VBI VACCINES

CORPORATE PRESENTATION

NASDAQ: VBIV

JANUARY 2020

Forward-Looking Statements

Certain statements in this presentation that are forward-looking and not statements of historical fact are forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and are forward-looking information within the meaning of Canadian securities laws (collectively "forward-looking statements"). The company cautions that such statements involve risks and uncertainties that may materially affect the company's results of operations. Such forward-looking statements are based on the beliefs of management as well as assumptions made by and information currently available to management. Actual results could differ materially from those contemplated by the forward-looking statements as a result of certain factors, including but not limited to the ability to establish that potential products are efficacious or safe in preclinical or clinical trials; the ability to establish or maintain collaborations on the development of therapeutic candidates; the ability to obtain appropriate or necessary governmental approvals to market potential products, including the approval of Sci-B-Vac® in the U.S., Europe, and Canada following the completion of its recent Phase 3 studies; the ability to obtain future funding for developmental products and working capital and to obtain such funding on commercially reasonable terms; the company's ability to manufacture product candidates on a commercial scale or in collaborations with third parties; changes in the size and nature of competitors; the ability to retain key executives and scientists; and the ability to secure and enforce legal rights related to the company's products, including patent protection. A discussion of these and other factors, including risks and uncertainties with respect to the company, is set forth in the Company's filings with the Securities and Exchange Commission and the Canadian securities authorities, including its Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 25, 2019, and filed with the Canadian security authorities at sedar.com on February 25, 2019, and may be supplemented or amended by the Company's Quarterly Reports on Form 10-Q. The company disclaims any intention or obligation to revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

Overview of VBI Vaccines

- Leveraging significant immunology expertise to address unmet medical needs in both **INFECTIOUS DISEASE** and **IMMUNO-ONCOLOGY**

- Advancing prevention and treatment of **HEPATITIS B:**
    - *Sci-B-Vac®* : Only commercially-approved trivalent Hepatitis B vaccine – approved in 11 countries worldwide and recently completed a Phase III program in the U.S., Europe, and Canada
    - *VBI-2601* : Immuno-therapeutic in development in a collaboration with Brii Biosciences for a functional cure for chronic Hepatitis B

- Integrating **CYTOMEGALOVIRUS (CMV) EXPERTISE** with a proprietary enveloped virus-like particle (eVLP) platform technology to develop next-generation vaccines:
    - *VBI-1901* : **GLIOBLASTOMA** (GBM) vaccine immunotherapeutic candidate (currently in Phase I/IIa study)
    - *VBI-1501* : Prophylactic **CMV** vaccine candidate (positive topline Phase I data announced in May 2018)

VBI Vaccines Pipeline

		PRE-CLINICAL	PHASE I	PHASE II	PHASE III	APPROVED	STATUS
INFECTIOUS DISEASE							
Hepatitis B – Prophylaxis	**Sci-B-Vac®** *VLP*						• Approved in Israel + 10 countries worldwide
							• Regulatory submissions in U.S., Europe, and Canada expected to begin H2 2020
Hepatitis B – Therapeutic	**VBI-2601** *VLP*						• License & collaboration agreement with Brii Biosciences • Initial Phase Ib/IIa data expected H2 2020
Cytomegalovirus (CMV)	**VBI-1501** *eVLP*						• Positive Phase I data announced May 2018
Zika	**VBI-2501** *eVLP*						• Candidate selected
IMMUNO-ONCOLOGY							
Glioblastoma (GBM)	**VBI-1901** *eVLP*						• Ongoing Phase I/IIa • Expanded immunologic data expected H1 2020
Medulloblastoma	**VBI-1901** *eVLP*						• Preclinical work ongoing

Recent Key Achievements

APRIL 2019 – JANUARY 2020

January 2020	Announcement of positive top-line data from the CONSTANT Phase III study of Sci-B-Vac®
November 2019	First patient dosed in Phase Ib/IIa study of BRII-179 (VBI-2601) in patients with chronic hepatitis B
November 2019	Announcement of positive initial Phase I/IIa Part B data of VBI-1901 (GBM) at SNO Annual Meeting
October 2019	Announcement of late-breaking poster at AASLD's The Liver Meeting® detailing immunogenicity and safety data from the PROTECT Phase III study of Sci-B-Vac®
October 2019	Announcement of late-breaking oral presentation at IDWeek 2019™ highlighting detailed seroprotection data from the PROTECT Phase III study of Sci-B-Vac®
September 2019	Closed Public Offering for gross proceeds of $40.3 million
September 2019	Announcement of GSK collaboration to evaluate VBI-1901 + GSK's $AS01_B$ adjuvant system in additional study arm of ongoing Phase I/IIa study in patients with glioblastoma (GBM)
July 2019	First patient dosed in Part B of ongoing Phase I/IIa study of VBI-1901 (GBM)
June 2019	Announcement of addition to Russell 2000® and 3000® Indexes
June 2019	Announcement of positive top-line data from the PROTECT Phase III study of Sci-B-Vac®
June 2019	ASCO presentation of data from Part A of ongoing Phase I/IIa study of VBI-1901 (GBM)
April 2019	Appointment of Dr. Vlad Popovic, M.D., as VP of Clinical Development & Medical Affairs
April 2019	Appointment of Joanne Cordeiro to Board of Directors

Hepatitis B - Prophylaxis

a. SCI-B-VAC®

Only commercially-available trivalent vaccine containing pre-S1, pre-S2, and S antigens of Hepatitis B virus

Chronic HBV is a Significant and Increasing Unmet Need in US & EU

There are more than 2,000,000,000 individuals WW with serological evidence of Hepatitis B, of these ~292M are chronic carriers

U.S.

CDC estimates that anywhere from **850,000 – 2.2M people** in the U.S. are chronically infected with Hepatitis B

Estimated new cases of Hepatitis B have been **increasing since 2012, from roughly 18,800 new cases in 2012 to 21,000 in 2016**

The CDC has determined this increase is largely due to the **ongoing opioid epidemic**

Europe

The European Centre for Disease Prevention and Control (ECDC) estimates that in the EU/EEA **~5M people** are chronically infected with Hepatitis B

Among EU/EEA countries that consistently report, the rate of new cases **increased from 6.7/100,000 in 2008 to 10.2/100,000 in 2017**, with UK reporting roughly 62% of all new chronic cases

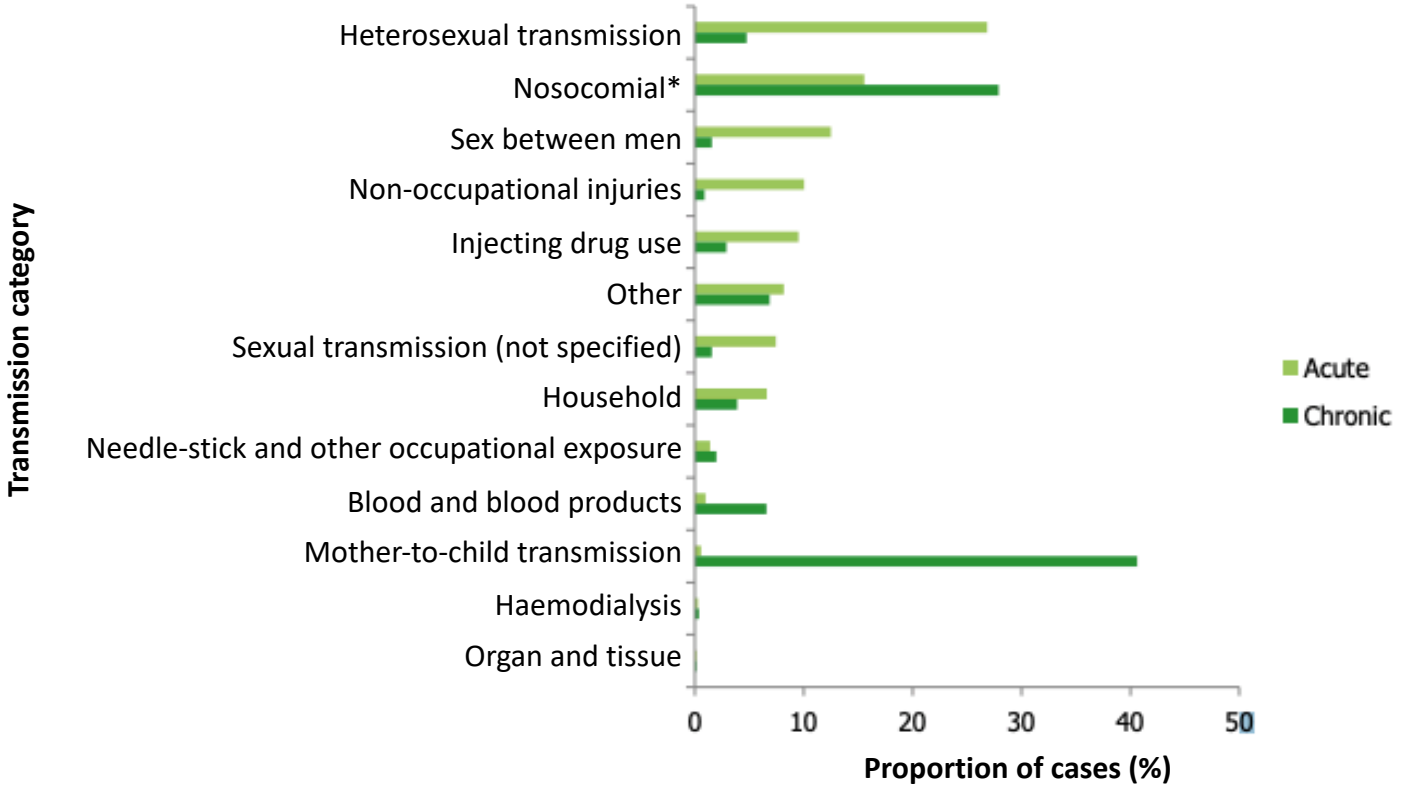
The increase in Europe is largely due to the **increased population migration and refugee crises** – a 2012 study noted the prevalence of HBsAg in the base EU population varied (0.01-0.7%), but the prevalence of HBsAg in the three largest migrant groups in each country was similar, ~4%

Sources: U.S. Center for Disease Control and Prevention (CDC), Disease Burden of Hepatitis B 2010-2016; European Centre for Disease Prevention and Control (ECDC) Systematic Review on Hepatitis B in the EU/EAA 2005-2015 & Hepatitis B – Annual Epidemiological Report for 2017; https://academic.oup.com/eurpub/article/23/4/642/426712/Changing-epidemiology-of-Hepatitis-B-and-migration

Transmission of Chronic Hepatitis B

Chronic Hepatitis B is most commonly transmitted from mother to child (pediatrics) or through nosocomial transmission (i.e. patients exposed in the healthcare setting)

2017 Transmission of Hepatitis B Cases by Acute and Chronic Disease Status (EU/EEA)



*Nosocomial transmission includes hospitals, nursing homes, psychiatric institutions, and dental services. This category refers mainly to patients exposed through healthcare settings, distinct from "needle-stick and other occupational exposure" which refers to staff

Source: European Center for Disease Prevention and Control (ECDC) Hepatitis B Annual Epidemiological Report for 2017

HBV Vaccination Rates : U.S.

- In 1991, the ACIP recommended a comprehensive HBV vaccination program : universal vaccination for children and for high-risk populations
- Despite this recommendation being in place for ~15 years, coverage rates among US adults remains low
- During 2010-2015, hepatitis B vaccination coverage decreased among all adults aged ≥ 19 years
- Vaccination rates have remained stable, however, among adults aged ≥ 19 years with chronic liver conditions and among health care providers

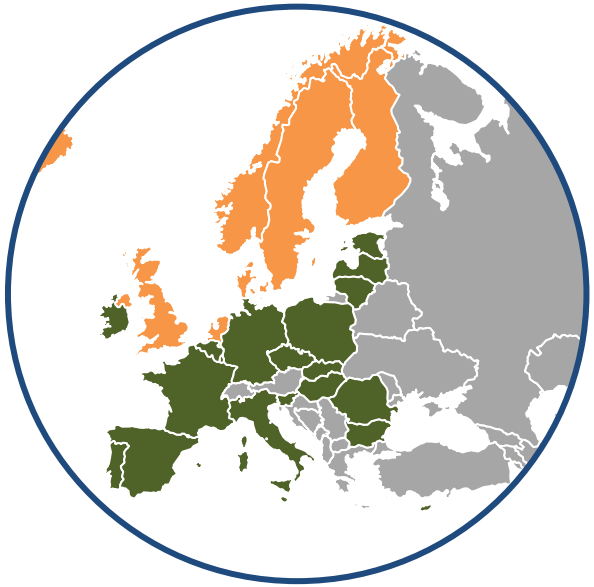
Reported US Hepatitis B Vaccination Coverage - 2015	
Otherwise Healthy	
Adults aged ≥ 19 years	24.6%
Adults aged 19-49 years	32.0%
Adults age ≥ 50 years	16.5%
High-Risk	
Chronic Liver Conditions	27.4%
Diabetics – Age 19-59 years	24.4%
Diabetics – Age ≥ 60 years	12.6%
Healthcare Providers ≥ 19 years	64.7%

Source: 2015 CDC Surveillance of Vaccination Coverage Among Adult Populations

HBV Vaccination Rates : Europe

- In 1992, the World Health Assembly recommended the inclusion of Hepatitis B vaccination in all national immunization programs
- By 2004, the majority of European member states had introduced the vaccine, either as universal infant, universal newborn, or universal adolescent
- A number of EU member states, however, had not introduced the vaccine into the routine program – all of these were northern European countries

RECOMMENDATION FOR HEPATITIS B VACCINATION BY COUNTRY (VENICE II SURVEY)



- HBV vaccination included in the routine childhood vaccination & recommended for high risk groups incl. healthcare workers (HCWs):
  - *74% of surveyed countries (20/27)*
- HBV vaccination only recommended for high-risk groups incl. HCWs
  - *26% of surveyed countries (7/27)*
- Countries not included in VENICE II survey

Despite recommendations, estimated adult HBV vaccine coverage rates vary greatly (e.g. 8% in Denmark, 33% in Germany)

Note: Since this survey, the UK implemented routine childhood vaccination against Hepatitis B (in Aug. 2017)

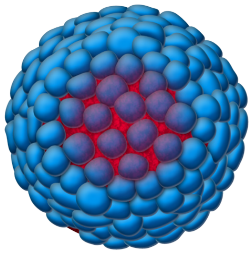
Sources: http://venice.cineca.org/Report_Hepatitis_B_Vaccination.pdf; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3840285/

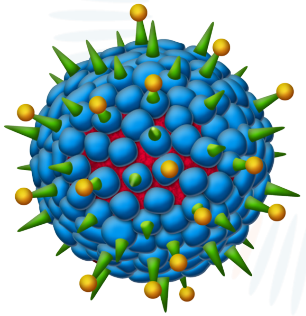
Key Unmet Medical Need and Market Segmentation

	Target Population	Key Product Attributes Driving Use	Est. Unvaccinated Population
ADULT POPULATION (AGE 18+)			
Young, "Otherwise Healthy"	• Public service sector workers (incl. HCWs) • Military • Pre-diabetics	• Earlier seroprotection • Cost	US : 5M+ | EU : 5M+ *TOTAL: 10M+* [conservative estimate]
Older Adults	• Age 45+	• Superior seroprotection rates • Safety	US : 50M | EU : 35M *TOTAL: 85M*
Immuno-Compromised/High-Risk	• Diabetics • CKD/ESRD patients • Other high-risk populations	• Higher seroprotection rates • Safety	US : 30M | EU : 20M *TOTAL: 50M*
PEDIATRIC POPULATION (AGE 0-17)			
High-risk, Immuno-compromised Newborns	*Children born:* • with immuno-compromising conditions (e.g. Thalassemia) • to HBV-infected mothers • in high endemic areas	• Higher seroprotection rates • Safety	• ~8M births each year in US/EU • ~75,000 births to HBV+ mothers • ~1/2,000 children are born with a primary immuno-compromising condition

Sources: U.S. Center for Disease Control, U.S. Department of Health and Human Services, European Centre for Disease Prevention and Control, World Health Organization, U.S. Census Population Data

Sci-B-Vac® : Importance of Trivalent Conformation





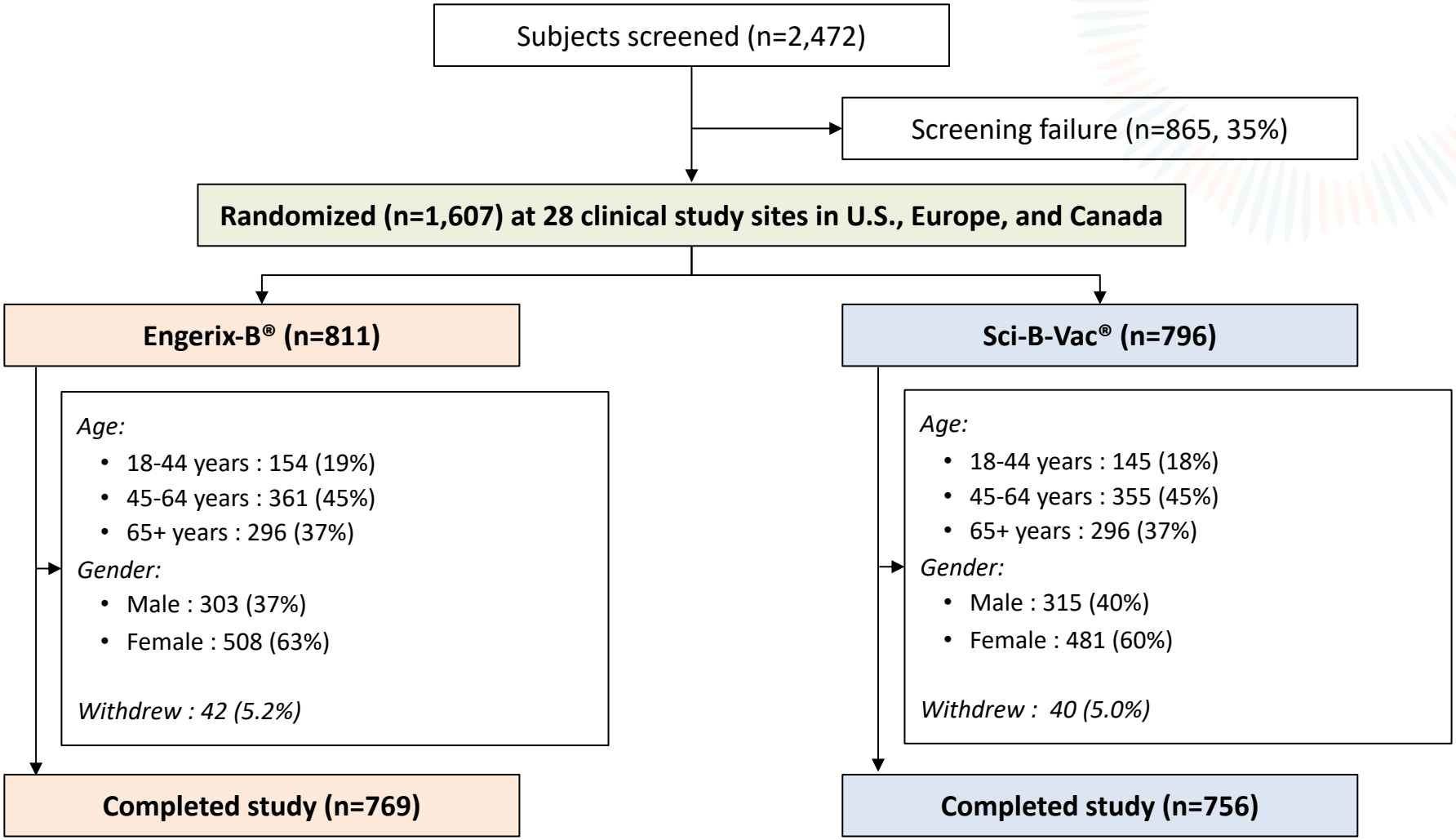
	2ND GENERATION VACCINES	SCI-B-VAC®
Viral antigens mimicked:		
S Protein	✓	✓
Pre-S1		✓
Pre-S2		✓
Adjuvant:	Next-generation Adj. (e.g. TLRs)	Alum
Derivation:	rDNA yeast	Mammalian cell

- Pre-S1 antigen induces key neutralizing antibodies that block virus receptor binding
- Published data demonstrates that T cell response to pre-S1 and pre-S2 antigens can further boost responses to the S antigens, resulting in a more immunogenic response

Sci-B-Vac®: Two Phase III Studies to Support Approval in U.S., Europe, and Canada

Phase III Study	PROTECT *2-arm safety and immunogenicity study*	CONSTANT *4-arm lot-to-lot consistency study*
N size	1,607	2,838
Age Range	18+ years	18-45 years
Control Vaccine	Engerix-B® (GSK)	Engerix-B® (GSK)
Primary Endpoint(s)	Based on seroprotection rates (SPR): i. Non-inferiority in adults ≥ age 18 ii. Superiority in adults ≥ age 45	Consistency of immune response as measured by Geometric Mean Concentration (GMC) of antibodies across three consecutively manufactured lots of Sci-B-Vac®
Secondary Endpoint(s)	i. Safety and tolerability ii. Non-inferiority of SPR after 2 doses of Sci-B-Vac® vs. 3 doses of Engerix-B®	i. Safety and tolerability ii. Non-inferiority of SPR after 3 doses of Sci-B-Vac® vs. 3 doses of Engerix-B®
Top-Line Data Readout	June 2019	January 2020

PROTECT Study Subject Disposition

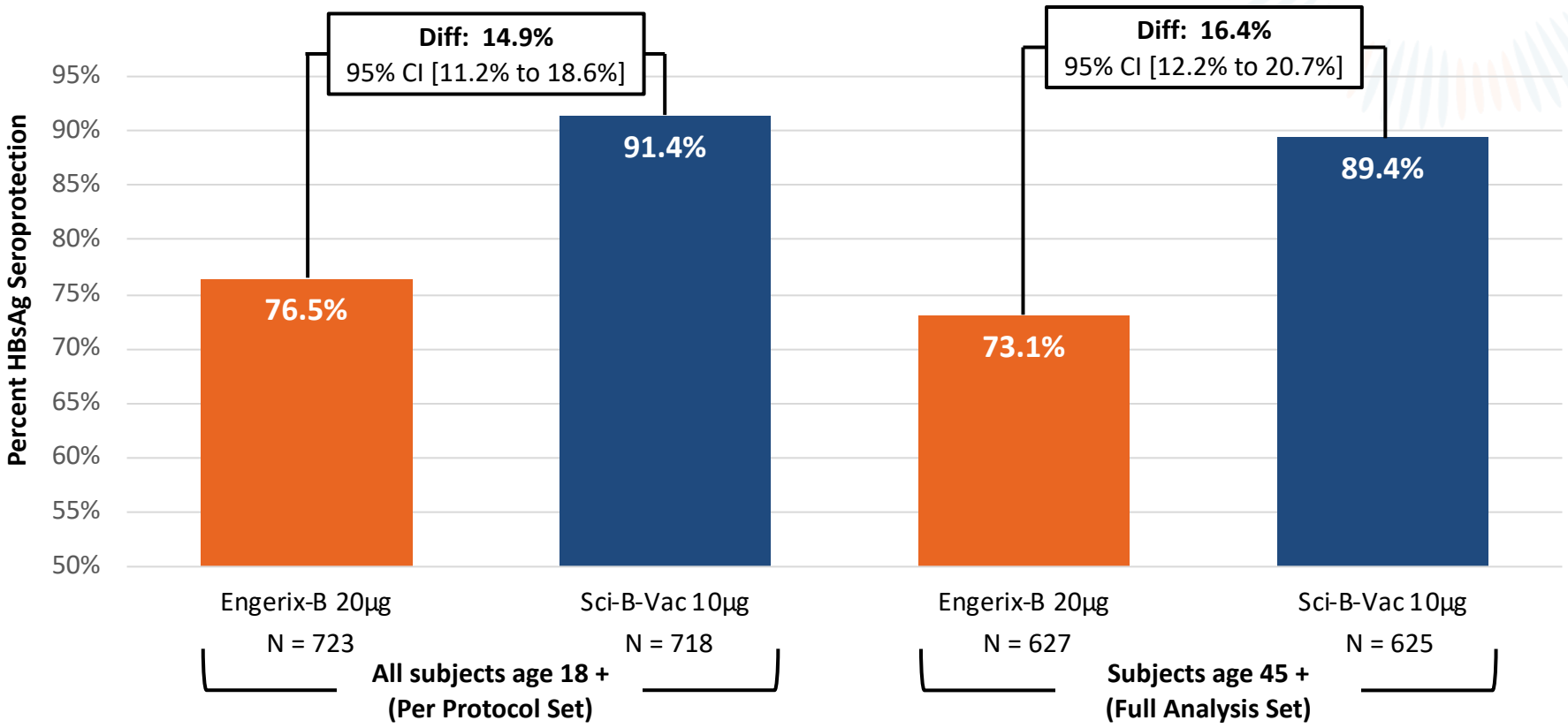


Both PROTECT Co-Primary Endpoints Successfully Met

Co-Primary Endpoints at Day 196, 4 weeks post-3rd vaccination:

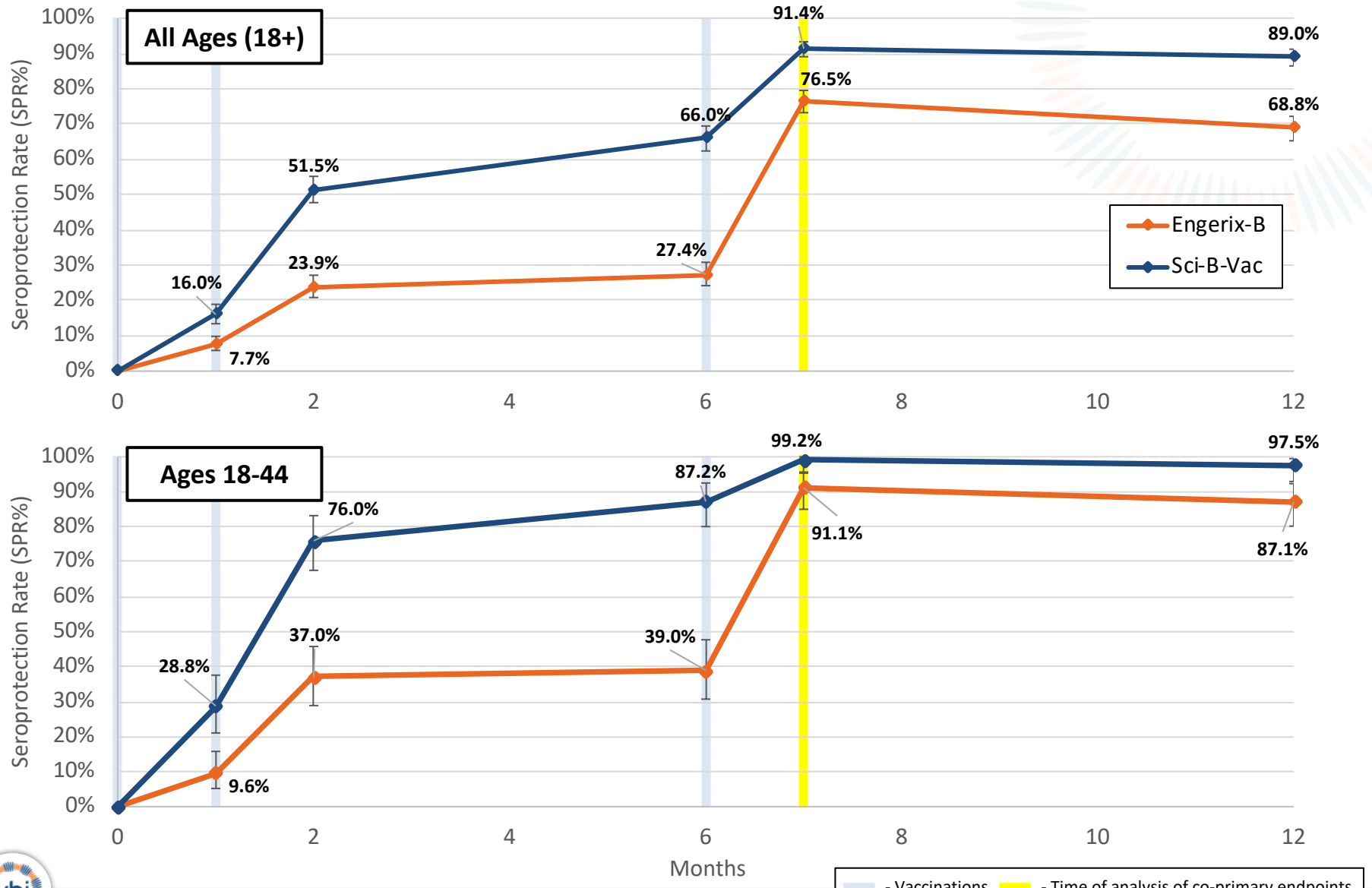
1. Non-Inferiority of seroprotection rate (SPR) achieved in all subjects age 18+

2. Statistical and clinical superiority, as defined in the protocol, achieved in subjects age 45+



- *Non-inferiority :* If the lower bound of the 95% confidence interval (CI) of the difference between the SPR in the Sci-B-Vac® arm minus the SPR in the Engerix-B® arm is > -5%, Sci-B-Vac® will be declared non-inferior to Engerix-B®
- *Statistical superiority :* If the lower bound of the same 95% CI is greater than 0%, Sci-B-Vac® will be declared statistically superior to Engerix-B®
- *Clinical superiority :* If the lower bound of the same 95% CI is > 5%, Sci-B-Vac® will be declared clinically superior to Engerix-B®

Kinetics of Seroprotection Rates by Age Group



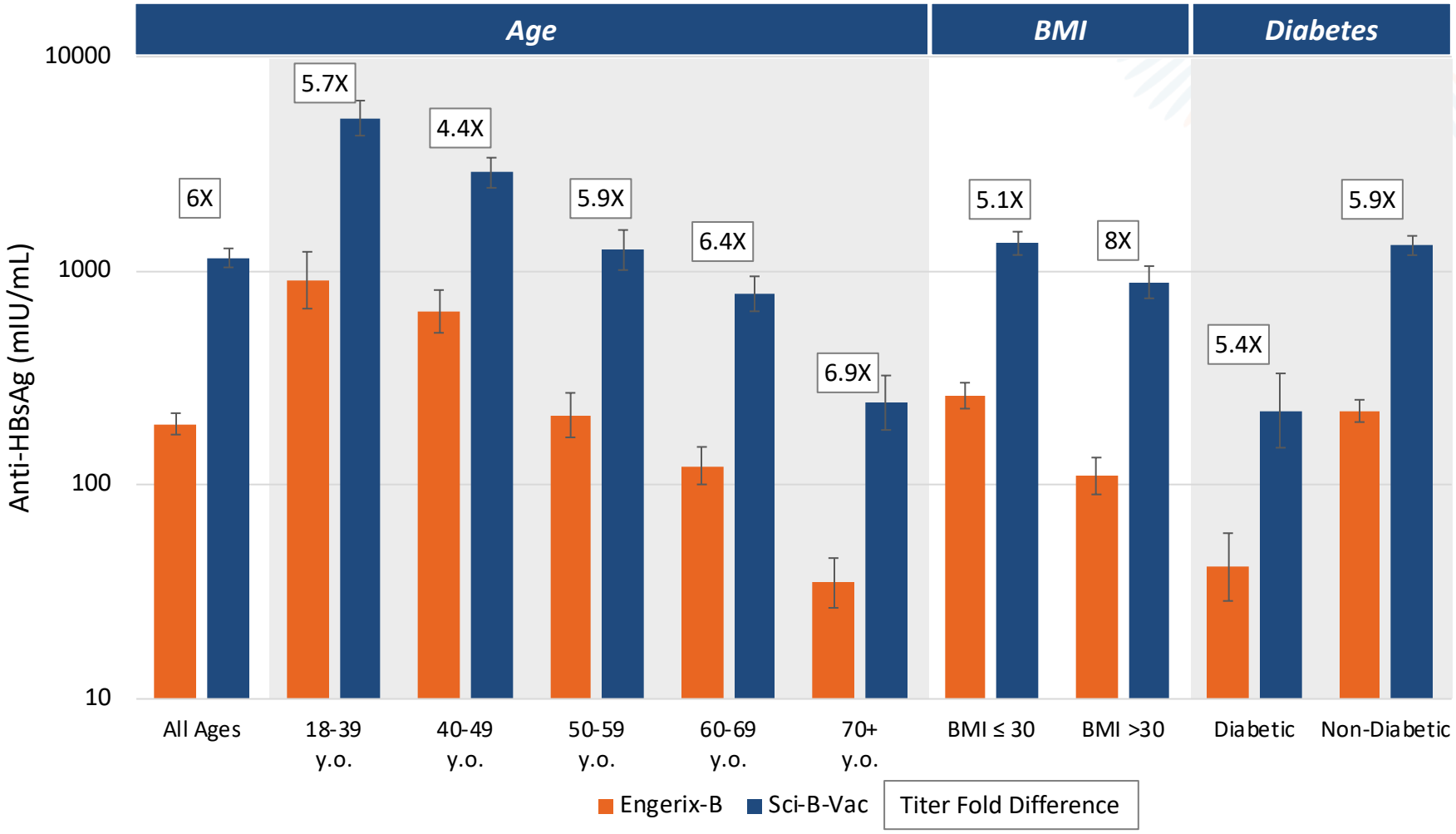
Seroprotection Rates in Subgroup Populations

SPR of Sci-B-Vac® vs. Engerix-B® was statistically significantly higher in all key subgroup analyses of adults age ≥ 18 years, at Day 196, 4 weeks post-3rd vaccination, including:

Diabetics	**58.3%** Engerix-B® vs. **83.3%** Sci-B-Vac® *SPR difference: 25.0%; 95% CI [8.4%, 40.4%]*
Subjects with a Body Mass Index (BMI) > 30	**68.1%** Engerix-B® vs. **89.2%** Sci-B-Vac® SPR difference: 21.1%; 95% CI [14.3%, 28.0%]

Anti-HBsAg Titers in Subgroup Populations

5-8x fold higher antibody GMC is maintained for patients who received Sci-B-Vac® vs. Engerix-B® regardless of age, BMI, or diabetes status



Error bars = SE; The GMC and SE are calculated based on log10-transformed data, then transformed back to Anti-HBsAg Antibody titer

Summary of PROTECT Safety Data

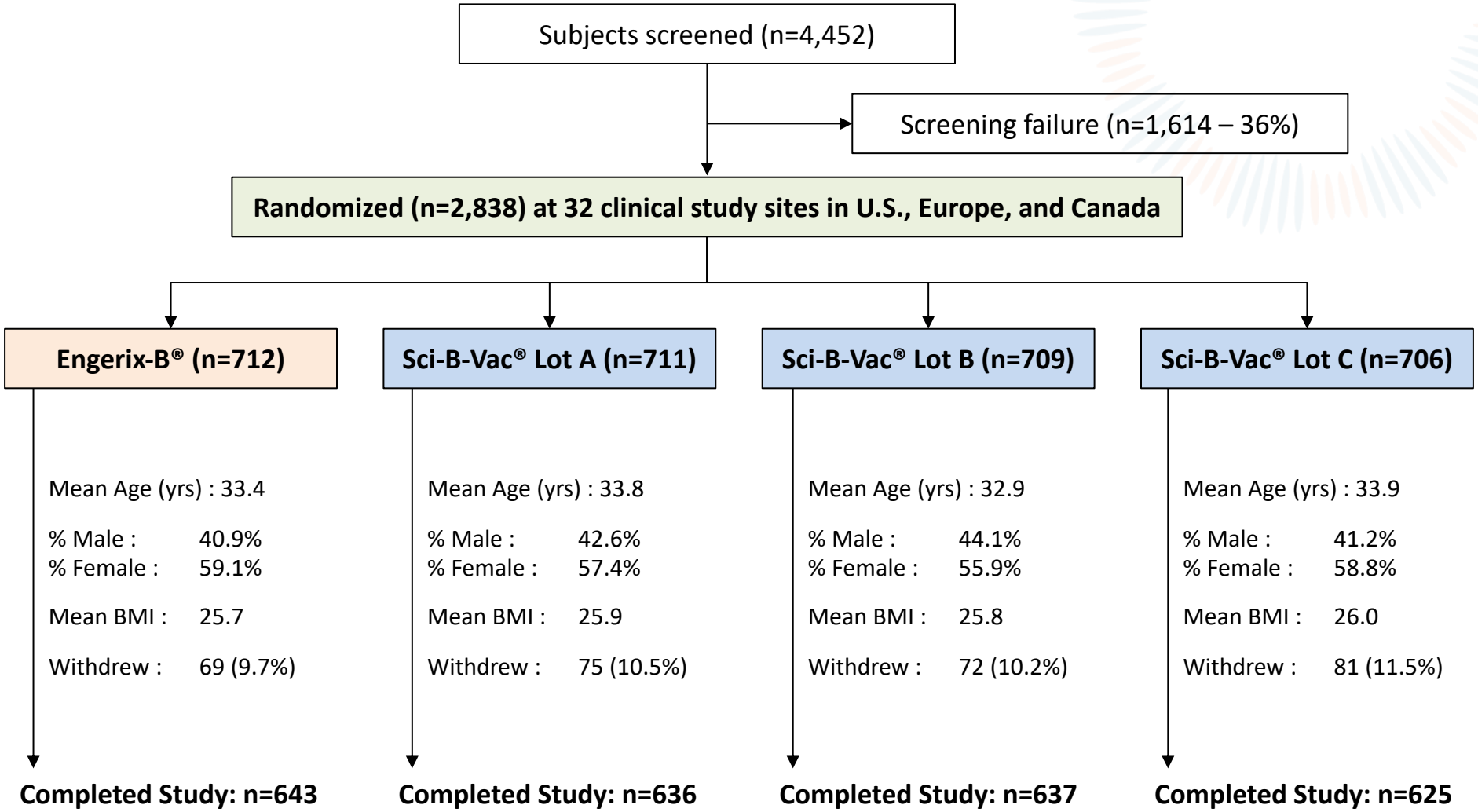
OVERALL :

- No safety signals observed in PROTECT
- Sci-B-Vac® safety profile consistent with previous studies and post- marketing use (Israel)
- High rate of completion of vaccinations, 96.8% and 95.2% for Engerix-B® and Sci-B-Vac®, respectively
- Low rate of vaccine discontinuation due to non-serious adverse events (AEs) of 0.4% vs. 0.4% and due to SAEs of 0.2% vs. 0.3% for Engerix-B® and Sci-B-Vac®, respectively

REACTOGENICITY – SOLICITED AEs :

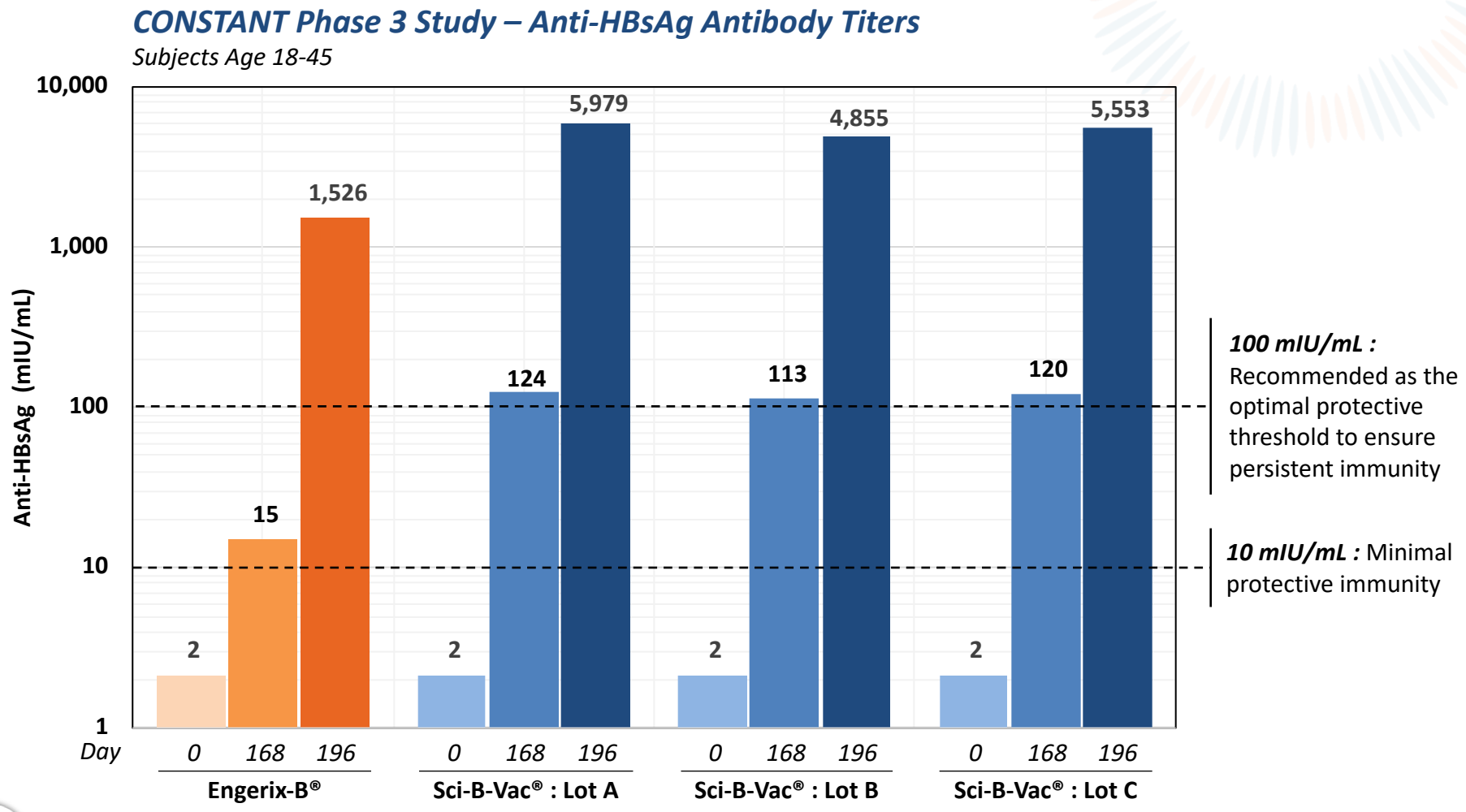
- Higher rates of mild-to-moderate injection site pain, tenderness and myalgia reported by subjects receiving Sci-B-Vac® compared to Engerix-B®
- Reactogenicity symptoms generally resolved without intervention within 1-7 days
- No increase in reactogenicity symptoms over the 3-dose vaccination schedule

CONSTANT Study Subject Disposition



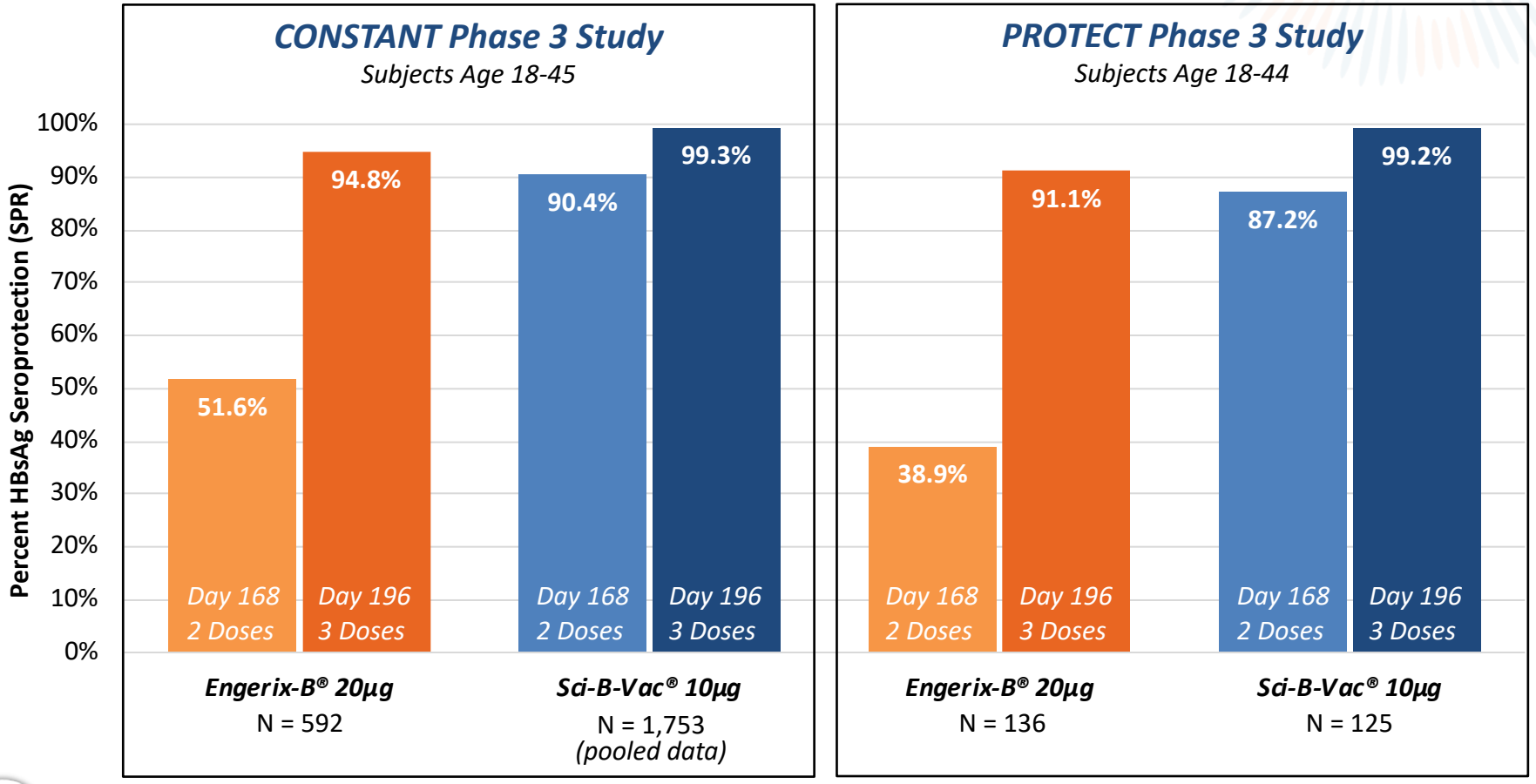
Anti-HBsAg Antibody Titers After 2 & 3 Vaccinations

Antibody GMC achieved with Sci-B-Vac® was more than 7.5x that achieved with Engerix-B® after 2 vaccinations (day 168) and more than 3x after 3 vaccinations (day 196)



Kinetics of Seroprotection Rates (SPR) in Younger Adults – Age 18-45 Years

At each time point, day 168 after two vaccinations and day 196 after three vaccinations, the SPR achieved with Sci-B-Vac® was higher than the SPR achieved with Engerix-B®



NOTE : SPR defined as percent (%) of subjects with anti-HBsAg titers > 10mIU/mL

PROTECT/CONSTANT Data Summary & Next Steps

When comparing Sci-B-Vac® at 10µg to Engerix-B® at 20µg, PROTECT and CONSTANT top-line data showed:

- ✓ **Higher rates of protection in all adults**, at all time points on a per-visit basis, with statistical and clinical superiority in adults age 45 years and older
- ✓ Higher seroprotection in **key immunocompromised populations** including obese individuals, diabetics, and elderly
- ✓ Confirmation of **robust immune response elicited with Sci-B-Vac®** – including with respect to both SPR and anti-HBsAg antibody titers – after both two and three vaccinations
- ✓ **Lot-to-lot manufacturing consistency**, required as part of the chemistry, manufacturing, and control (CMC) portion of the BLA
- ✓ **Clean safety profile** of the vaccine, with no new safety risks identified

Next Steps:

- **H1 2020 :** Pre-BLA discussion expected with FDA

Subject to outcome of pre-BLA discussion and discussions with other regulatory bodies:

- **H2 2020 :** Submissions of applications for regulatory approvals in the U.S., Europe, and Canada expected to begin

Hepatitis B - Therapeutic

b. VBI-2601

Potential to contribute to a functional cure by inducing and sustaining broad and effective immunity against chronic Hepatitis B infection

Functional Cure Combination for Hepatitis B

Scientific consensus is that a functional cure is within reach, but will likely be achieved through a combination approach

A functional cure will likely require the achievement of the below:

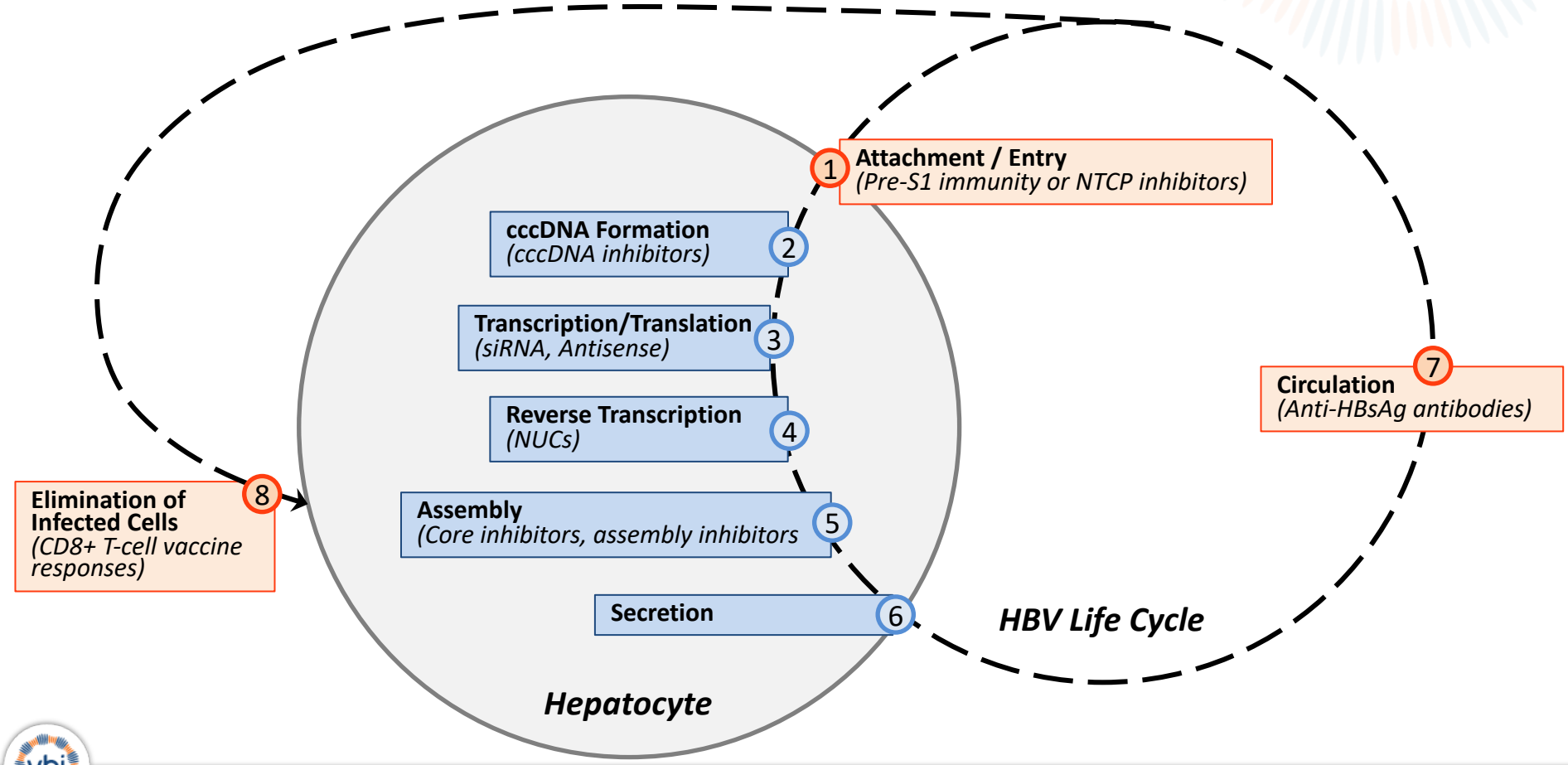
1. Drive down hepatitis B virus (HBV) DNA
2. Drive down immuno-suppressive HBV S-antigen
3. Achieve long-term immunologic control

Consensus is building that an immuno-therapeutic would be needed to achieve long-term immunologic control and restore the body's defense against hepatitis B infection

VBI-2601 Well Positioned as an Immuno-Therapeutic Component of a Functional Cure for Hepatitis B

VBI-2601 is designed to impact circulating virus (via anti-S immunity – step 7), viral entry (via pre-S1 immunity – step 1), and infected hepatocytes (via T-cell immunity – step 8)

Current NUCs & next-generation therapies impact intracellular steps downstream of transcription (steps 3, 4, & 5)



Brii Biosciences License & Collaboration Agreement

In December 2018, VBI announced a license and collaboration agreement with Brii Biosciences ("Brii Bio") to develop a functional cure for Hepatitis B

- Under the agreement, VBI and Brii Bio will collaborate in the development of the product candidate through to completion of a proof-of-concept clinical trial, following which, Brii Bio will be responsible for funding all development in the licensed territory – China, Hong Kong, Macau, and Taiwan
- VBI received gross proceeds of $11 million, consisting of a $4M upfront payment and a $7M equity investment at $3.05 per share
- VBI is eligible to receive an additional $117.5 million in potential milestone payments and potential low double-digit royalties on commercial sales in the licensed territory
- VBI will retain all rights outside of the licensed territory with respect to the treatment of hepatitis B

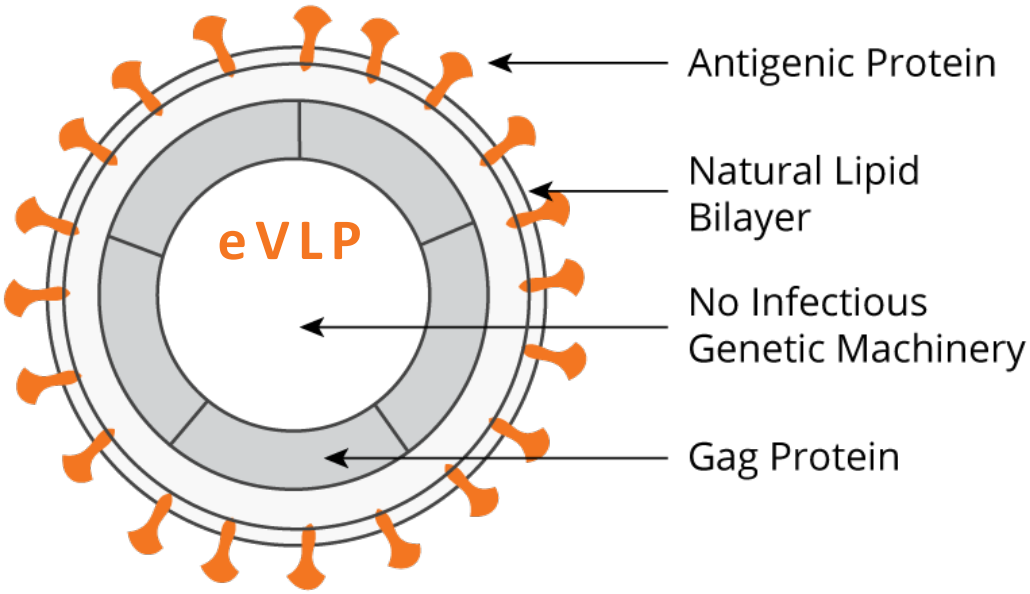
Program Milestones : VBI-2601 (Tx HBV)

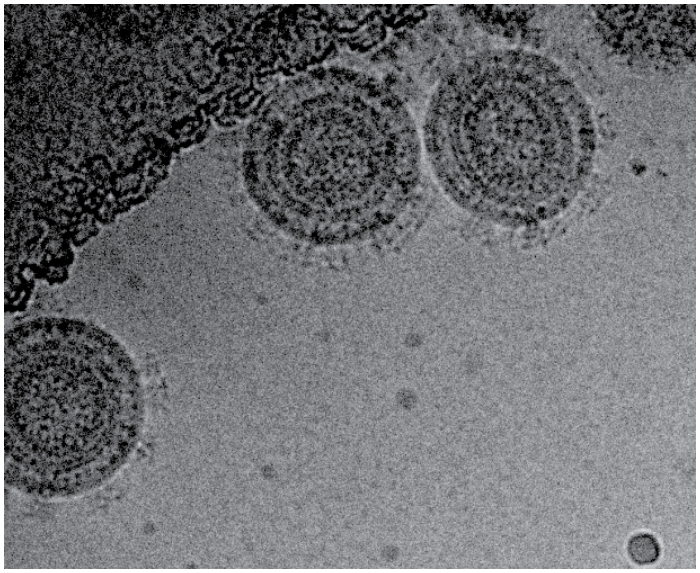
- ☑ *December 2018 :* License and collaboration agreement announced with Brii Biosciences for up to $129M + royalties to develop a functional cure for hepatitis B
- ☑ *January 2019 :* Initiation of pre-clinical studies
- ☑ *Q4 2019 :* Initiation of proof-of-concept Phase Ib/IIa study in subjects with chronic hepatitis B
- ☐ *H2 2020 :* Initial human proof-of-concept Phase Ib/IIa data expected

Enveloped Virus-Like Particle (“eVLP”) Vaccine Technology

eVLPs are a 3rd-Generation Class of Synthetic Vaccines

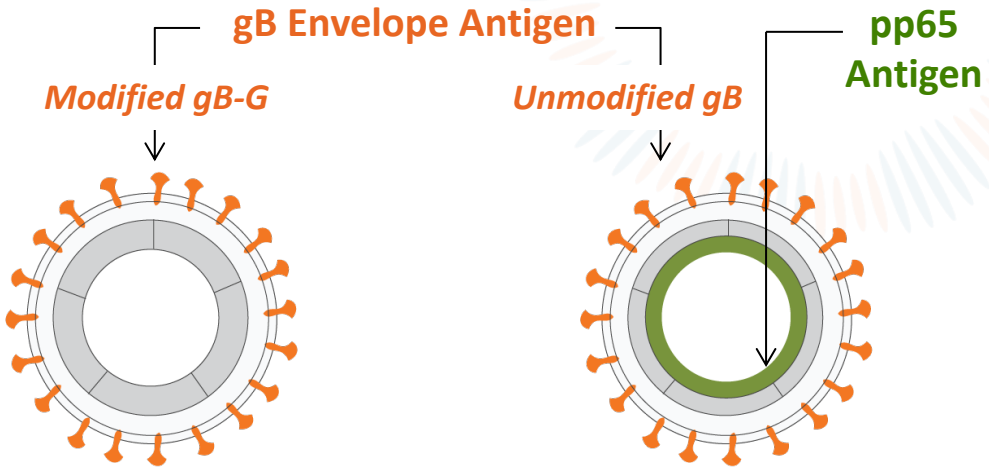
- eVLPs are the same size and structure as enveloped viruses, presenting antigens in their natural state for an improved immune response
- The foundation of the eVLP Platform is a stable, protein-based core which has the flexibility to express additional vaccine antigens of interest





Electron Microscopy image of VBI's CMV eVLPs captured at Scripps Institute.

Two Candidates from eVLP Platform Technology Target CMV-Associated Indications



Attributes		VBI-1501 Monovalent gB-G for Prevention of Infectious Disease Indications	VBI-1901 Bivalent – pp65 + gB for Therapeutic Immuno-Oncology
Present antigen in natural conformation		+++	+++
Broadly Reactive Neutralizing Antibodies		+++	+++
Polyvalent Immune Response			++
Potent Th1 Cellular Immunity for Therapeutic Applications	CD4+	++	+++
	CD8+		++

Glioblastoma - VBI-1901

Targeting CMV as a foreign viral antigen approach to Immuno-Oncology (GBM) with a bivalent eVLP expressing two potent CMV antigens – pp65 and gB

Impact and Risks of Cytomegalovirus (CMV)

ONCOLOGY

Solid Tumors:

- 90%+ of some solid tumors, incl. glioblastomas, breast cancers, and medulloblastomas are CMV+
- CMV is not causative, but does influence disease progression of CMV+ tumors
- In multiple clinical studies, CMV-targeting vaccines have increased overall survival in GBM patients
- Because CMV is so broadly (and differentially) expressed on tumor cells, but not on healthy cells, a potent CMV vaccine has potential to make “cold tumors hot”
- GBM is one of the most aggressive cancers with few therapeutic options and no standard of care in the recurrent setting

GBM Phase I/IIa Clinical Study Design

Two-part, multi-center, open-label, dose-escalation study of VBI-1901 in patients with recurrent glioblastoma (GBM)

PART A : Dose-Escalation Phase

Patient population :

Recurrent GBM (any # of recurrences)

Study Arm 3:
High Dose – 10.0µg + GM-CSF

N=6
Enrollment completed December 2018

VS.

Study Arm 2:
Intermediate Dose – 2.0µg + GM-CSF

N=6
Enrollment completed September 2018

VS.

Study Arm 1:
Low Dose – 0.4µg + GM-CSF

N=6
Enrollment completed April 2018

PART B : Extension Phase

Patient population :

First Recurrent GBM

Study Arm 1:
10.0µg + GM-CSF

N=10
Enrollment initiated July 2019

VS.

Study Arm 2:
10.0µg + GSK's $AS01_B$ adjuvant system

N=10
Enrollment expected to initiate in Q1 2020

Outcome Measures : Part A & B

- *Safety*
- *Immunogenicity :* (1) T-cell immunity (gB, pp65), (2) serum anti-gB antibody titers, (3) other immune correlates and biomarkers
- *Tumor and clinical responses :* Based on MRIs and survival data
- *Quality of life :* Change from baseline

Overview of Immunologic and Tumor Responses in Part A

SAFETY

- VBI-1901 was well-tolerated at all doses, with no safety signals observed
- Grade 2, 3, or 4 adverse events occurred in 66%, 22%, and 11% of participants, respectively – none were related to the vaccine immunotherapeutic

IMMUNOGENICITY AND TUMOR RESPONSES

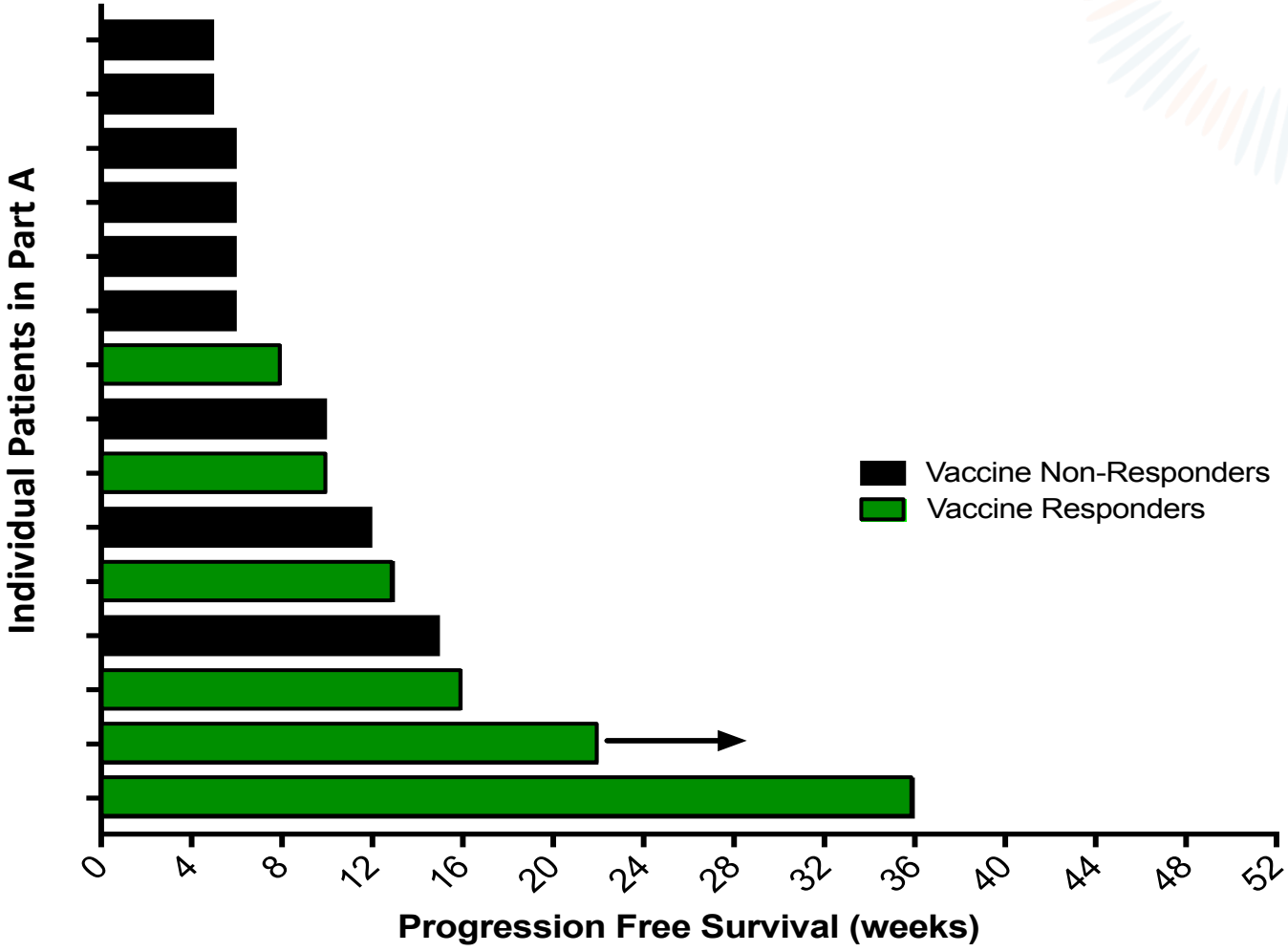
- Six (6) patients immunologically responded to VBI-1901, with evidence of robust boosting of CMV-specific immune responses against both gB and pp65 antigens
- Three out of six (3/6) patients in the high-dose cohort had evidence of stable disease (SD) by magnetic resonance imaging (MRI), compared to one out of six (1/6) in the low-dose cohort and zero out of six (0/6) in the intermediate-dose cohort

CLINICAL RESPONSES – PROGRESSION-FREE SURVIVAL (PFS) & OVERALL SURVIVAL (OS)

- Median PFS was longer among responders (14.5 weeks) vs. non-responders (6 weeks)
- 6-month OS was higher among vaccine responders (100%, n=6/6) compared with vaccine non-responders (63% n=5/8)
- As of November 2019, median OS in the high-dose cohort, and more broadly among vaccine responders, have not been reached

Immunologic Responses vs. Clinical Responses

DATA FROM ASCO 2019 POSTER PRESENTATION

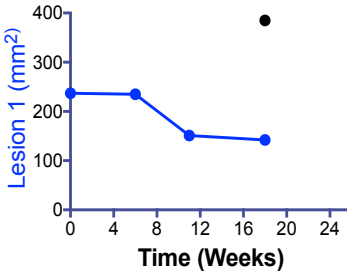


Tumor Response Data

DATA FROM SNO 2019 POSTER PRESENTATION

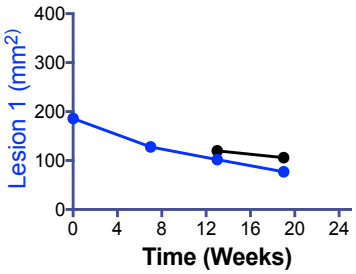
Part A : Tumor Responders in High-Dose Cohort

Subject 03-004
1 recurrence



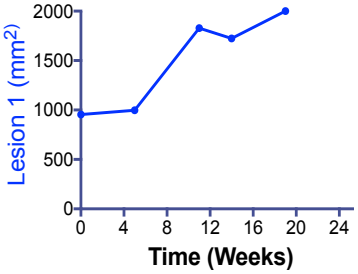
- ~60% reduction seen in Lesion 1
- Lesion 2 appeared after 4.5 months, defined PD per protocol, though patient was clinically stable

Subject 03-006
1 recurrence



- ~60% reduction seen in Lesion 1
- Appearance of Lesion 2 with associated cyst required surgical resection of lesions

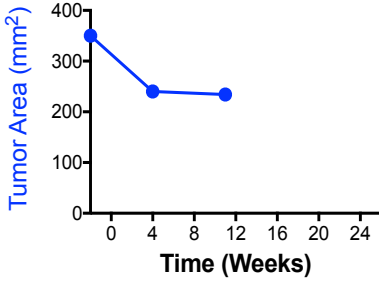
Subject 03-003
1 recurrence



- Initial tumor progression later presumed to be pseudo-progression due to subsequent tumor stabilization (atypical of rGBM)

Part B : Available Data

Subject 04-002
1 recurrence



- ~33% reduction in tumor seen to-date
- Stable Disease (SD) based on 2 consecutive scans

VBI-1901 (GBM) : Program Milestones

- ☑ *November 2018 :* Announcement of initial immunologic data from Part A of the ongoing Phase I/IIa at the Society for Neuro-oncology (SNO) Meeting
- ☑ *December 2018 :* Completion of enrollment in Part A of the Phase I/IIa
- ☑ *June 2019 :* Presentation of expanded immunologic data and tumor and clinical responses at ASCO Annual Meeting
- ☑ *July 2019 :* Initiation of enrollment in Part B of the Phase I/IIa study
- ☑ *September 2019 :* Announcement of GSK collaboration to clinically evaluate VBI-1901 + GSK's $AS01_B$ adjuvant system in additional study arm of ongoing Phase I/IIa study
- ☑ *Q4 2019 :* Initial immunologic data from VBI-1901 + GM-CSF Part B and expanded Part A data expected
- ☐ *Q1 2020 :* Initiation of enrollment in VBI-1901 + GSK's $AS01_B$ study arm expected, subject to FDA acceptance of the amended protocol and investigational site institutional review board approval
- ☐ *H1 2020 :* Expanded immunologic data and clinical and tumor responses expected from VBI-1901 + GM-CSF study arm

CMV eVLP Vaccine – VBI-1501

eVLP vaccine candidate potently expresses a modified-form of the gB antigen, which is functionally differentiated from other gB approaches

Impact and Risks of Cytomegalovirus (CMV)

INFECTIOUS DISEASE

Birth Defects *(Congenital Infection):*

- Congenital CMV is a leading cause of birth defects worldwide
- A first exposure during pregnancy can lead to death, blindness, deafness, and developmental delays of the newborn
- ~30,000 infants are born in U.S. with CMV annually
- 5,000+ will develop permanent impairments (more impacted births than Downs Syndrome)
- Direct economic costs of CMV infection exceeds $3.0B per year in U.S.
- No approved treatment or prevention
- ~$1B U.S. annual market with a $5B catch-up market opportunity

Transplant Rejection/Mortality:

- CMV is also a leading cause of transplant rejection in both the solid organ transplant and the stem-cell transplant settings
- Over 100,000 individuals in the U.S. are on the waiting list to receive a solid-organ transplant
- Matching based on CMV sero-status is not practical given other constraints (e.g. timely organ supply)
- Despite anti-viral pretreatment, CMV status of both recipient and donor still has a major impact on organ and recipient survival

Summary of Phase I Study Results

Phase I Study in 128 CMV-Negative Healthy Adults (18-40 years)

- VBI-1501 is safe and well tolerated at all doses tested, with and without the adjuvant alum, with no concern about evaluating VBI-1501A at higher doses
- VBI-1501A is immunogenic, even at a low dose
  - **gB antibody binding titers** induced at all dose levels, with clear evidence of dose-dependent boosting after each vaccination
  - **Neutralizing antibodies against fibroblast cell infection** were comparable to those from CMV-positive controls in 100% of subjects receiving the highest dose
  - **Neutralizing antibodies against epithelial cell infection** had a correlation with higher gB binding titers and fibroblast cell neutralizing activity, suggesting the modified form of the gB-G used in VBI-1501A qualitatively enriches for functional nAb activity
  - **Highest dose** tested (2.0µg) is 1/10th that of several other licensed VLP-based vaccines and past non-VBI CMV candidates
- There is strong scientific rationale to support that higher doses of VBI-1501A could improve the immunogenicity and efficacy

Summary

VBI Vaccines Leadership

MANAGEMENT

Jeff Baxter
President & CEO
GlaxoSmithKline · THE COLUMN GROUP

Dr. David Anderson, Ph.D.
Chief Scientific Officer
HARVARD MEDICAL SCHOOL

Dr. Francisco Diaz-Mitoma, M.D., Ph.D.
Chief Medical Officer
Lakehead University Laurentian Medicine · AMRIC Advanced Medical Research Institute of Canada

Chris McNulty
Chief Financial Officer
Massachusetts Institute of Technology
genzyme · HARVARD BUSINESS SCHOOL

Nell Beattie
Chief Business Officer
ARTISAN Healthcare Consulting · Tuck School of Business at Dartmouth

Avi Mazaltov
Global Head of Manufacturing
SciVac General Manager
TEVA · omrix Biopharmaceuticals Ltd. a Johnson & Johnson company

BOARD OF DIRECTORS

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GlaxoSmithKline · SANOFI

Blaine H. McKee, Ph.D.
genzyme · Shire · immunogen

Joanne Cordeiro
Shire

VBI Vaccines Global Footprint

HEADQUARTERS – CAMBRIDGE, MA

- CEO, CSO, CFO, CBO + 3 FTEs
- Central location in biotechnology hub

RESEARCH OPERATIONS – OTTAWA, CANADA

- CMO, Finance + ~25 FTEs
- R&D team and facility

MANUFACTURING FACILITY – REHOVOT, ISRAEL

- ~80 FTEs
- GMP manufacturing facility for the production of Sci-B-Vac®

Summary

ANTICIPATED CATALYSTS THROUGH 2020 YEAR-END:

1 ***Sci-B-Vac®*: *Hepatitis B Prophylactic Vaccine***

- *H1 2020 –* Pre-BLA discussion expected with FDA
- *H2 2020 –* Submissions of applications for regulatory approvals in the U.S., Europe, and Canada expected to begin

2 ***VBI-1901*: *GBM Vaccine Immunotherapeutic (Immuno-Oncology)***

- *Q1 2020 –* Initiation of enrollment in VBI-1901 + GSK's $AS01_B$ study arm expected, subject to FDA acceptance of the amended protocol and investigational site institutional review board approval
- *H1 2020 –* Expanded immunologic data and correlations with tumor and clinical responses expected from VBI-1901 + GM-CSF arm in Part B

3 ***VBI-2601*: *Hepatitis B Immunotherapeutic***

- *H2 2020 –* Initial human proof-of-concept Phase Ib/IIa data readout expected

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