VBI VACCINES

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VBI Conference Call

New Preclinical Data and Initiation of VBI-2905 Clinical Study Targeting Broadened Immunity Against COVID-19 and Variants of Concern

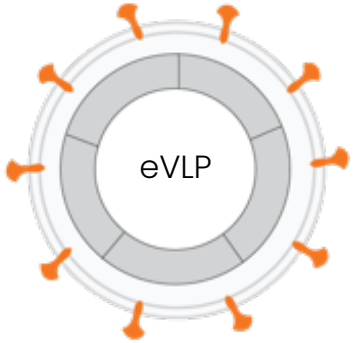
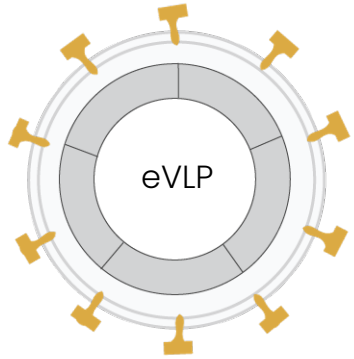
NASDAQ : VBIV

8:30AM ET September 29, 2021

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 impact of the recent COVID-19 outbreak on our clinical studies, manufacturing, business plan and the global economy; 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 March 2, 2021, and filed with the Canadian security authorities at sedar.com on March 2, 2021, 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.

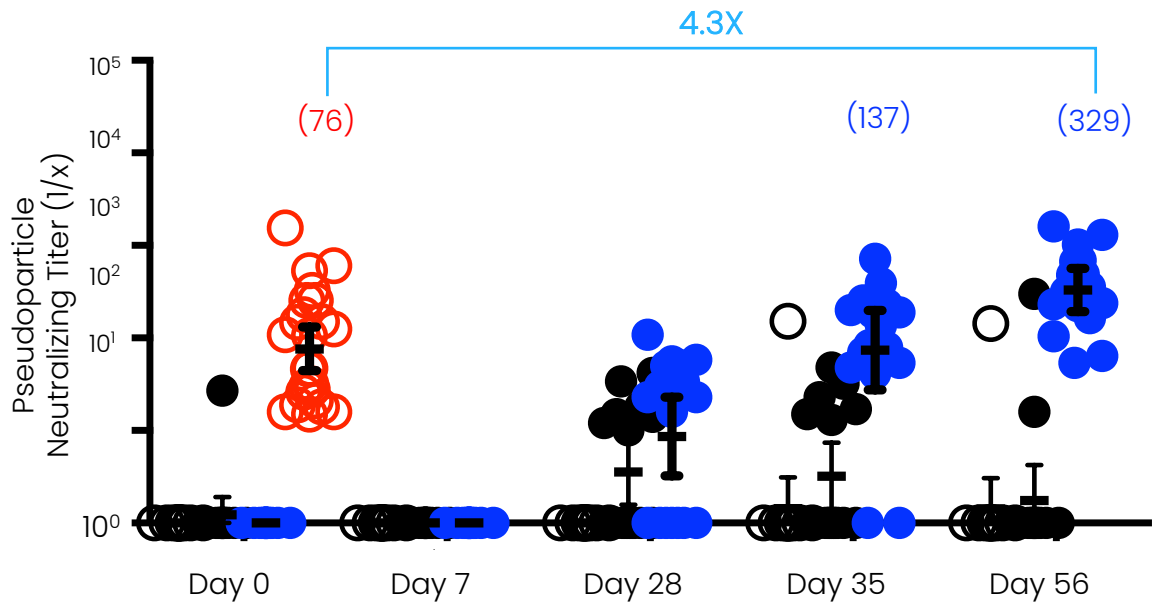
VBI's Coronavirus Pipeline is Being Developed with the Objective to Increase Breadth of Protection Against COVID-19

	VBI-2901 *Trivalent Pan-Coronavirus*	VBI-2902 *Monovalent COVID-19*	VBI-2905 *Monovalent COVID-19 Beta Variant*	Undisclosed *Multivalent Candidates*
Schematic				*A suite of additional multivalent coronavirus vaccine candidates designed to evaluate the potential breadth of VBI's eVLP technology*
Construct Design	Ancestral COVID-19, MERS, SARS spike antigens	Ancestral COVID-19 spike antigen	COVID-19 Beta (B.1.351) spike antigen	Undisclosed

In Phase 1a Clinical Study, VBI-2902 Induced Neutralizing Titers Comparable to Approved mRNA Vaccines

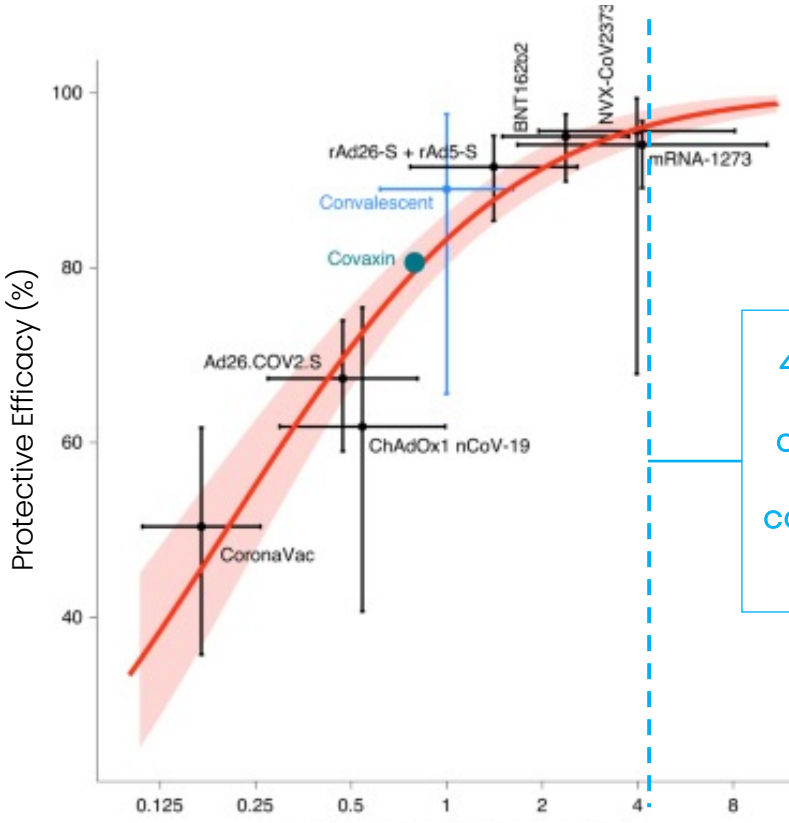
After two doses of 5ug, VBI-2902a elicited neutralizing antibody (nAb) responses 4.3X higher than a panel of convalescent sera, without the use of a next-generation adjuvant

Neutralizing Activity



Convalescent Benchmark : A panel of 25 sera from recovered patients with mild-to-moderate COVID-19

Comparison to Currently Approved Vaccines



4.3x VBI-2902 nAb GMT vs. convalescent sera, comparable to mRNA

Khoury, Nature Medicine, 2021

Note: Data does not include n=11 participants who got vaccinated with a separate COVID-19 vaccine (not VBI-2902) during the study

The Replication of SARS-CoV-2 on a Global Scale Contributes to the Increasing Number of Mutations and Variants of Concern

E484K is an escape mutations and is credited with Beta's vaccine escape

D614G is associated with increased transmission rates and is now fixed in all globally circulating variants of the virus

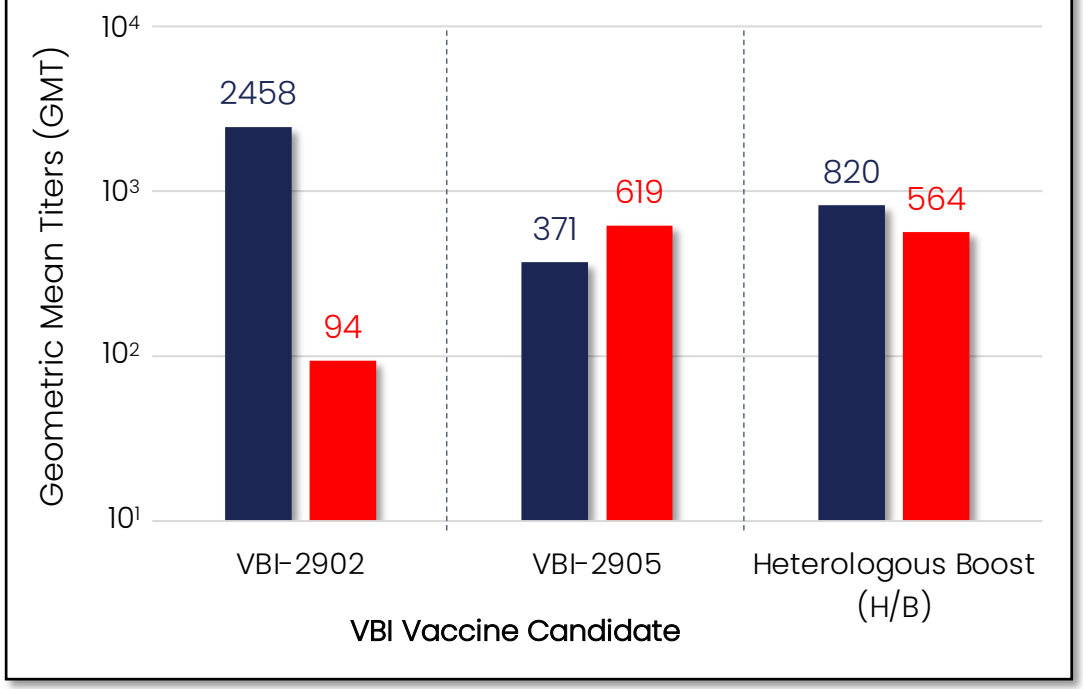
	Alpha (B.1.1.7)	Beta (B.1.351)	Gamma (P.1)	Delta (B.1.617.2)	Kappa (B.1.617.1)	Epsilon (B.1.427/9)	Eta (B.1.525)	Iota (B.1.526)	Lambda (C.37)	Mu (B.1.621)
L18F		✓	✓							
P26S			✓							
H69-	✓						✓			
V70-	✓						✓			
T95I								✓		✓
Y144-	✓						✓			✓S
L241-		✓								
L242-		✓								
A243-		✓								
D253G/N								✓G	✓N	
K417N/T		✓N	✓T							
L452R/Q				✓R	✓R	✓R			✓Q	
E484K/Q		✓K	✓K		✓Q		✓K	✓K		✓K
N501Y	✓	✓	✓							✓
D614G	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P681H/R	✓H			✓R	✓R					✓H
A701V		✓						✓		
D950N				✓						✓
T1027I			✓							
D1118H	✓									
Other Mutations										
	A570D T716I S982A	*D80A D215G*	*T20N D138Y R190S H655Y*	*T19R E156- F157- R158G*	*E154K Q1071H*	*S13I W152C*	*Q52R A67V Q677H F888L*	*L5F*	*G75V T76I R246- R247-*	*Y145N R346K*

Source: https://covariants.org/shared-mutations

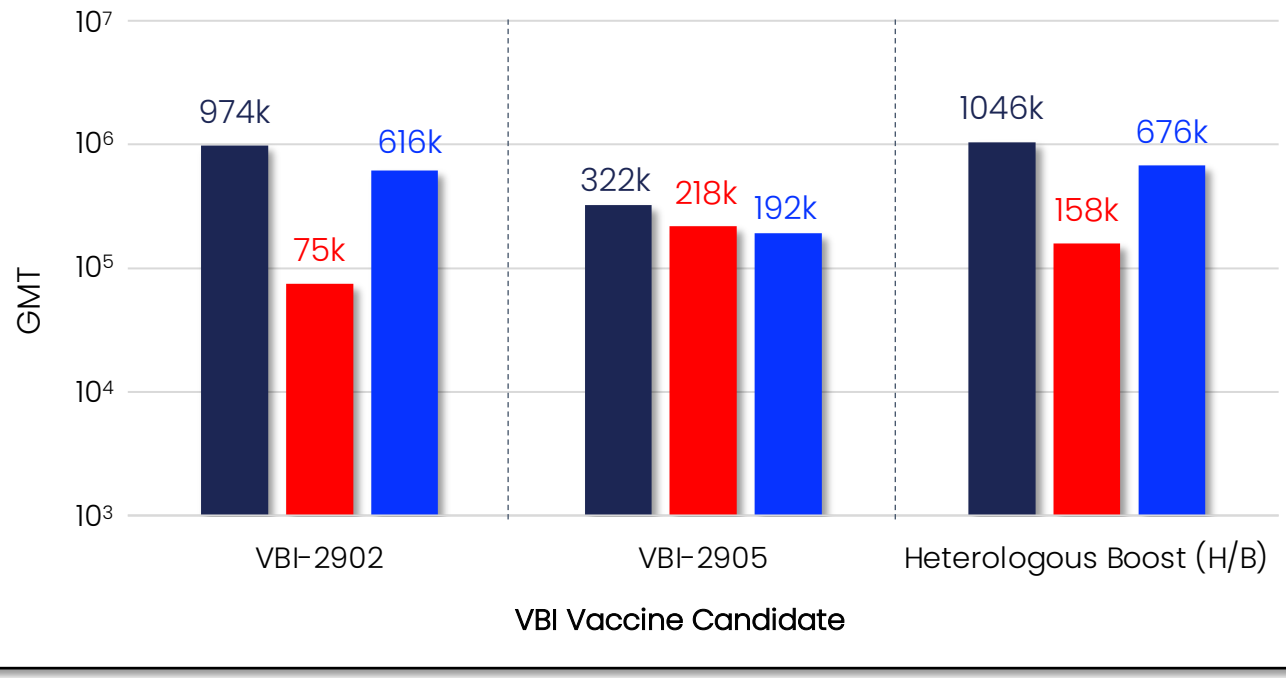
New Preclinical Data Demonstrate Immunogenicity of VBI-2905 as Both a 2-Dose Regimen and 1-Dose Booster

Mice primed with VBI-2902, targeting ancestral SARS-CoV-2, followed by Beta-targeting VBI-2905 (heterologous boost) resulted in robust and balanced immunity across variants

Neutralizing Antibody Activity



Binding Antibody Activity



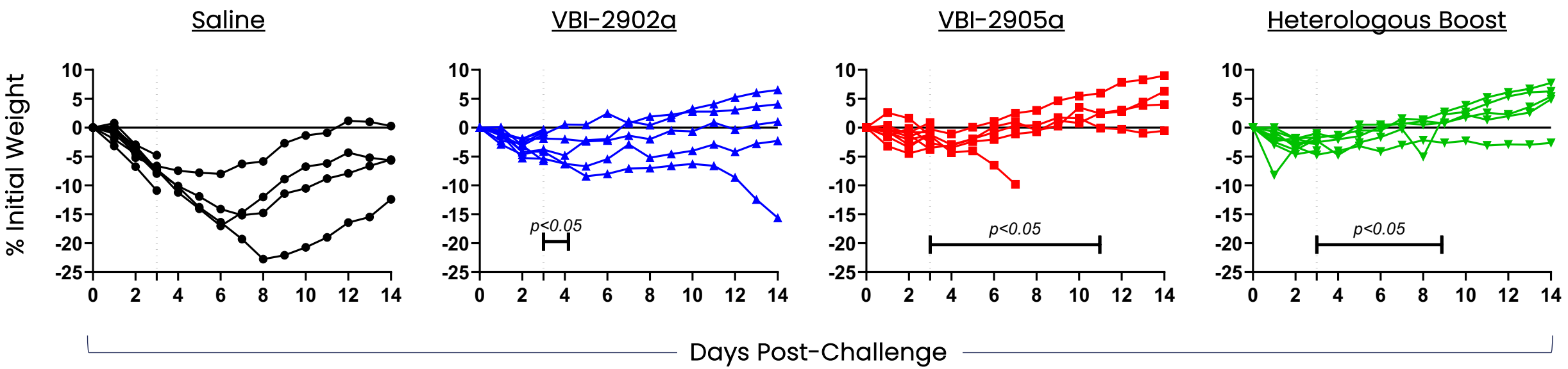
- Ancestral strain
- Beta variant
- Delta variant

Immunogenicity of VBI-2902a and VBI2905a in mice: C57BL/6 mice, 8 per group, received 2 injections 3 weeks apart of VBI-2902a, VBI-2905a, or a first injection of VBI-2902a followed by a second injection of VBI-2905a (heterologous boost), each containing 0.1µg of S. Blood was collected at day 14 after the second injection for monitoring of the humoral response.

Hamster Challenge Data Demonstrate Ability of VBI-2905 to Protect Against Infection from Beta Variant of COVID-19

As observed in previous hamster challenge studies of VBI-2902a, neutralizing antibody titers against the Beta variant correlated with protection of disease (weight loss) after challenge

Prevention of Disease
(Measured by Weight Loss/Regain)

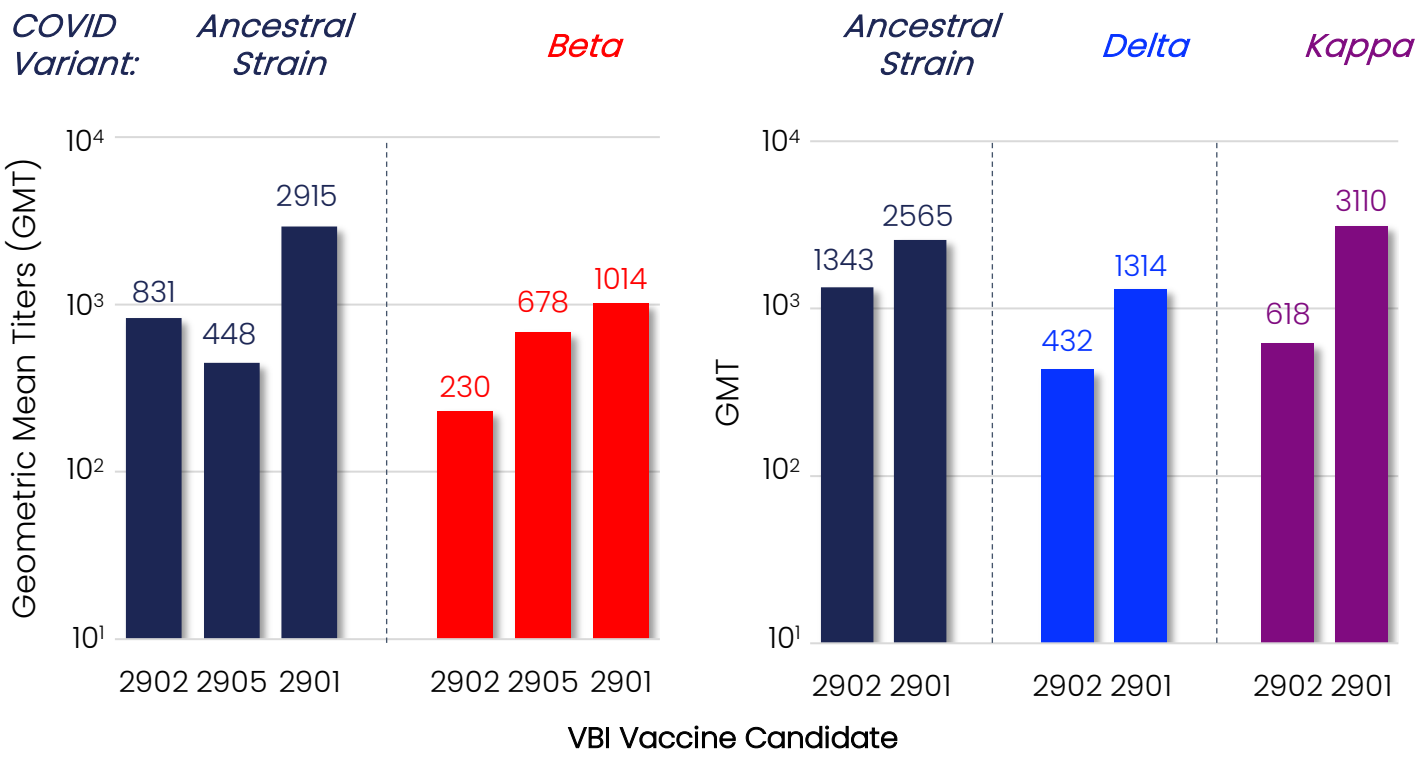


Beta variant challenge in Syrian golden hamsters after immunization with VBI-2902a and VBI-2905a: Four groups of 10 Syrian golden hamsters received 2 IM injections 3 weeks apart of placebo saline buffer (placebo group), VBI-2902a, VBI-2905a, or a first injection of VBI-2902a followed by a second injection of VBI-2905a (heterologous booster), with 1µg of S per dose. Blood was collected 2 weeks after each injection. Three weeks after the last injection (Day 42), hamsters were exposed to SARS-CoV-2 Beta virus at $1x10^5$ TCID50 per animal via both nares.

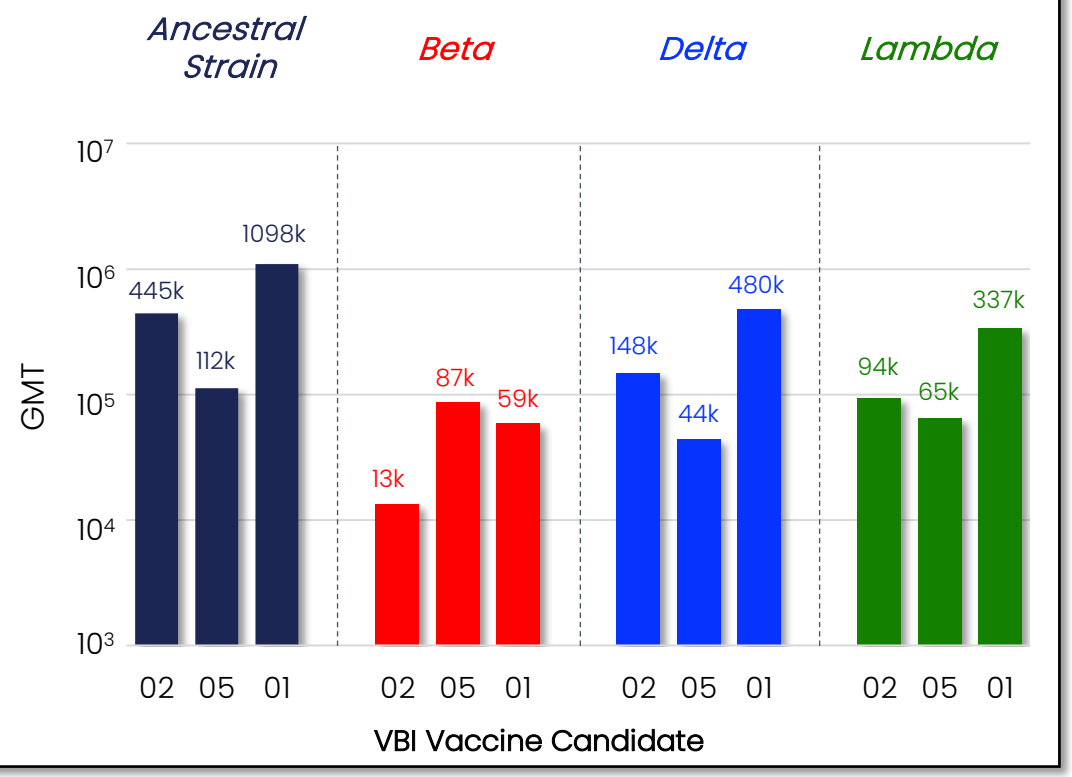
VBI-2901 Induced Robust Antibody and Neutralizing Titers Against an Extended Panel of Variants

VBI-2901 induced higher and more consistent immunogenicity against Beta, Delta, Kappa, and Lambda variants, with evidence for broadening immunity rather than just boosting cross-reactive antibodies

Neutralizing Antibody Activity



Binding Antibody Activity



Immunogenicity of trivalent VBI-2901a: Three groups of 10 mice were immunized with 2 doses of VBI-2901a, VBI-2902a, or VBI-2905a 3 weeks apart. Blood was collected at day 14 after the last injection for monitoring of humoral responses. Neutralization of EPT measured by PRNT90, neutralization of pseudoparticles expressing S from Wu-1, Delta, and Kappa variants are represented as half-maximum inhibitory dilutions (neutralization ID50). Due to technical limitations, only 8 sera per group were tested against Wu-1 and Kappa pseudoparticles and 4 sera against Delta pseudoparticles.

VBI-2905 Phase 1b Study Design & Objectives

Study supported by CEPI collaboration

- Randomized, observer-blind, placebo-controlled Phase 1b study in ~80 healthy adults age 18-54 years
- Key objectives of the study are to assess the safety, tolerability, and immunogenicity of VBI-2905 across two regimens
- 3-arm study :
  - Cohort 1: VBI-2905 5µg – 1 dose booster in previously vaccinated individuals, given at least 4 months post-immunization with an authorized mRNA vaccine
  - Cohort 2: Placebo – 1 dose in previously vaccinated individuals, given at least 4 months post-immunization with an authorized mRNA vaccine
  - Cohort 3: VBI-2905 5µg – 2 doses in unvaccinated individuals administered at Day 1 and Day 28
- The study will enroll subjects at clinical trial sites in Canada and Mexico
- Initial data from the study is expected in early Q1 2022, pending speed of enrollment

Summary & Next Steps

- In addition to developing vaccines to support parts of the world that have not received adequate protection due to limited supply of the ancestral strain vaccines, VBI is working to broaden immunity against COVID-19 and betacoronaviruses through two main approaches:
  - Heterologous boosting (VBI-2905) to induce cross-reactive antibodies capable of protecting against numerous COVID-19 variants
  - Trivalent betacoronavirus eVLP (VBI-2901) capable of broadening antigen specificity (B-cell immunity), resulting in the ability to neutralize variants not included in the vaccine

- VBI's coronavirus pipeline is supported by partnerships with:

CEPI NRC·CNRC Canada RESILIENCE

Upcoming Milestones:

- **Early Q1 2022 :** Data expected from Phase 1b study of VBI-2905, subject to speed of participant enrollment
- **H1 2022 :** Expected initiation of the first clinical study of VBI's multivalent candidate, designed to increase breadth of protection against COVID-19

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