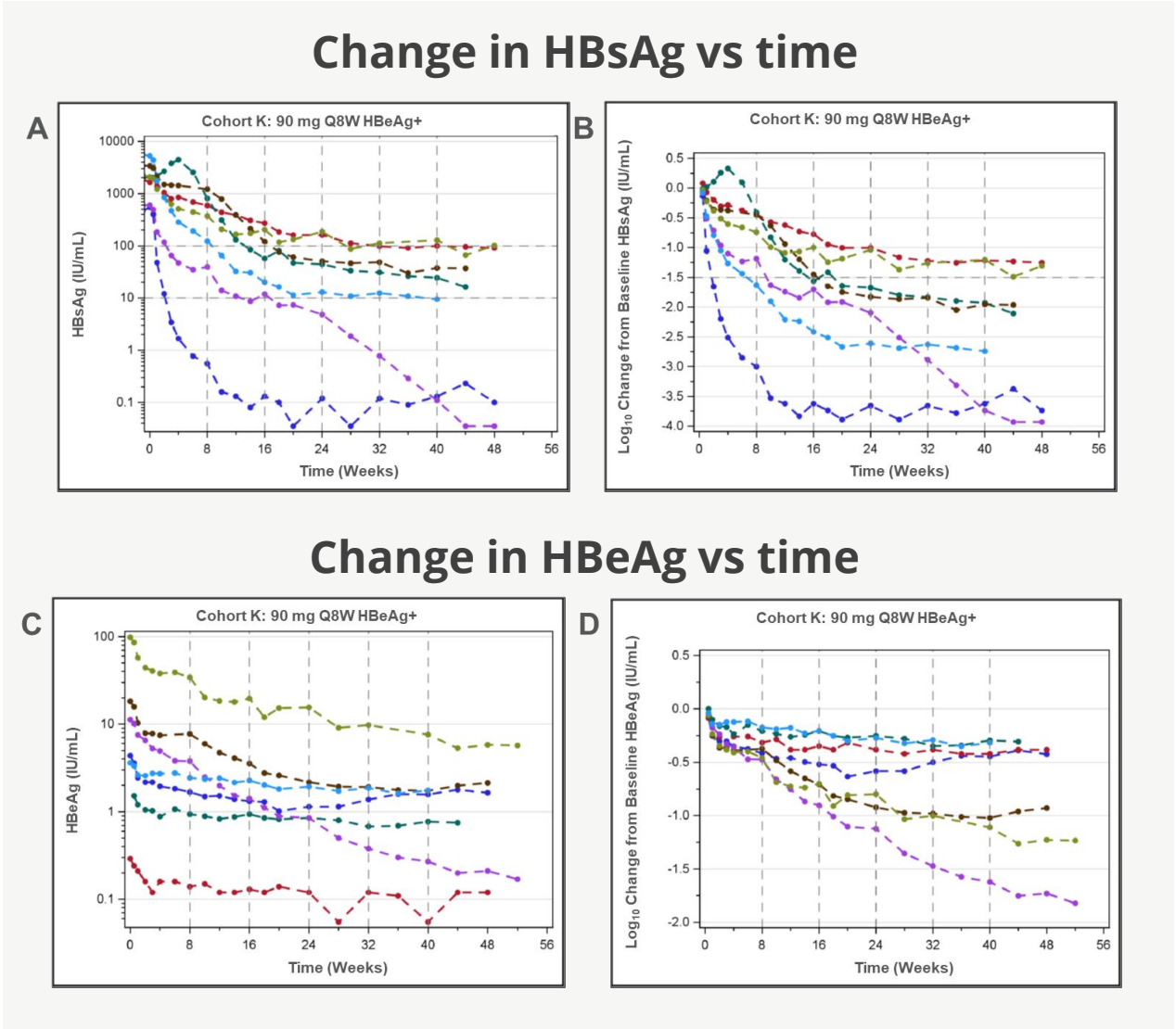
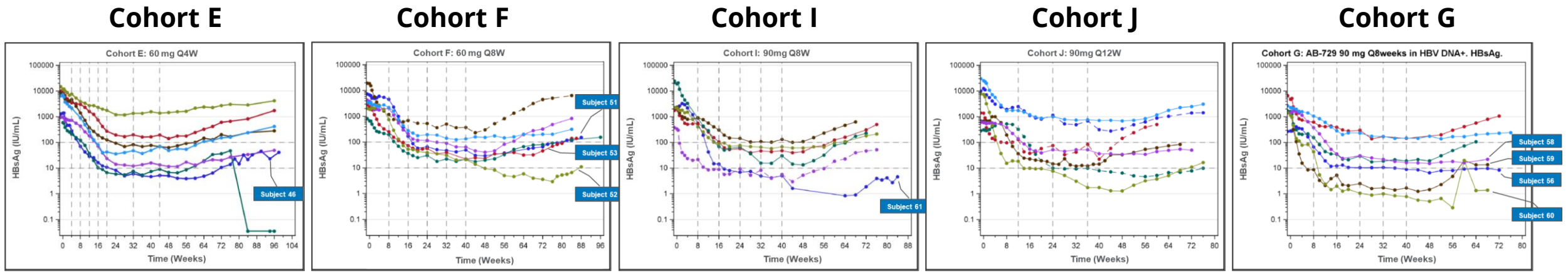
HBsAg and HBeAg Declines in HBeAg+ Subjects: Cohort K



Robust HBsAg Declines Persist After Stopping AB-729

Change in HBsAg vs time



- 26 of 34 patients had HBsAg < 100 IU/mL at some point during the study
- 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 mIU/mL at last visit); liver enzymes remained within normal limits.

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Data presented at EASL 2022

AB-729-001: Safety Summary

Adverse events and laboratory abnormalities

Patients, n (%)	HBV DNA-					HBV DNA+	
	Cohort E (n=70)	Cohort F (n=7)	Cohort I (n=6)	Cohort J (n=7)	Cohort K (n=7)	Cohort G (n=7)	TOTAL (n=41)
Patients with any TEAE	4 (57)	5 (71)	1 (17)	3 (43)	5 (71)	5 (71)	23 (56)
Grade 1	3 (43)	4 (57)	0	2 (29)	4 (57)	4 (57)	17 (42)
Grade 2	1 (14)	1 (14)	1 (17)	1 (14)	1 (14)	0	5 (12)
Grade 3	0	0	0	0	0	1 (14)‡	2 (5)
SAEs (all unrelated)	0	0	0	1 (14)*	0	1 (14)‡	2 (5)
Patients with related TEAEs (all Grade 1)	2 (29)	4 (57)	1 (17)	2 (29)	5 (71)	2 (29)	16 (39)
Most common related TEAEs (in ≥ 2 patients):							
Injection site pain	0	2 (29)	0	1 (14)	4 (57)	1 (14)	9 (4)#
Injection site erythema	2 (29)	1 (14)	0	0	1 (14)	0	5 (2)#
Injection site bruising	2 (29)	0	1 (17)	0	0	0	3 (1)#
Liver–related laboratory abnormalities:							
ALT elevation							
Grade 2	2 (29)	1 (14)	2 (33)	0	3 (43)	1 (14)	9 (22)
Grade 3 or 4	0	0	0	0	0	0	0
AST elevation							
Grade 2	1 (14)	0	0	0	0	1 (14)	2 (5)
Grade 3 or 4	0	0	0	0	0	0	0

TEAE: treatment-emergent adverse event; SAE: serious adverse event; Grading criteria: Division of AIDS Table for Grading the Severity of Adult and Pediatric Adverse Events, V2.1

TEAE window was 12 weeks post-last dose of AB-729, data presented are cumulative from Screening/Study Day 1; worst grade of TEAE or lab abnormality reported

* SAE was an unrelated Grade 3 diagnosis of cholangiocarcinoma >12 weeks post last dose of AB-729; ‡ SAE was an unrelated Grade 3 thigh subcutaneous cyst abscess

n, % is number of events out of 242 total AB-729 doses administered in Part 3`

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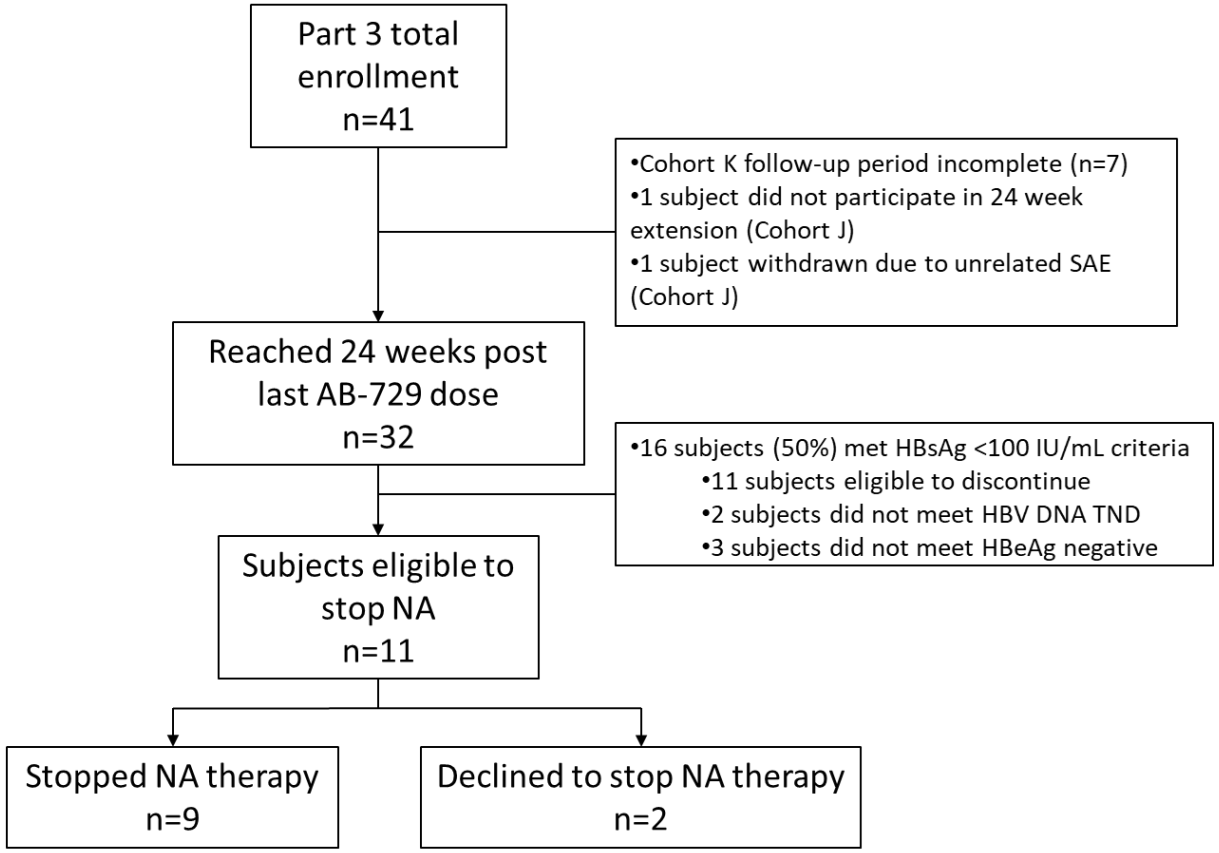
AB-729 and NA-Therapy Discontinuation Baseline Characteristics

Subject Disposition



Baseline Characteristics

Baseline Measure	Subject 46	Subject 51	Subject 52	Subject 53	Subject 61	Subject 56	Subject 58	Subject 59	Subject 60
Age (years)	35	49	36	61	56	52	50	36	46
Gender	Female	Male	Male	Female	Female	Female	Male	Male	Female
Race	Asian	Black	Asian	Asian	Asian	Asian	Asian	Asian	Asian
Study Cohort	E	F	F	F	I	G	G	G	G
NA therapy at study entry	ETV	ETV	TDF	TDF	ETV	none	none	none	none
Total duration of NA therapy	9 y, 7 m	6 y, 2 m	17 y	7 y, 5 m	6 y, 5 m	1 y, 6 m	1 y, 6 m	1 y, 6 m	1 y, 6 m

- All subjects who discontinued NAs were HBeAg negative at study entry

NA stopping criteria

- ALT <2 × ULN, and
- Undetectable HBV DNA, and
- HBeAg negative, and
- HBsAg <100 IU/mL at two consecutive visits at least 24 weeks after the last dose of AB-729

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HBV Markers in NA-Therapy Discontinuation Cohort

HBV Parameter	Pt. 46	Pt. 51	Pt. 52	Pt. 53	Pt. 61
HBsAg (IU/mL)					
Study Day 1	1392	6765	1888	2368	2021
Week 48/EOT	5	29.61	9.54	22.76	1.64
Last Visit prior to NA d/c	10.53	64.9	3.95	69.06	3.99
Last available post-NA d/c	41.22	150.1	10.97	138.9	4.58
HBcrAg (log U/mL)					
Study Day 1	3.8	<3.0	3.2	4.2	3.7
Week 48/EOT	3.4	<3.0	3	4.4	3.4
Last Visit prior to NA d/c	3.4	<3.0	3	4.5	3.5
Last available post-NA d/c	3.4	<3.0	3.1	4.5	3.6
HBV RNA (log_{10} U/mL)					
Study Day 1	2.07	TND	<LLOQ	<LLOQ	N/A
Week 48/EOT	TND	TND	0.7	TND	TND
Last Visit prior to NA d/c	1.29	1.07	1.2	TND	1.43
Last available post-NA d/c	1.16	1.31	1.36	1.08	1.09

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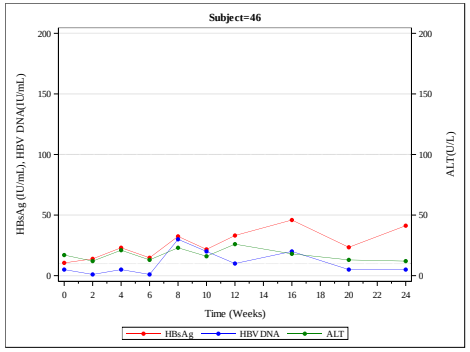
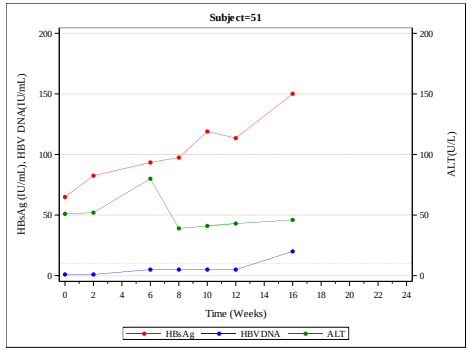
HBsAg, HBV DNA and ALT in NA Discontinuation Cohort

Pt. 46



Pt. 51



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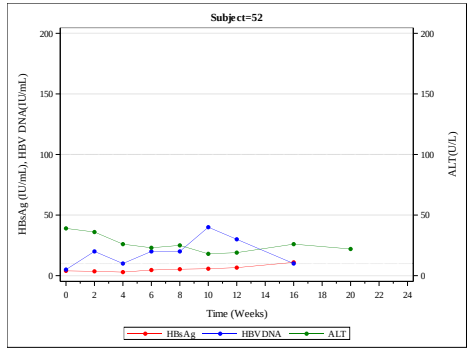
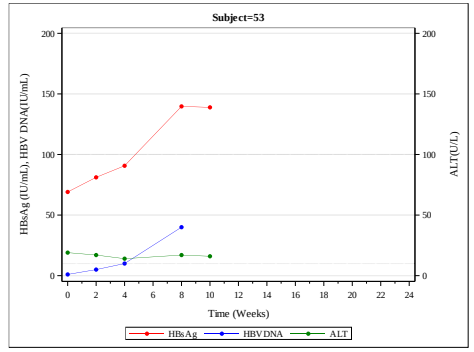
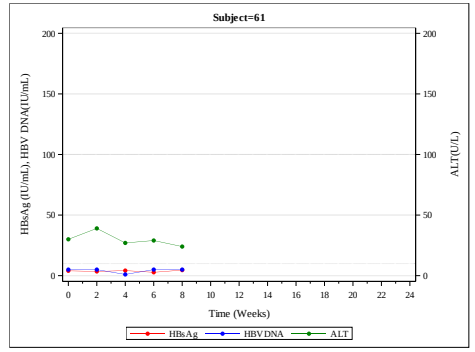


Pt. 53



Pt. 61



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

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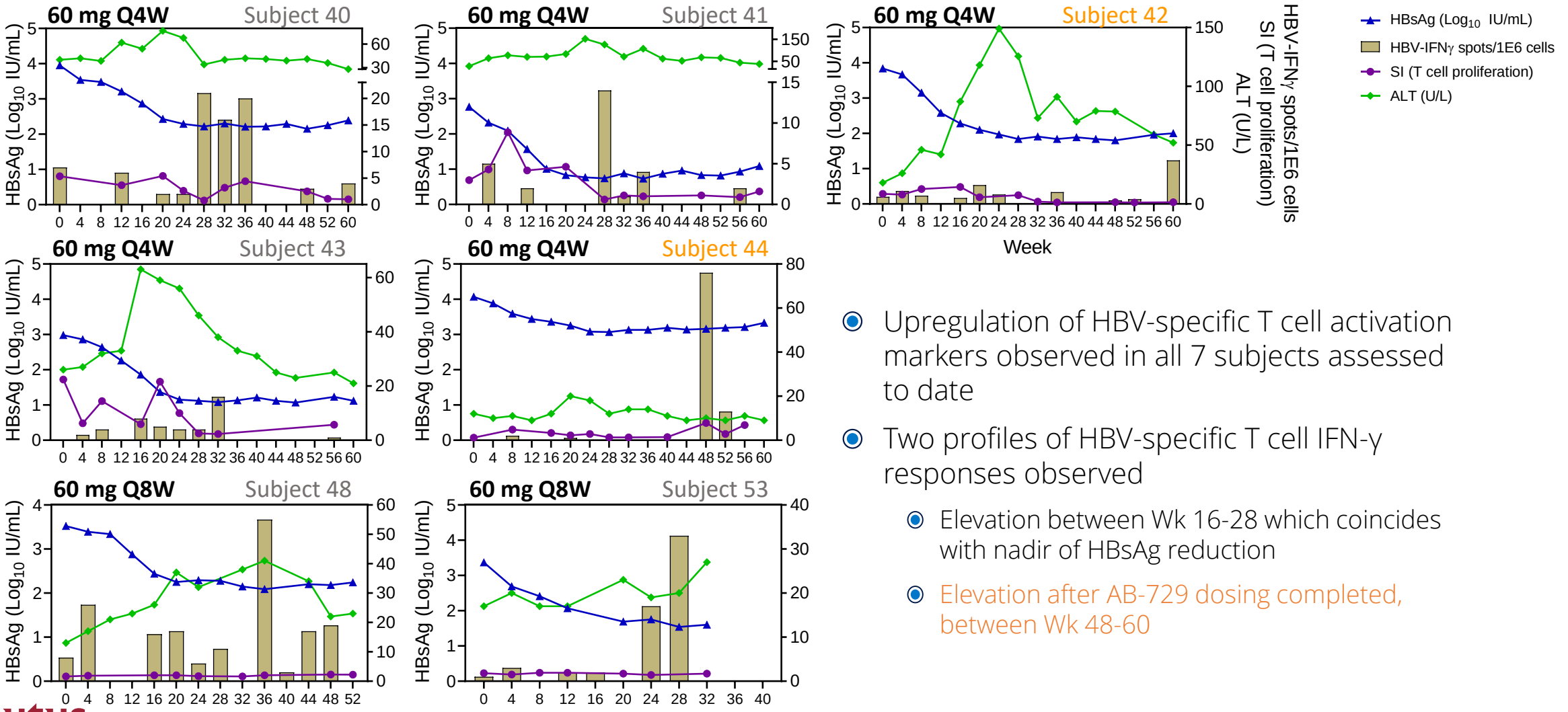
Conclusions NA Discontinuation Cohort

- AB-729 treatment for 48 weeks at varying doses and intervals led to continued HBsAg declines to <100 IU/mL in 16 of 32 (50%) subjects which were maintained for at least 24 weeks after the last dose of AB-729
- Eleven of these 16 subjects met protocol-defined NA stopping criteria
- No evidence of virologic or clinical relapse has been detected in the first 5 subjects to discontinue NA therapy with at least 8 - 24 weeks of follow up data available, and no subjects have restarted NA therapy to date
- HBsAg remains well below pre-study levels in all subjects
- Discontinuation of NA therapy for up to 24 weeks has been generally safe and well-tolerated to date, with no ALT flares observed.

HBV-Specific T-Cell Activation Increases with AB-729-Treated in cHBV+ Subjects



- Upregulation of HBV-specific T cell activation markers observed in all 7 subjects 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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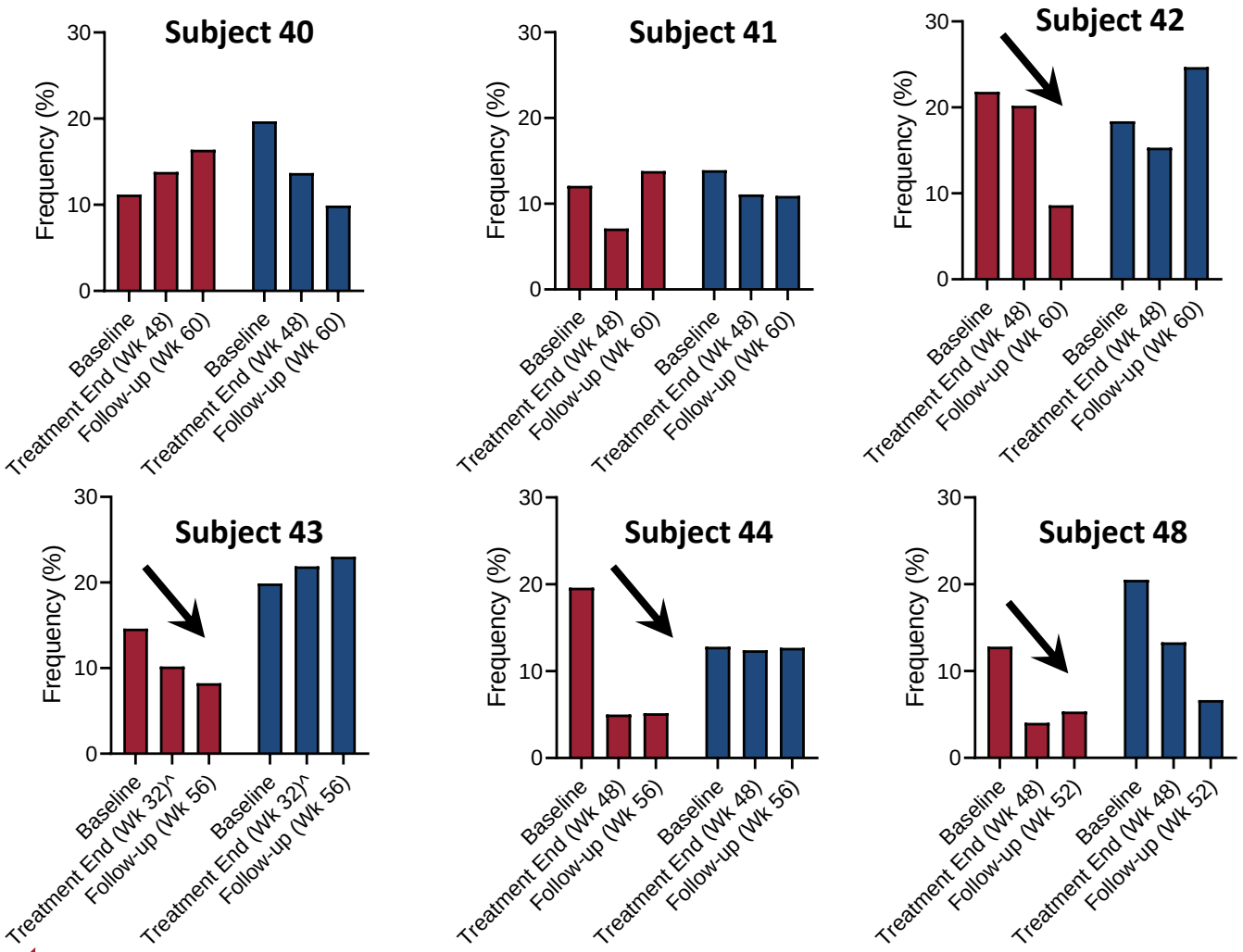
Exhausted CD-8+ T-Cells Decreased in 4/6 AB-729-Treated cHBV+ subjects



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 Week 44

Immunophenotyping conducted by flow cytometric analysis of CHB subject PBMCs

Exhausted CD8+ T cells = CD8+ CD45RA- PD-1+ Tox+ Bcl2-

Effector CD8+ T cells = CD8+ CD45RA- PD-1+ Tox- Bcl2+

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AB-729 Key Messages

- AB-729 provides robust and comparable HBsAg decline in HBeAg+, HBeAg-, DNA+ and DNA- patients
- Robust HBsAg declines persist after stopping AB-729 treatment
  - 26 of 34 patients had HBsAg < 100 IU/mL at some point during the study
- 5 patients that discontinued both AB-729 and NA-therapy, maintained a sustained reduction in HBsAg
  - All patients did not meet clinical or virologic relapse criteria and all remain off treatment
- AB-729 remains generally safe and well-tolerated to date after completing dosing in 41 patients
- AB-729 continues to result in HBV-specific T-cell immune restoration and decrease of exhausted T-cells

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AB-836-001 Phase 1a/1b Clinical Trial

Part 1: Single Ascending Dose In Healthy Subjects

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

Cohort A

- **Dose 1** 10mg
- **Dose 3** 75mg
- **Dose 5** 175mg

Cohort B

- **Dose 2** 30mg
- **Dose 4** 125mg
- **Dose 5 FE** 125mg

FE: with Food

Part 2: Multiple Ascending Dose in Healthy Subjects

- **Cohort C (50mg QD) x 10 days**
  N = 10; 8 active: 2 placebo
- **Cohort D (100mg QD) x 10 days**
  N = 10; 8 active: 2 placebo
- **Cohort E (150mg QD) x 10 days**
  N = 10; 8 active: 2 placebo

Part 3: Multiple Doses In Chronic Hepatitis B Patients

- **Cohort F (50mg QD) x 28 days DNA +**
  N = 12; 10 active: 2 placebo
- **Cohort G (100mg QD) x 28 days DNA+**
  N = 12; 10 active: 2 placebo
- **Cohort H (200mg QD) x 28 days DNA+**
  N = 12; 10 active: 2 placebo
- **Cohort I (100mg) + NA x 28 days DNA-** *
  N = 12; 10 active: 2 placebo

* ongoing

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AB-836-001 Study: Baseline Characteristics

Baseline Measure	Cohort F* 50mg QD N = 12	Cohort G^ 100mg QD N = 13	Cohort H# 200mg QD N = 13	Total N = 38
Age (years) [Mean (SD)]	41.5 (6.6)	42.5 (11.0)	38.8 (7.6)	40.9 (8.6)
BMI (kg/m^2) [Mean (SD)]	23.0 (4.9)	24.8 (2.8)	23.9 (3.3)	23.9 (3.7)
Male Gender [n (%)]	7 (58)	10 (77)	9 (69)	26 (68)
Race [n (%)]				
Asian	6 (50)	8 (62)	10 (77)	24 (63)
White	5 (42)	5 (38)	2 (15)	12 (32)
Other	1 (8)	0	1 (8)	2 (5)
Genotype [n (%)]				
A	0	0	1 (7.7)	1 (2.6)
B	2 (16.7)	4 (30.8)	3 (23.1)	9 (23.7)
C	4 (33.3)	2 (15.4)	6 (46.2)	12 (31.6)
D	5 (41.7)	6 (46.2)	2 (15.4)	13 (34.2)
Not Determined	1 (8.3)	1 (7.7)	1 (7.7)	3 (7.9)
HBeAg+ [n (%)]	4 (33)	4 (31)	4 (31)	12 (32)
ALT [Mean (SD)]	76.5 (176.8)	45.1 (20.4)	63.9 (58.9)	61.4 (102.1)
HBV DNA (Log_{10} IU/mL) [Mean (SD)]	4.96 (1.53)	6.28 (2.10)	5.76 (1.77)	5.69 (1.85)
HBsAg (Log_{10} IU/mL) [Mean (SD)]	3.45 (0.52)	3.88 (1.05)	3.79 (0.60)	3.71 (0.77)

*One subject in Cohort F was withdrawn from the study due to an asymptomatic HBV flare noted on the pre-dose Day 1 labs and will be replaced

^One subject in Cohort G had discordant HBeAg status between screening (HBeAg+) and Day -1 (HBeAg-); one additional HBeAg+ subject enrolled

#Two subjects in Cohort H were withdrawn due to inability to comply with study visits (COVID-19 and instability in Ukraine); 1 replacement was enrolled

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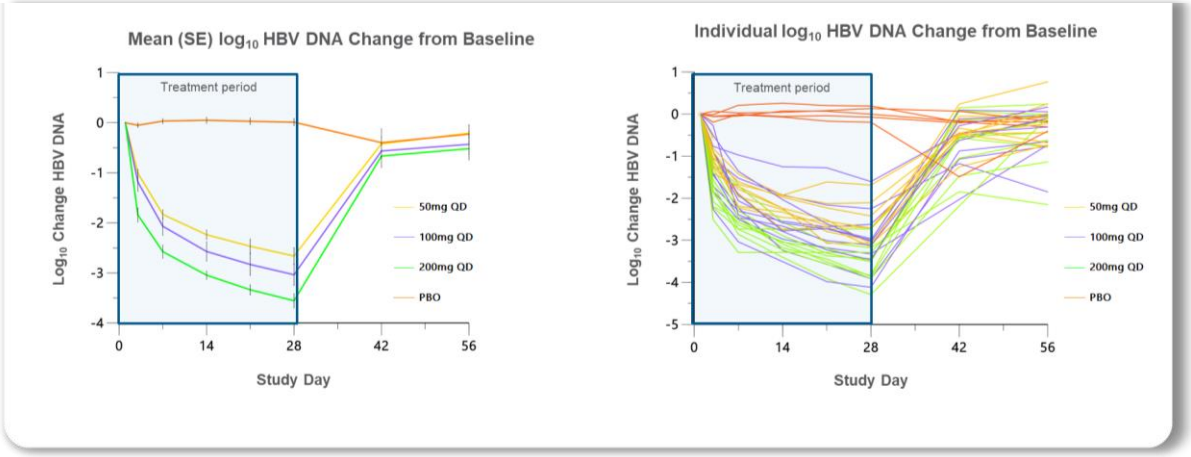
Robust HBV DNA Declines with AB-836 50 mg, 100mg and 200mg QD

Log_{10} Change from Baseline HBV DNA



Day 28 HBV DNA Response by Cohort

Dose Level	N	Mean (SE) Day 28 HBV DNA log_{10} change	Subjects > 3.0 log_{10} decline in HBV DNA	Subjects <LLOQ at Day 28
Cohort F 50mg QD	9	-2.66 (0.17)	4	1
Cohort G 100mg QD	11	-3.04 (0.21)	6	0
Cohort H 200mg QD	10	-3.55 (0.14)	9	3
Placebo	5	0.01 (0.06)	0	0

- Individual HBV DNA responses suggest that any baseline mutations in these cohorts, if present (data pending), did not affect response
- There were no meaningful changes in HBsAg over 28 days of dosing; HBV RNA data are pending

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AB-836 Safety

Table 6: Adverse Events – Part 3 (CHB)

Subjects, n	Cohort F 50mg QD [N=12]	Cohort G 100mg QD [N=13]	Cohort H 200mg QD [N=13]	TOTAL [N=38]
Subjects with any TEAE	4	3	4	11
Maximum TEAE Severity				
Grade 1	3	3	2	8
Grade 2	0	0	0	0
Grade 3	0	0	2	2
Grade 4	1[a]	0	0	1
Related TEAEs	0	1	1	2
SAEs	0	0	0	0
Liver-related laboratory abnormalities	1	2	2	5
ALT elevation (Maximum Lab Grade)				
Grade 3	0	2	1	3
Grade 4	1	0	1	2
AST elevation				
Grade 2	0	1	1	2
Grade 3	1	0	1	2

[a] The Grade 4 ALT and Grade 3 AST elevations noted in Cohort F were due to a pre-dose HBV flare detected on dosing Day 1 (subject was discontinued). The subject's ALT/AST upon screening was a lab Grade 2.

- Three TEAEs were considered treatment-related (Grade 1 dyspepsia in Cohort G and Grade 3 ALT/Grade 2 AST elevation in 1 Cohort H subject)
- Two subjects in Cohort G had transient Grade 3 ALT elevations that resolved with continued AB-836 dosing and were not considered TEAEs
- Two subjects in Cohort H had transaminase elevations on the last day of dosing (Day 28) that returned to baseline levels no later than Day 56 (reported as TEAEs and listed in liver related lab abnormalities above)
- All subjects with transaminase elevations were asymptomatic and none had changes in bilirubin or met DILI criteria
- No other clinically significant lab abnormalities, ECG or vital sign changes have been observed

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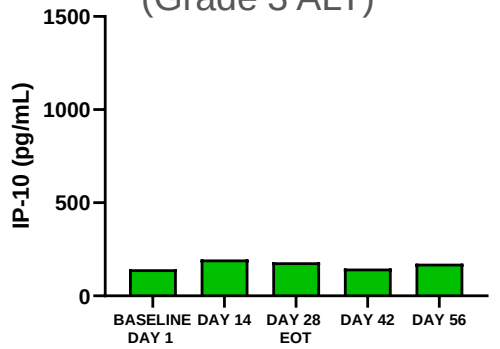
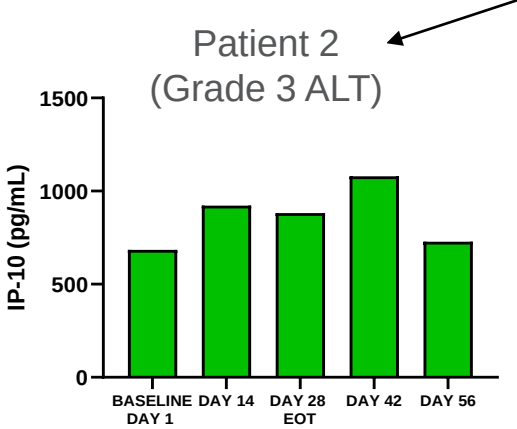
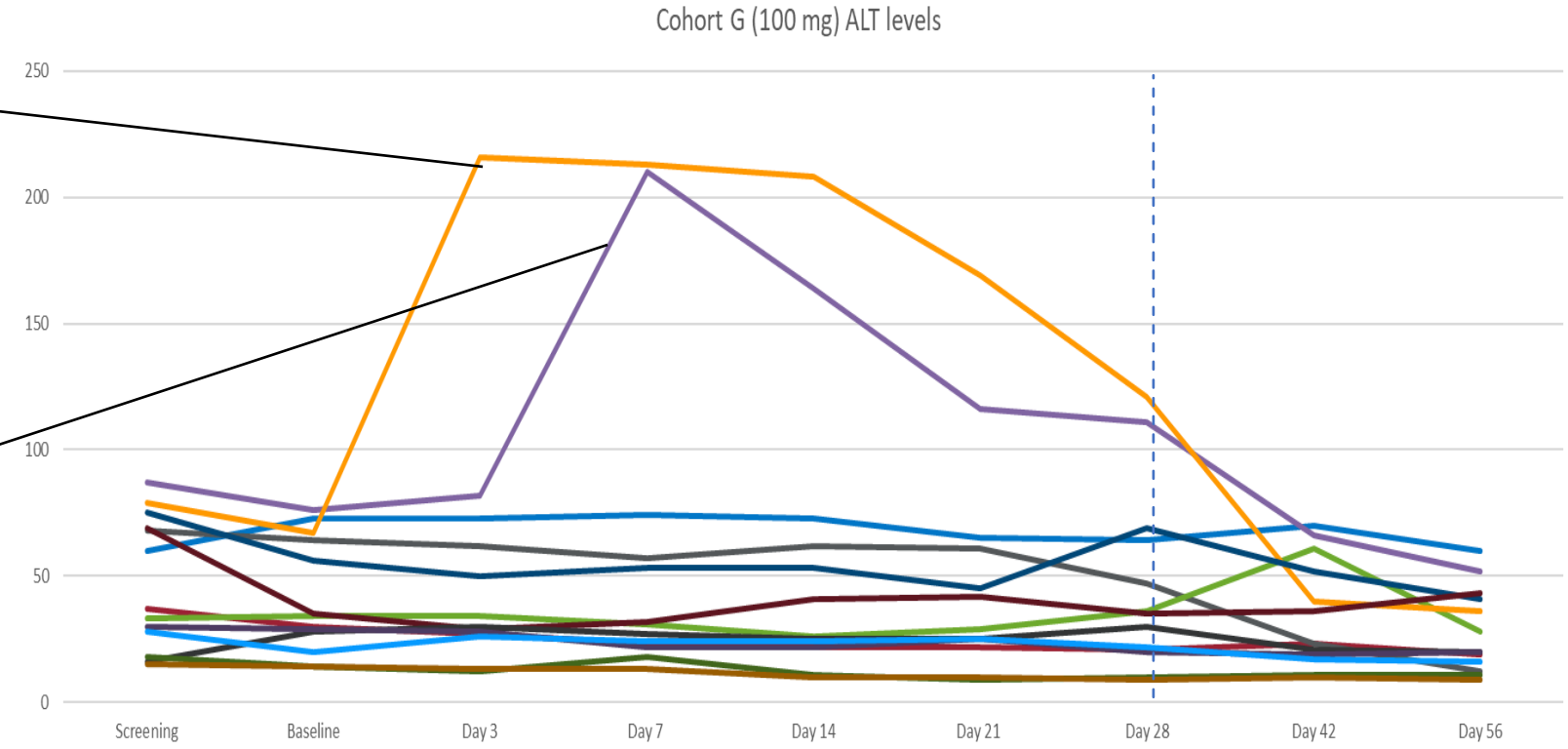
IP-10 levels remain <2,000 pg/mL in subjects with Grade 3 ALT in Cohort G (100 mg)







- The remaining patients with no ALT flares had low IP-10 levels

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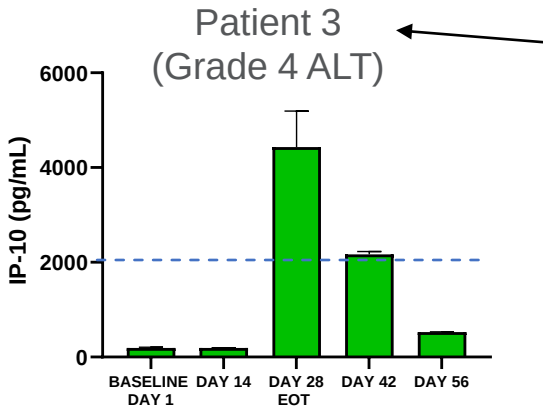
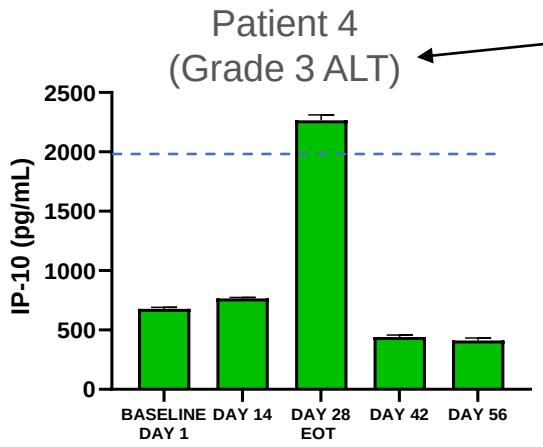
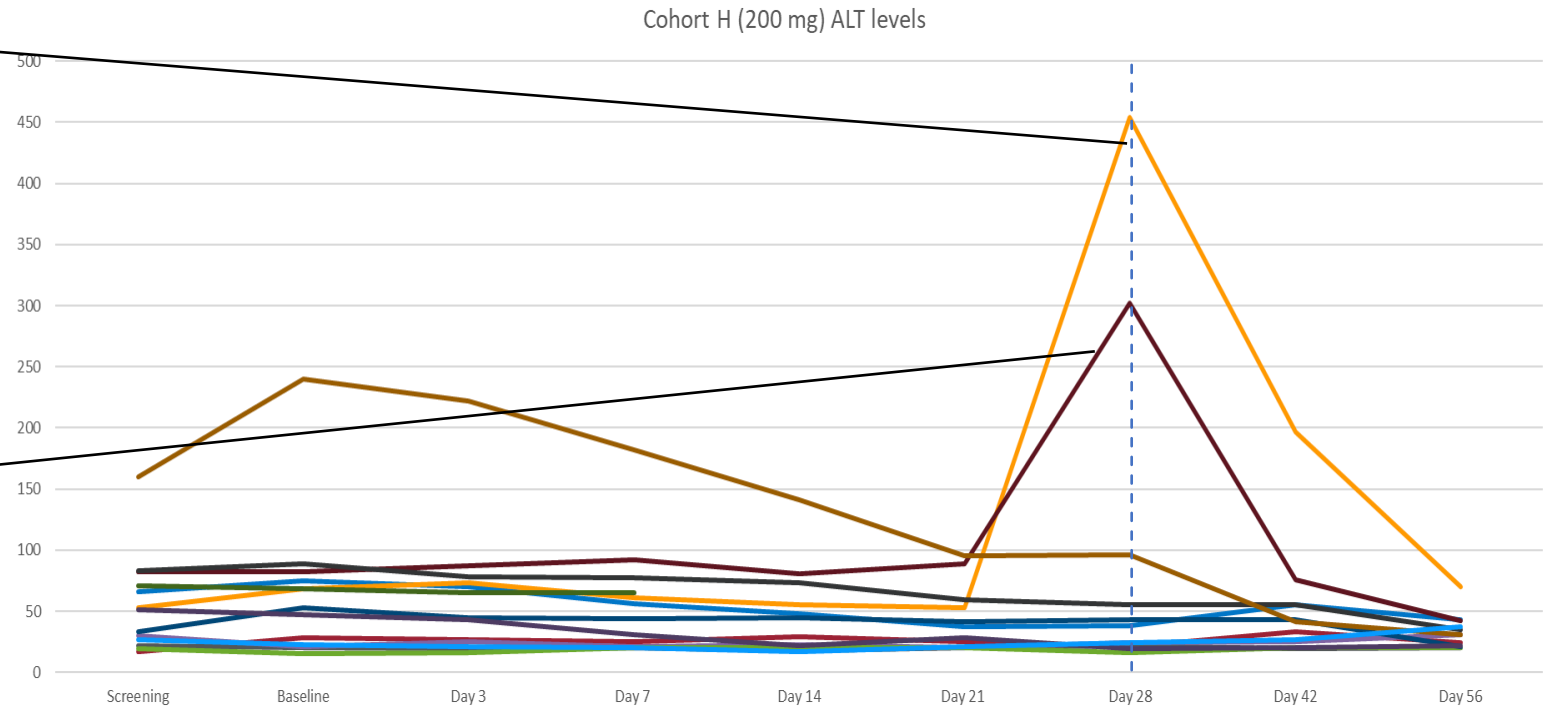
IP-10 levels spiked >2,000 pg/mL in patients with Grade 3 and 4 ALT in Cohort H (200 mg)







- The remaining patients with no ALT flares had low IP-10 levels

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AB-836-001 Conclusions

- AB-836 demonstrated potent inhibition of HBV replication with mean declines in HBV DNA at Day 28 of 3.04 and 3.55 $\log_{10}$ at 100mg QD and 200mg QD, respectively
- 50mg, 100mg and 200mg QD for 28 days in cHBV patients have been well-tolerated with the safety considerations described
- Because the IP-10 data is not definitive an additional Phase 1a study in healthy volunteers is planned to determine if the ALT flares seen in the 200 mg dose are beneficial or not

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Thank You

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