CLOVER BIOPHARMACEUTICALS

Corporate Presentation

June 2022

Disclaimer

This presentation contains certain forward-looking statements and information relating to us and our subsidiaries that are based on the beliefs of our management as well as assumptions made by and information currently available to our management. When used, the words "aim," "anticipate," "believe," "could," "estimate," "expect," "going forward," "intend," "may," "might," "ought to," "plan," "potential," "predict," "project," "seek," "should," "will," "would" and the negative of these words and other similar expressions, as they relate to us or our management, are intended to identify forward-looking statements.

Forward-looking statements are based on our current expectations and assumptions regarding our business, the economy and other future conditions. We give no assurance that these expectations and assumptions will prove to have been correct. Because forward-looking statements relate to the future, they are participant to inherent uncertainties, risks and changes in circumstances that are difficult to predict. Our results may differ materially from those contemplated by the forward-looking statements. They are neither statements of historical fact nor guarantees or assurances of future performance. We caution you therefore against placing undue reliance on any of these forward-looking statements. Any forward-looking statement made by us in this document speaks only as of the date on which it is made. Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. Participant to the requirements of applicable laws, rules and regulations, we undertake no obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise. All forward-looking statements contained in this document are qualified by reference to this cautionary statement.

Clover is a Global Innovative Biotechnology Company that Aspires to Empower Humanity with a Healthier Future Through Transformative Science

June 2022

-- Corporate Snapshot --

Validated Trimer-Tag™ Technology Platform

Establishment of **Additional Drug Discovery Platforms** Ongoing (including monoclonal antibody and in-house vaccine adjuvant)

Global rights to all pipeline programs

Focused on Vaccines & Oncology (Disease Immunology)

COVID-19 Vaccine Candidates

SCB-2019 (CpG 1018/Alum) (Prototype S-Trimer™)
SCB-2020S (Beta/Prototype Chimeric S-Trimer™)
Bivalent (Omicron + Prototype S-Trimer™)

Oncology

SCB-313 (Intracavitary Malignancies)
SCB-219M (Chemotherapy-Induced Thrombocytopenia)

840+ FTEs Across **15 Countries** (As of May 31, 2022)

~$420 Million **Cash & Cash Equivalents** As of Dec 31, 2021 (RMB 2.77 Billion)

-- SCB-2019 (CpG 1018/Alum): *Potentially Differentiated COVID-19 Vaccine Candidate* --

Attractive Product Profile for Global Markets as a Universal Booster & for Primary Vaccination

High & Durable Vaccine Efficacy
(100% Efficacy Against Severe COVID-19 & Hospitalization | Durable Efficacy at 5-Months)

Potential Best-in-Field Safety
(Favorable Safety & Reactogenicity Profile)

Convenient Storage & Distribution
(Stable at 2-8ºC Refrigeration and Room Temperature)

Global Collaborations

- **Up to $397.4 million** grant funding from CEPI
- **Advanced Purchase Agreement (APA)** signed with Gavi to supply **up to over 400 million doses** to the COVAX facility for global distribution

Regulatory Submissions & Commercial Launch

- Rolling Regulatory Submissions anticipated to be completed in **Second Half of 2022** for the **China NMPA, EMA and WHO**
- **Product launches** commencing thereafter upon receiving conditional approvals

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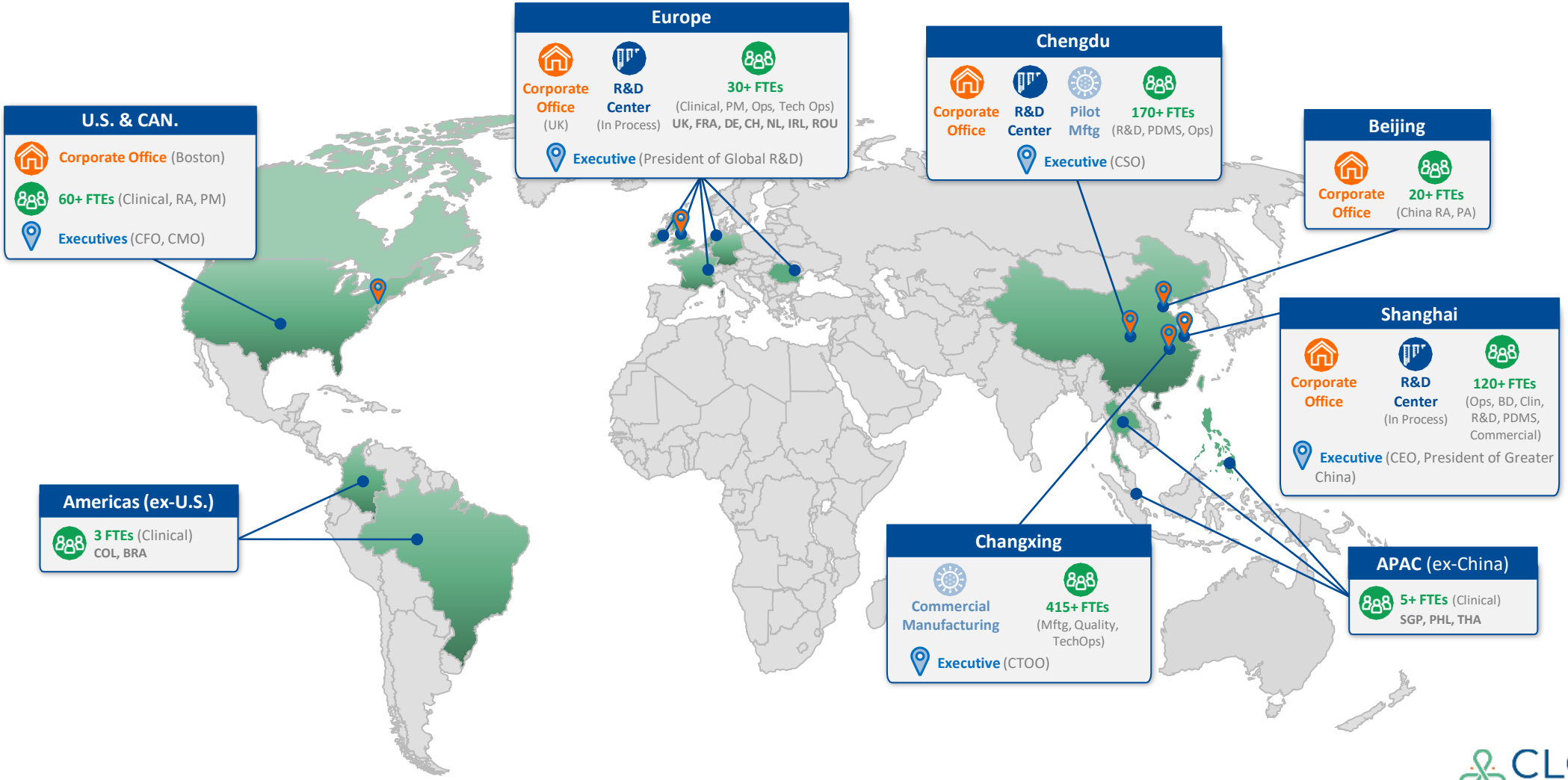
Global Footprint: Business & Leadership Without Borders

June 2022

Integrated R&D, Manufacturing & Global Clinical Development Capabilities

840+ FTEs (in 15 Countries) | **5 Corporate Offices** | **2 Manufacturing Facilities** | **3 R&D Centers**



Note: As of 05/31/2022.

CLOVER BIOPHARMACEUTICALS

Diverse Global Leadership Team with Proven Expertise

June 2022

CEO

Joshua Liang
Chief Executive Officer (CEO) & Executive Director of the Board
CENTERVIEW, Wharton

Founders

Peng Liang, PhD
Founder, Chairman of the Board & Chief Scientific Officer
GenHunter, Harvard Medical School, Vanderbilt

Xiaodong Wang, PhD
Non-executive Director
BeiGene, NIBS, HHMI, National Academy of Sciences

R&D | Tech Ops Leaders

Nicholas Jackson, PhD
President of Global R&D
CEPI, Sanofi

LiongHo Chua
President of Greater China
ATM, Sanofi, Gilead

Htay Htay Han, MBBS
Chief Medical Officer - Vaccines (CMO)
Takeda, gsk

Mike Berry, PhD
Chief Technical Operations Officer (CTOO)
Dynavax, Novartis

Alan Liss, PhD
EVP, Regulatory Affairs & Quality
FDA, CEPI

Yang Li, PhD
SVP, Process Development & Manufacturing Sciences
Celgene, Bristol Myers Squibb

Qi Liang, PhD
SVP, Antibody Discovery
kymab, Sanofi

Igor Smolenov, MD PhD
SVP, Global Clinical Development - Vaccines
moderna, gsk

Helena Tong, PhD
SVP, Global Regulatory Affairs
WuXi Biologics, Pfizer

Tracy Wang
SVP, Head of China Regulatory Affairs
parexel, Sanofi

Derek Xu, MD
SVP, Clinical Operations - Oncology
Roche, Bayer

Rong Xu, MD, PhD
SVP, Vaccine Research
Sabin, Pfizer

Corporate Leaders

Phillip Lee
Chief Financial Officer & Chief Operating Officer
4DMT, Cytokinetics, CENTERVIEW

Brian Krex
General Counsel
agtc, Alexion, Pfizer

Abigail Bracha, PhD
SVP, Corporate Strategy & Business Development
Rubius Therapeutics, GE

Lily Yang
SVP, Human Resources
wework, Nike

Andrew Baker
SVP, Global Procurement
gsk

Cindy Min
SVP, Public Affairs
janssen, Novartis, Ogilvy

Naomi Eichenbaum
VP, Investor Relations
GENFIT, Solebury Trout

Aileen Wang
VP, Finance
Novartis, G, M

Board of Directors*

Jeffrey Farrow
Independent Non-Executive Director (INED)
GBT, ZS

Thomas Leggett
Independent Non-Executive Director (INED)
affinia Therapeutics, Black Diamond Therapeutics

Xiang (Sam) Liao
Independent Non-Executive Director (INED)
Novartis, Sanofi

Dong Lyu
Non-Executive Director (NED)
Hillhouse, PAG

Xiaobin Wu, PhD
Independent Non-Executive Director (INED)
BeiGene, Pfizer

*Board members in addition to the CEO and Founders.

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Vaccine Scientific Advisory Board (SAB)

June 2022

Industry-leading advisors across a broad range of expertise | Advise and guide overall global COVID-19 vaccine development strategy

SAB Chairman

Ralf Clemens MD/PhD

Chairman of SAB

- 30+ years in vaccine development
- Former Senior Vice President / Global Head of Vaccine Development at Takeda, Novartis Vaccines and GSK
- Member of Board of Trustees of International Vaccine Institute
- Advisor, Bill & Melinda Gates Foundation (BMGF)

SAB Members

Kaia Agarwal

Reg Affairs Advisor

- Former VP, Global Head of Reg Affairs, Novartis Vaccines
- Former VP, Reg Affairs, Genzyme

Donna Ambrosino MD

Research Advisor

- Scientific Advisor, BMGF & CEPI
- Former CEO, Mass Biologics
- Former Assoc. Professor of Pediatrics, Harvard

Sue Ann Costa Clemens

Clinical Dev Advisor

- Visiting Professor of Global Health, Oxford University
- Professor & Head of Institute for Global Health, Universita di Siena
- Former VP of Vaccine Dev (Latin America), GSK

Pierre Desmons PhD

CMC Advisor

- Former VP, Head of R&D China, GSK
- Former Head of Asia Strategic Partnership, GSK

Adrian McDermott PhD

Immunology Advisor

- Chief of Vaccine Immunology Program, NIAID
- Former Director, Immunology Core Lab, NIAID
- Former Director, Immunology & Vaccines, IAVI

Michael Pfleiderer PhD

Reg Affairs Advisor

- Former Head of Viral Vaccines Section, Paul Ehrlich Institut (PEI)
- Former Chair of Pandemic Task Force, EMA

Antoinette Quinsaat

Project Mgmt Advisor

- Former Head of Clinical Operations (Intl.), GSK and Novartis Vaccines
- Former Head of Study Mgmt (APAC), Sanofi

Peter Richmond

Medical Advisor

- Head of Pediatrics University of W. Australia
- Head, Vaccine Trials Group, Telethon Kids Institute

Frank Rockhold MD

Biostatistics Advisor

- Professor, Biostatistics & Bioinformatics, Duke
- Former SVP & Chief Safety Officer, GSK

David Salisbury

Public Health Advisor

- Former Director of Immunization, Department of Health (London)
- Former Chair, Strategic Advisory Group on Immunization, WHO

George Siber MD

Research Advisor

- Co-Founder & Board Member, Affinivax
- Former EVP & CSO, Wyeth Vaccines
- Former Asocociate Professor, Infectious Diseases, Harvard

Nelson Teich MD

Public Health Advisor

- Former Minister of Health, Brazil
- Founder & Former President, Integrated Clinical Oncology Group (COI)

Anh Wartel MD

Clinical Dev Advisor

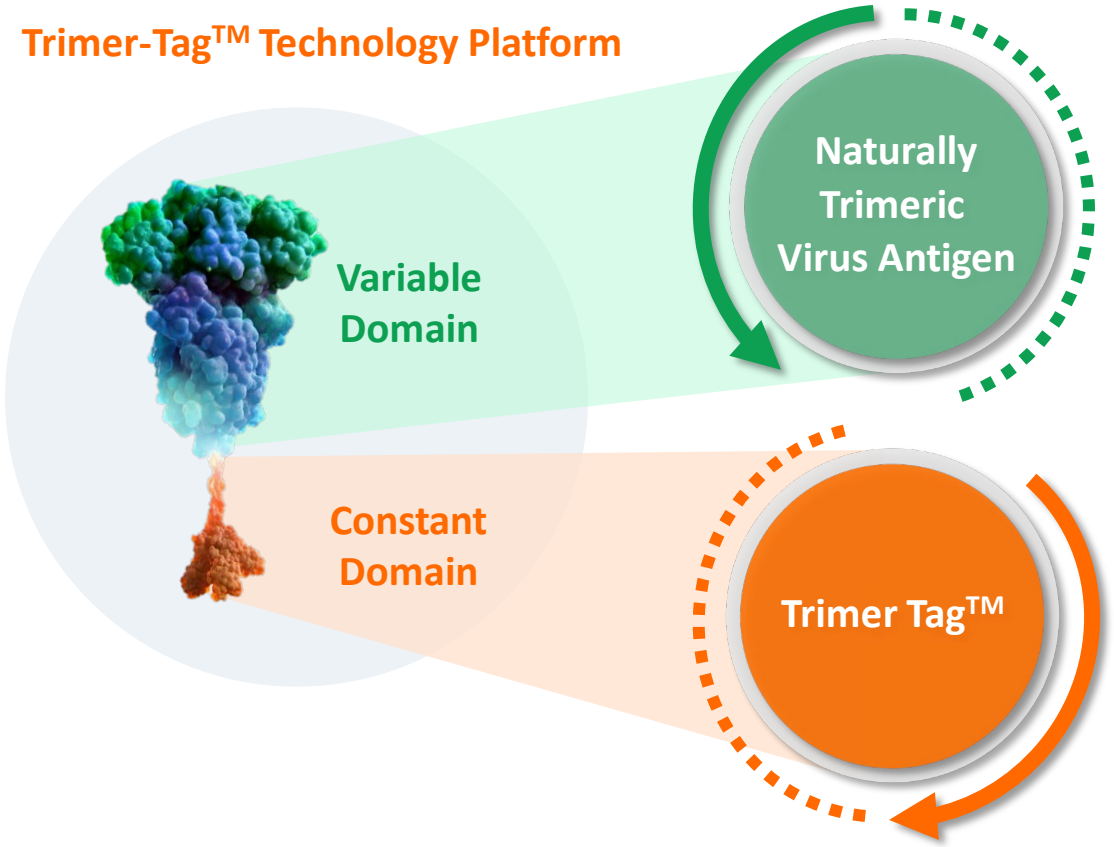
- Deputy Director General, International Vaccine Institute (IVI)
- Former Country Medical Head (Vietnam/ Cambodia), Sanofi

Trimer-Tag™ Technology Platform for Vaccine Development

June 2022

- Platform for development of **protein-based vaccines** based on **naturally trimerization-dependent targets**
- **Only technology platform globally** for producing recombinant covalently-trimerized antigens utilizing a **human-derived trimerization tag**
- **Platform validated** by COVID-19 vaccine (SCB-2019) in global Phase 2/3 trial for efficacy & safety

Trimer-Tag™ Technology Platform



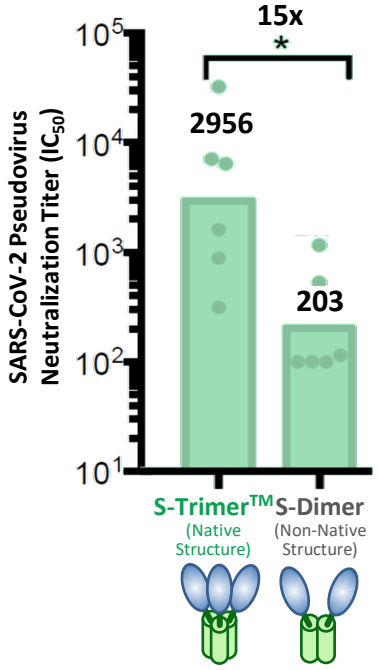
20+ Potential Vaccine Targets

Coronavirus	Influenza	Ebola
Rabies	RSV	HIV
Togavirus	Measles/ Mumps	LASV

- ✓ **Trimerizes* any protein of interest**
- ✓ **Achieves stable** covalently-linked and **native-like trimeric structures** of virus antigens
- ✓ **Human-derived**, contributing to favorable safety profile and no ADA observed in Phase 2/3 for SCB-2019 (CpG 1018/Alum)
- ✓ **Secreted** trimeric fusion proteins produced in mammalian cells; **affinity-purification** achieves high antigen purity

Strong Neutralizing Immune Responses

Trimer-Tagged Native-Like Spike Antigens Induce Superior Immune Responses Compared to Non-Native Conformations (e.g. Dimeric Spike) [1]



Note: Representative list of viruses with naturally trimeric spike antigens is illustrative and not exhaustive. Abbreviation: ADA (Anti-Drug Antibodies).

* A "trimer" refers to a molecule or an anion formed by combination or association of three molecules or ions of the same substance. Trimerization is a chemical reaction that uses three identical molecules to produce a single trimer. Proteins that are created through the joining of two or more genes that originally coded for separate proteins and consist of three identical simpler parts are referred to as "trimeric fusion proteins". Trimerization tag refers to a protein tag from the C-propeptide domain of procollagen (Trimer-Tag™), which is capable of self-assembly into a disulfide bond-linked trimer.

(1) SARS-CoV-2 pseudovirus neutralizing antibody responses in mice vaccinated with two doses of S-Trimer™ (Trimer-Tagged SARS-CoV-2 spike protein) or S-Dimer (Fc-Tagged SARS-CoV-2 spike protein) on Days 0 and 21. Data based on sera collected on Day 35 (14 days after second dose).

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Strong Commercial Manufacturing Capabilities

June 2022

Commercial Manufacturing Infrastructure Established | Building a Global CDMO Network

In-house Commercial Manufacturing Facility (Changxing, Zhejiang Province)

- **4 x 2,000L bioreactor capacity** and **commercial-scale fill-finish lines** installed & qualified
- Received **Pharmaceutical Manufacturing Permit** from Zhejiang Medical Products Administration to produce SCB-2019 (CpG 1018/Alum); received **QP Declaration** certifying facility compliant with EU GMP standards
- Supplied clinical trial material SCB-2019 (CpG 1018/Alum) for **global Phase 2/3** SPECTRA trial
- Capacity to potentially produce **hundreds of millions of doses** of SCB-2019 (CpG 1018/Alum) annually at peak

Global CDMO Network Established with Experienced, High-Quality Partners (WuXi Vaccines BIOFABRI)

- CDMO partners (China & Ex-China) with GMP sites with **strong track record** in vaccines/biologics manufacturing and global regulatory inspection experience (EMA, FDA and/or WHO)
- **Technology transfer activities** from Clover to WuXi Vaccines and BioFabri (Spain) currently ongoing
- Capacity to potentially produce **hundreds of millions of doses** of SCB-2019 (CpG 1018/Alum) annually at peak

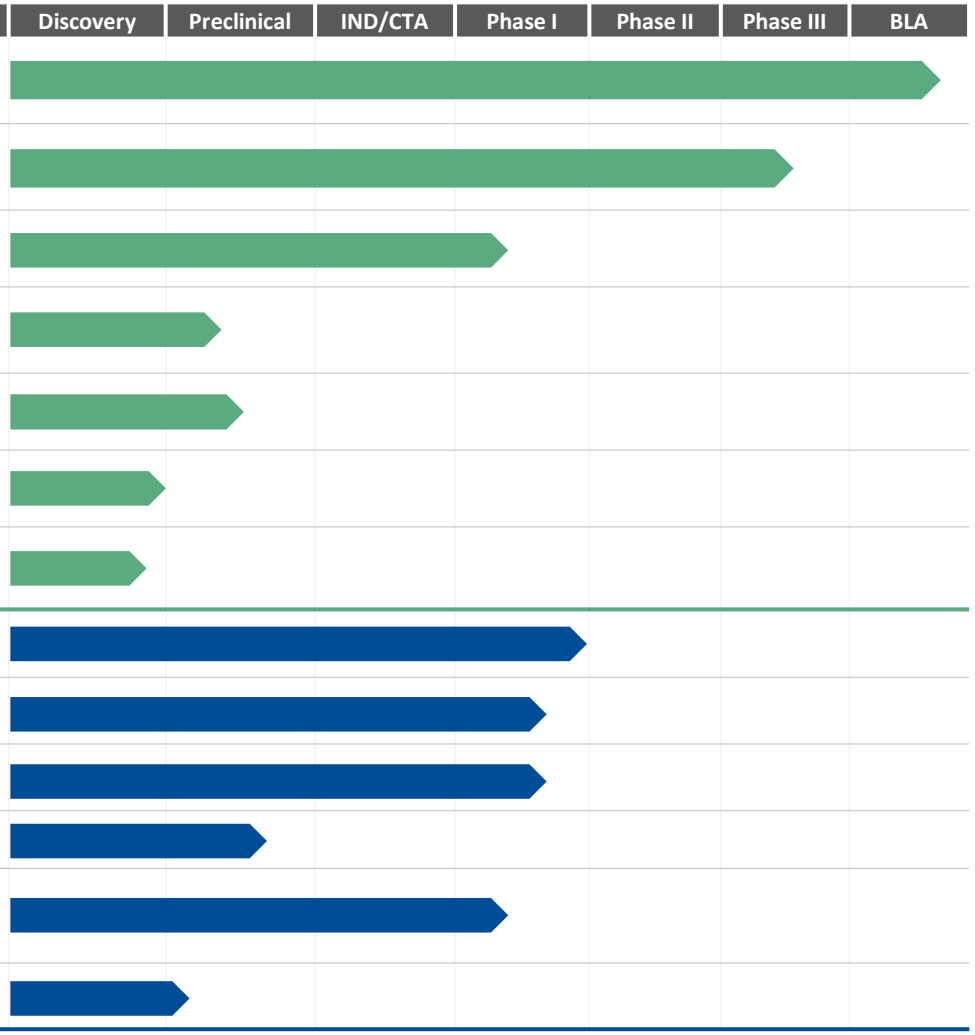
Abbreviation: CDMO (Contract Development & Manufacturing Organization).

Robust Pipeline of Innovative Vaccine & Oncology Candidates

June 2022

Key Milestones In 2022: COVID-19 Vaccine (SCB-2019) to Enter Commercial Stage Globally | 2+ New Clinical Stage Programs (SCB-2020S / SCB-219M)

Assets	Product Candidate	Target	Indication
Vaccines	SCB-2019 (CpG 1018/Alum) (1)	SARS-CoV-2 S-Trimer™ (Original Strain)	COVID-19 Primary Vaccination
			COVID-19 Universal Booster
	SCB-2020S (CAS-1) (2)	SARS-CoV-2 S-Trimer™ (B.1.351 variant chimera)	COVID-19
	Bivalent COVID-19 Vaccine(3) (SCB-2019 + SCB-2022B)	SARS-CoV-2 S-Trimers™ (Original + Omicron)	COVID-19
	Rabies Vaccine(3)	RABV G-Trimer	Rabies
	RSV Vaccine(3)	RSV F-Trimer	RSV
	Influenza Vaccine(3)	HA-Trimers	Quadrivalent Seasonal Flu Pandemic Flu
Oncology	SCB-313(4)	TRAIL-Trimer	Malignant Ascites
			Malignant Pleural Effusion
			Peritoneal Carcinomatosis
		+ APG-1387 (Ascentage) IAP Antagonist Combo (5)	Peritoneal Carcinomatosis
	SCB-219M(6)	TPO Mimetic Bispecific-Fc	Chemotherapy-Induced Thrombocytopenia (CIT)
	Undisclosed(7)	4-1BB x Undisclosed Bispecific Trimer	Immuno-Oncology



(1) COVID-19 vaccine candidate. Announced on September 2021 SPECTRA met the primary and secondary efficacy endpoints. We expect to obtain conditional approvals in 2022 and commence product launch soon after. **(2)** SCB-2020S antigen is a chimeric SARS-CoV-2 spike protein based on the RBD of Beta variant and the NTD of the original strain. This candidate will be evaluated with CAS-1, an in-house developed oil-in-water emulsion-based adjuvant. **(3)** Other vaccine candidates in early-stage development. **(4)** Our oncology product candidate for the treatment of malignant ascites (MA), malignant pleural effusions (MPE), and peritoneal carcinomatosis (PC) to address global unmet medical need of intracavitary malignancies. Currently, continued internal development has been paused and pending further assessment of development strategy and resource allocation. **(5)** On December 9th 2021, we entered a partnership with Ascentage to jointly conduct Phase 1b/2 study to evaluate the safety, tolerability, pharmacokinetics/pharmacodynamics (PK/PD), and efficacy of SCB-313 in combination with APG-1387 for the treatment of patients with primary or secondary peritoneal carcinomatosis. **(6)** Fc-Fusion product candidate for CIT, received IND approval from NMPA in December 2021. **(7)** This oncology product candidate is in early-stage development, and we are still assessing the target indication(s) for this product.

Clover's COVID-19 Vaccine Candidate: SCB-2019 (CpG 1018/Alum)

June 2022

-- SCB-2019 (CpG 1018/Alum) Vaccine Design --

- **Adjuvanted Protein-Based COVID-19 Vaccine Candidate**: SCB-2019 antigen (30 µg/dose) in combination with CpG 1018 adjuvant and aluminum hydroxide (alum)
- SCB-2019 is a recombinant SARS-CoV-2 Spike (S) protein, preserved in the native trimeric prefusion conformation form utilizing **Trimer-Tag™ technology platform**

SCB-2019 Antigen Structure

S1

S2

Prefusion Spike (S) Protein of SARS-CoV-2 Original Strain

Trimer-Tag™

-- Global Collaborations Established --

- **Up to $397.4 million** grant funding by CEPI
- Clinical & commercial supply agreements with DYNAVAX for **CpG 1018 adjuvant supply**
- **Advanced Purchase Agreement (APA)** signed with Gavi The Vaccine Alliance to supply **up to over 400 million doses (64 million committed doses)** to COVAX facility for global distribution

-- Product Differentiation --

High & Durable Vaccine Efficacy
(100% Efficacy Against Severe COVID-19 & Hospitalization | Durable Efficacy at 5-Months)

Potential Best-in-Field Safety
(Favorable Safety & Reactogenicity Profile)

Convenient Storage & Distribution
(Stable at 2-8°C Refrigeration and Room Temperature)

Attractive Product Profile for Global Markets for Primary Vaccination and as a Universal Booster

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SCB-2019 (CpG 1018/Alum) Development Status

June 2022

Primary Vaccination: **Positive Ph 2/3 efficacy & safety established in adults & elderly**; data in **adolescents** in **2022**

Universal Booster: **Positive initial booster data**; multiple **data readouts in 2022** & **to be included in regulatory submissions**

			Phase (Location)	Planning/ IND/CTA	Recruiting	Data	Milestones
Primary Vaccination	**Naïve Populations** (No Prior Vaccination or SARS-CoV-2 Infection)	**Adult & Elderly** (18+ Years)	**Phase 2/3** SPECTRA (Global)	N = 30,000+ (1)			SEP-2021: Final Efficacy Data Reported ☑ **High Efficacy + Favorable Safety**
			Phase 2 (China)	N = 650+			Study Enrollment Completed
		Adolescents (12-18 Years)	**Phase 2/3** SPECTRA (Global)	N = 1,250+			Immunogenicity & Safety **Data Expected Q3:2022**
		Pediatrics (<12 Years)	**Phase 3** (Global)	Planned			Pediatric Investigation Plan (PIP) approved by EMA Pediatric Committee
Universal Booster	**Heterologous Booster**	**Prior SARS-CoV-2 Infection**	**Phase 2/3** SPECTRA (Global)	N = 14,500+ (1)			SEP-2021: Final Efficacy Data Reported ☑ **Strong Boosting (incl. Omicron)+High Efficacy**
		Prior AstraZeneca Vaccination (Viral Vector Vaccine)	**Phase 2** Investigator-Initiated (Brazil)	N = 120+			1H-2022: Initial Results Reported ☑ **Strong Boosting Response (incl. Omicron)**
		Prior CoronaVac Vaccination (Inactivated Vaccine)	**Phase 3** (Global)	3rd Dose (2) N = 400+	*Initiating Enrollment June 2022*		Immuno & Safety **Data Expected Q3:2022**
				4th Dose (3) N = 300	*Initiating Enrollment 2H 2022*		Immuno & Safety **Data Expected Q4:2022**
		Prior Pfizer Vaccination (mRNA Vaccine)	**Phase 3** (Global)	N = 400+	*Initiating Enrollment June 2022*		Immunogenicity & Safety **Data Expected Q3:2022**
	Homologous Booster	**Prior SCB-2019 Vaccination** (Protein-Based Vaccine)	**Phase 2/3** SPECTRA (Global)	N = 2,750+			1H-2022: Initial Results Reported ☑ **Strong Boosting Response (& Omicron data expected Mid '22)**

(1) 30,128 total adult & elderly participants enrolled in Phase 2/3 SPECTRA trial, including 14,622 participants with evidence prior of SARS-CoV-2 infection.
(2) SCB-2019 (CpG 1018/Alum) given as a booster dose (3rd dose) in individuals previously receiving 2 doses of CoronaVac.
(3) SCB-2019 (CpG 1018/Alum) given as a booster dose (4th dose) in individuals previously receiving 3 doses of CoronaVac.
(4) Further clinical data is expected in the middle of 2022.

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Primary Vaccination: Key Takeaways from Global Phase 2/3 SPECTRA Trial

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SPECTRA Established Efficacy of SCB-2019 (CpG 1018/Alum) Against COVID-19 with a Favorable Safety Profile

Study Snapshot

<6 Months From enrollment initiation until final efficacy data announced

Mar 24, 2021 Initiated Enrollment
Sep 22, 2021 Final Data Announced

30,000+ Participants Enrolled (Adult & Elderly)

4 Continents, 5 Countries

Belgium, Colombia, Brazil, South Africa, Philippines

*Strong geographic and ethnic **diversity***

100% of **SARS-CoV-2 strains** observed **were variants** (multiple variants of concern & interest)

Delta was **predominant strain**

Final Efficacy Data (Reported September 2021)

- **Primary & Secondary Efficacy Endpoints Successfully Met**
- **100% Efficacy Against Severe COVID-19 & Hospitalization**, 84% efficacy against moderate-to-severe COVID-19, 67% efficacy against COVID-19 of any severity caused by any strain of SARS-CoV-2 in SPECTRA
- **79% Efficacy Against COVID-19 of Any Severity** caused by **Delta**
- **Favorable Safety Profile:** No significant differences in systemic solicited adverse events (AEs) or severe/serious adverse events (SAEs) compared to placebo

Follow-Up Efficacy at 5-Months After Primary Vaccination (Reported March 2022)

- **100% Efficacy Maintained Against Severe COVID-19**
- **95% Efficacy Against Hospitalization** Associated With COVID-19
- **No Safety Concerns** Observed

Notes: Final efficacy data represents average follow-up of approximately 54 days after second dose.

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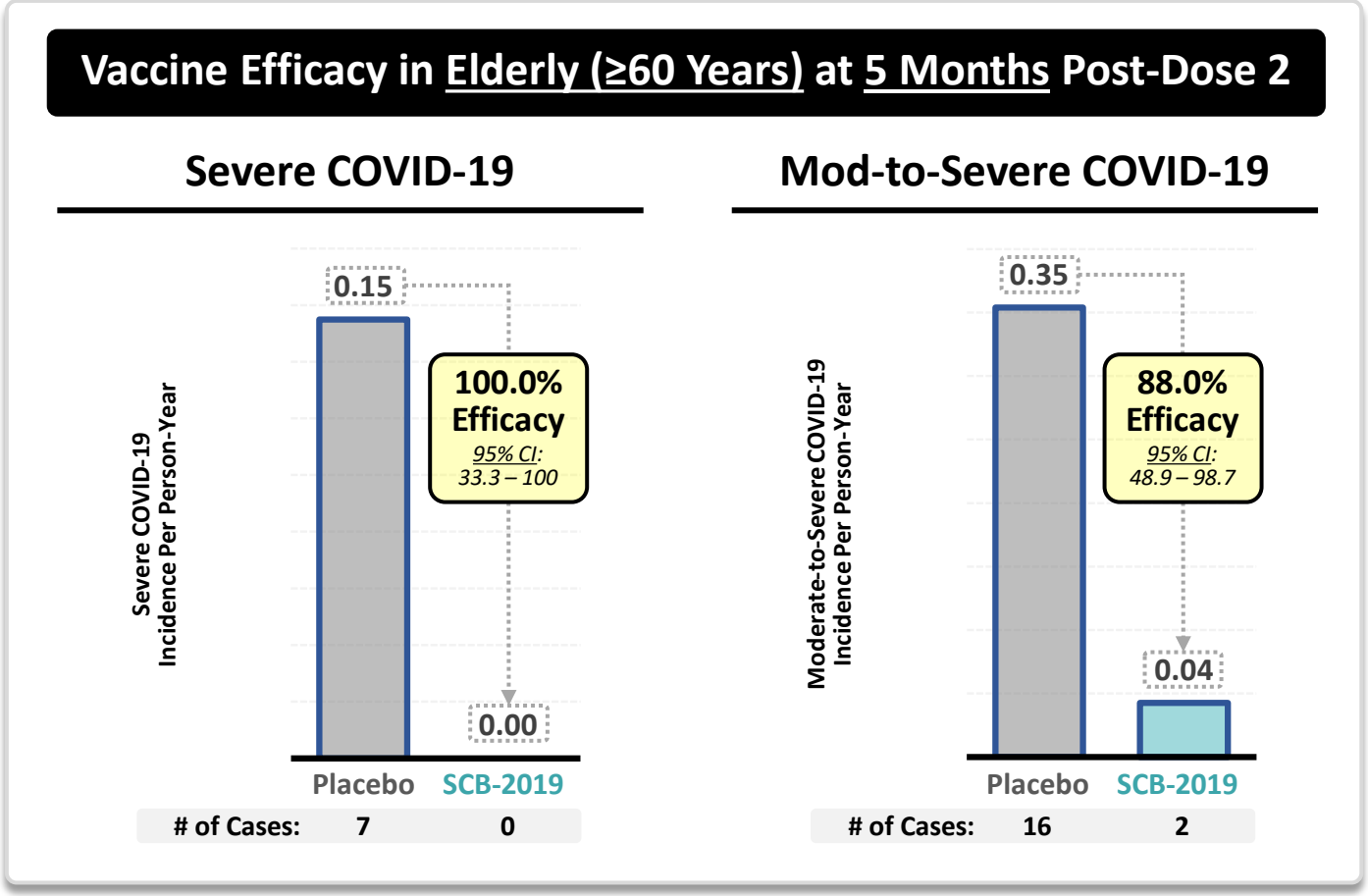
Primary Vaccination: High & Durable Efficacy in Elderly Population

- ✓ 100% efficacy against severe COVID-19 in elderly at 5-months after second dose
- ✓ 88% efficacy against moderate-to-severe COVID-19 in elderly at 5-months after second dose



Notes: Figures show data for PCR-confirmed COVID-19 (caused by any strain of SARS-CoV-2) starting from ≥14 days after second dose in participants without evidence of prior SARS-CoV-2 infection (baseline seronegative). Data shown represents average follow-up of approximately 5 months after second dose.

Primary Vaccination: Potential Best-in-Field Safety Profile

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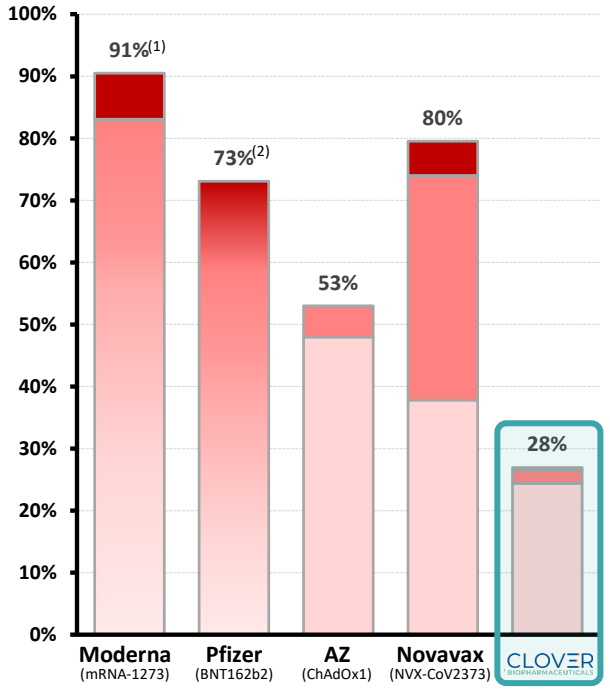
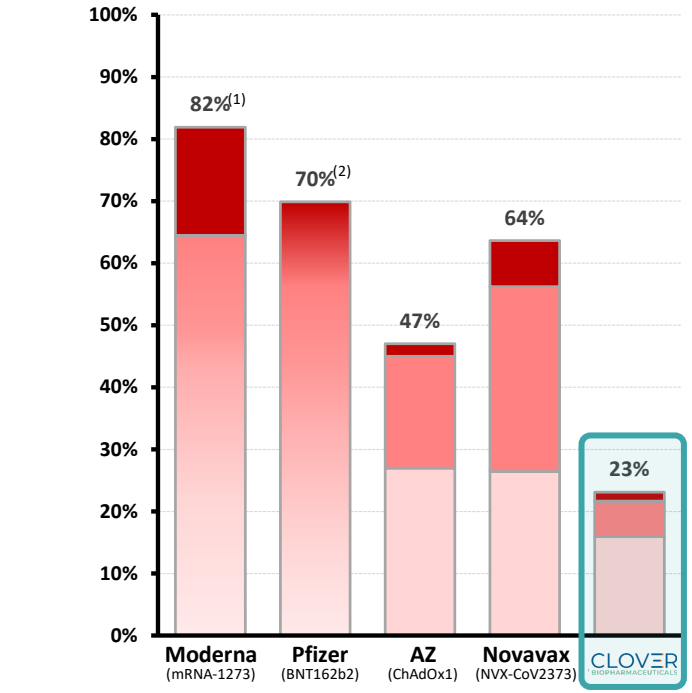
Any LOCAL AEs (After 2nd Dose)
% of Participants



	Moderna (mRNA-1273)	Pfizer (BNT162b2)	AZ (ChAdOx1)	Novavax (NVX-CoV2373)	CLOVER BIOPHARMACEUTICALS
Subject Age (Data):	18-64	≥18	≥18	≥18	≥18
Clinical Trial:	Phase 3	Phase 2/3	Phase 3	Phase 3	Phase 2/3
# Enrolled (Vaccine):	15,208	21,823	21,635	7,020	15,064
Reference:	[1]	[2]	[3]	[4]	--

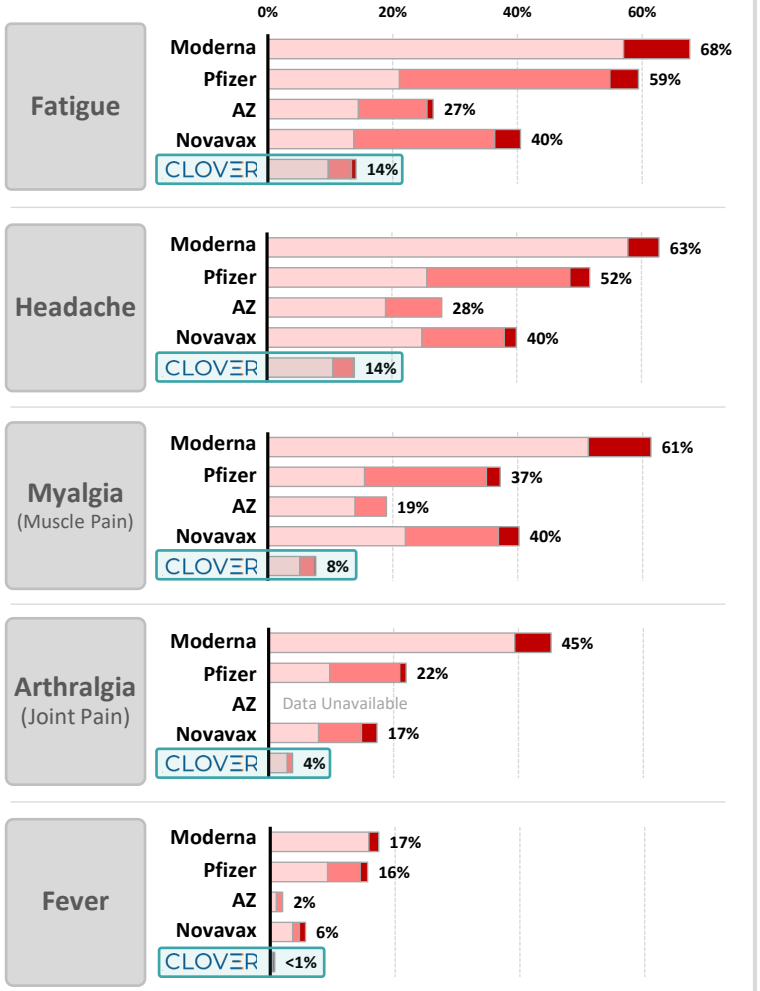
Any SYSTEMIC AEs (After 2nd Dose)
% of Participants



	Moderna (mRNA-1273)	Pfizer (BNT162b2)	AZ (ChAdOx1)	Novavax (NVX-CoV2373)	CLOVER BIOPHARMACEUTICALS
Subject Age (Data):	18-64	≥18	≥18	≥18	≥18
Clinical Trial:	Phase 3	Phase 2/3	Phase 3	Phase 3	Phase 2/3
# Enrolled (Vaccine):	15,208	21,823	21,635	7,020	15,064
Reference:	[1]	[2]	[3]	[4]	--

Mild (Grade 1) | Moderate (Grade 2) | Severe (Grade 3+)

SYSTEMIC AEs (After 2nd Dose)



References: [1] Moderna FDA Briefing Document - VRBAC Meeting DEC 17, 2020, [2] Pfizer FDA Briefing Document – VRBAC Meeting DEC 10, 2020, [3] DOI: 10.1056/NEJMoa2105290, [4] DOI: 10.1056/NEJMoa2107659.

Notes: **NON HEAD-TO-HEAD CROSS-TRIAL COMPARISONS FOR ILLUSTRATIVE PURPOSES ONLY**. Percentage of participants experiencing adverse events (AEs) are shown in figures.

(1) Data not disclosed separately for mild and moderate AEs. Shown in figure as combined mild-moderate AEs.

(2) Data not disclosed separately for mild, moderate and severe AEs. Shown in figure as combined mild-moderate-severe AEs.

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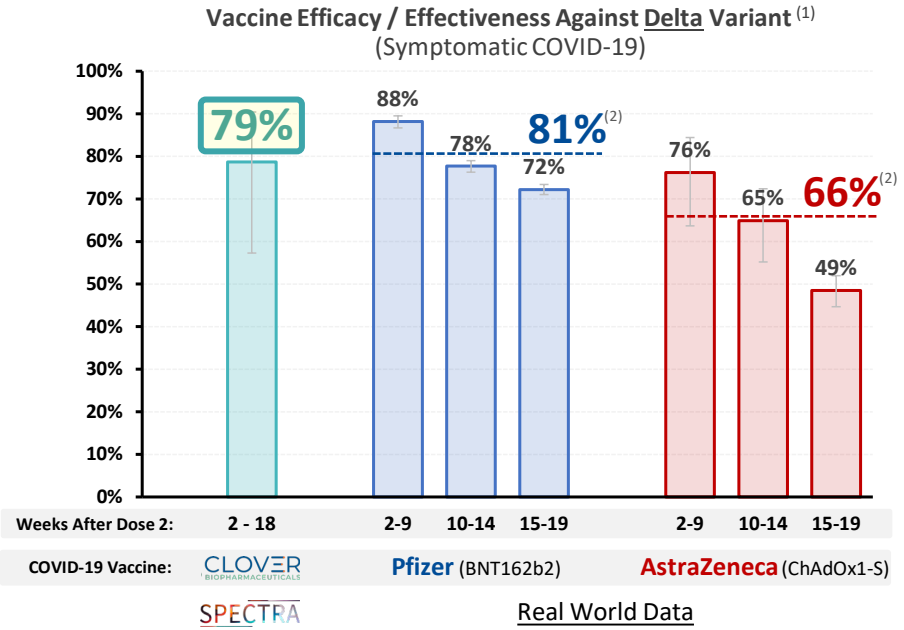
Primary Vaccination: Attractive & Differentiated Product Profile for SCB-2019 Observed

June 2022

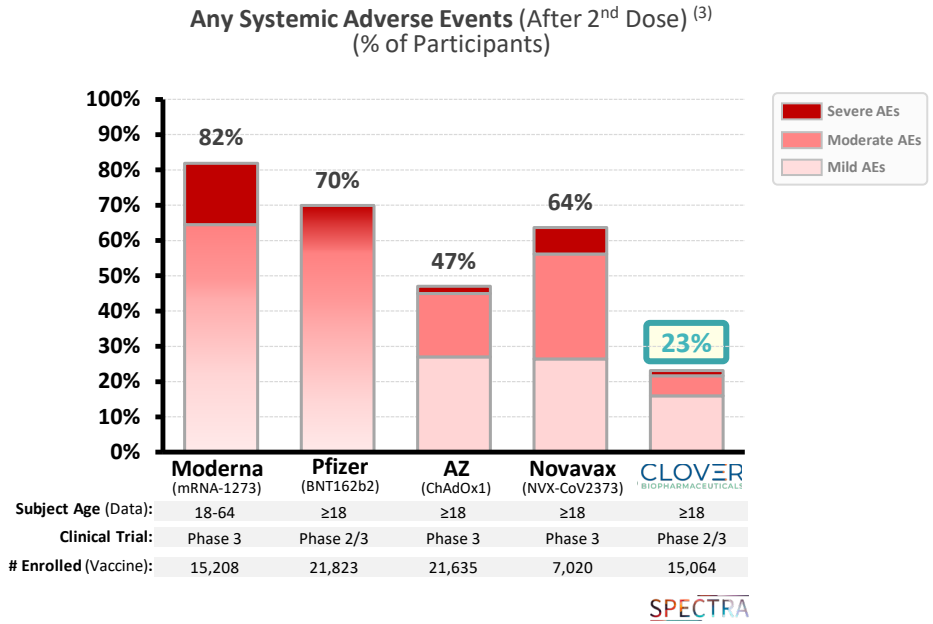
☑ High Efficacy Against COVID-19

Efficacy is Comparable to Top-Tier mRNA Vaccine



☑ Favorable Safety Profile

Low Rates of Adverse Events Observed



☑ Optimal Balance Between High Efficacy & Favorable Safety Profile Demonstrated;

Vaccine is Stable at Standard Refrigerator Temperatures (2-8°C) and Suitable for Distribution & Storage Globally

Notes: **NON HEAD-TO-HEAD COMPARISONS FOR ILLUSTRATIVE PURPOSES ONLY.** Adverse Events (AEs).

(1) SCB-2019 (CpG 1018/Alum) Phase 2/3 SPECTRA vaccine efficacy data. Pfizer (BNT162b2) and AstraZeneca (ChAdOx1-S) vaccine efficacy data from Andrews et al. (2021).

(2) Estimated vaccine efficacy for Weeks 2-19 (based on weighted average vaccine effectiveness results for weeks 2-9, 10-14, and 15-19 respectively).

(3) SCB-2019 (CpG 1018/Alum) Phase 2/3 SPECTRA safety data. Pfizer (BNT162b2) and AstraZeneca (ChAdOx1-S safety data references: Moderna FDA Briefing Document - VRBAC Meeting DEC 17, 2020; Pfizer FDA Briefing Document – VRBAC Meeting DEC 10, 2020; AstraZeneca (DOI: 10.1056/NEJMoa2105290); Novavax (DOI: 10.1056/NEJMoa2107659).

CLOVER BIOPHARMACEUTICALS

Universal Booster: Universal COVID-19 Booster Development Plan

June 2022

Universal COVID-19 Booster Vaccine Profile: SCB-2019 (CpG 1018 / Alum) has **attractive profile** (high efficacy + favorable safety) to be **developed as a universal booster**, to be potentially utilized regardless of the vaccine technology used previously for primary vaccination or previous SARS-CoV-2 infection history

SCB-2019 (CpG 1018/Alum) Booster Setting		Universal Booster Development Status	Upcoming Milestones
	Previous SARS-CoV-2 Infection	✓ **Positive Phase 2/3 (SPECTRA) Efficacy & Safety Data** ✓ **Data published in Lancet Infectious Disease**	--
Heterologous Booster	Previous CoronaVac Vaccination (Inactivated Vaccine)	▪ **Phase 3 planned** (Philippines; Clover-sponsored) ▪ CTA approval received	**JUN-2022:** Trial initiation **2H-2022:** Initial data
Heterologous Booster	Previous AstraZeneca Vaccination (Viral Vector Vaccine)	▪ **Phase 2 Initiated in NOV-2021** (Brazil; Investigator-Led) ✓ **Positive immunogenicity & safety data**	--
Heterologous Booster	Previous mRNA Vaccination	▪ **Phase 3 Planned** (Philippines; Clover-sponsored) ▪ CTA approval received	**JUN-2022:** Trial initiation **2H-2022:** Initial data
Homologous Booster	Previous SCB-2019 Vaccination (Protein-Based Vaccine)	▪ **Phase 2/3 Initiated in JAN-2022 (SPECTRA)** ✓ **Positive immunogenicity & safety data**	**Mid-2022:** Additional immunogenicity data (Omicron)

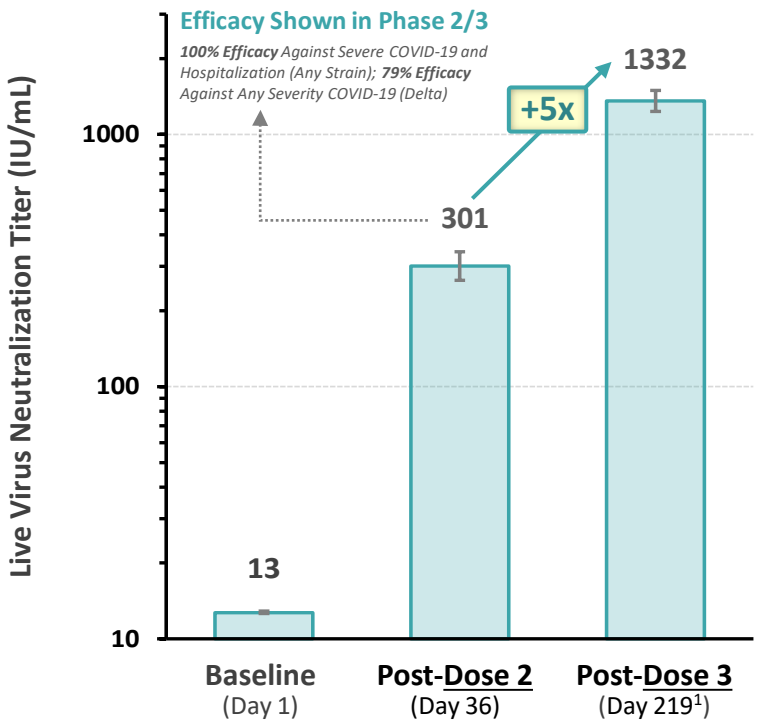
Universal COVID-19 Booster Development Expected to be Completed in 2022

Universal Booster: Homologous Booster for SCB-2019 (CpG 1018/Alum)

June 2022

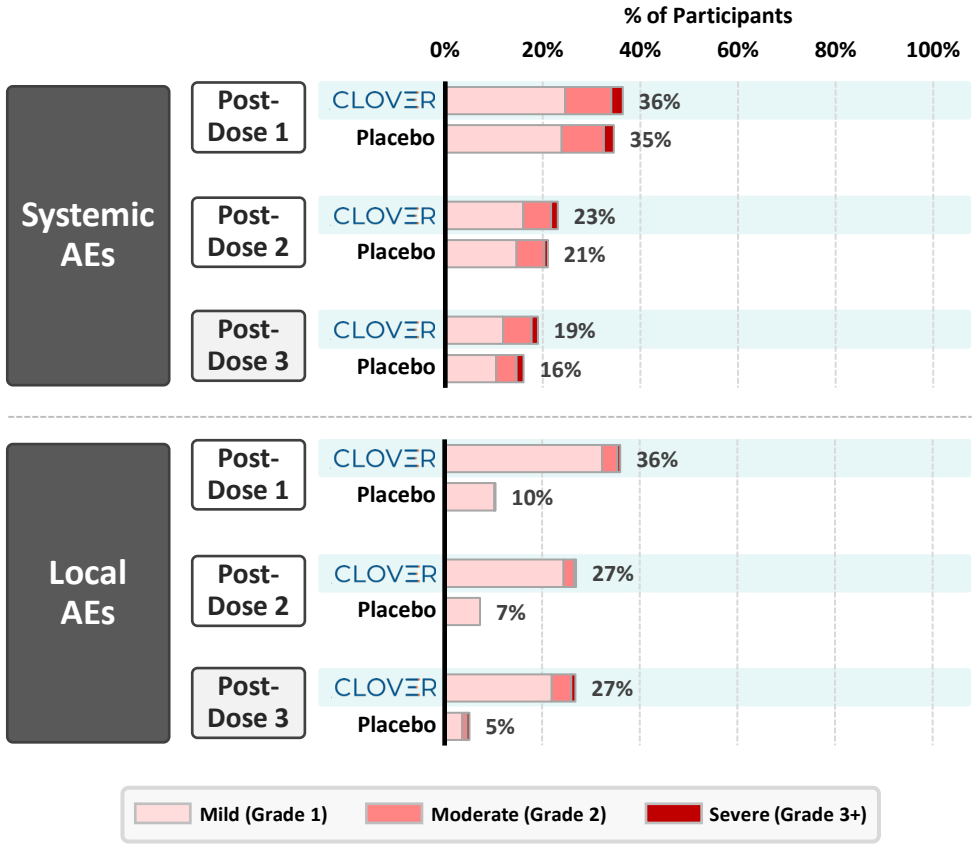
- **Strong Homologous Booster Effect:** ~5x higher neutralizing antibody titers after homologous 3rd dose compared to after 2nd dose
- **Favorable Safety Profile:** Safety profile of 3rd dose is consistent with first 2 doses; majority of AEs observed are mild

Live Virus Neutralization Titers Against *Original Strain* (IU/mL)



Additional Cross-Neutralization Data (including Omicron) Expected by Mid-2022

Solicited Adverse Events (AEs)



1.Dose 3 was administered at ~ day 205, and the data collection occurred 14 days Post-Dose 3, approximately day 219 .
Notes: Preliminary data readout from trial enrolling participants receiving SCB-2019 (CpG 1018/Alum) primary vaccination on Days 1 and 21 and a homologous booster dose on Day 184 (N= 256-262 per timepoint tested).
Bars represent Geometric Mean Titers (GMT) ± 95% confidence intervals (95% CI). Validated live virus neutralization assay (VisMederi). Titers expressed as international units/mL (IU/mL) based on WHO international standard sera (WHO IS 20/136).

Universal Booster: Booster in Previously-Infected Individuals

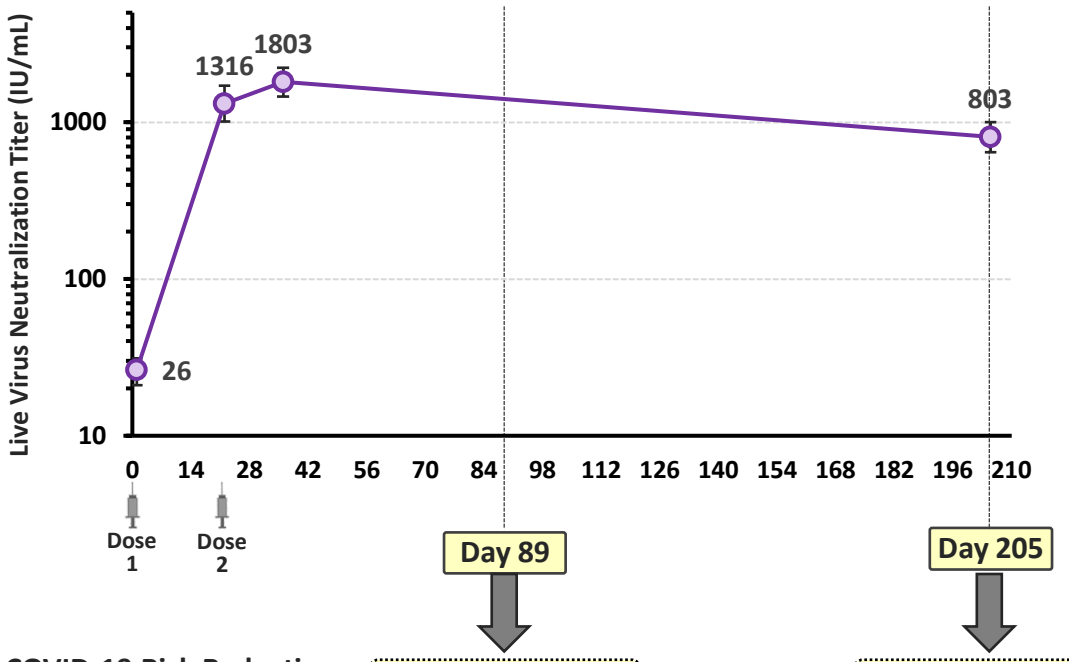
June 2022

- **Durable & Strong Booster Effect:** Rapid increase in neutralizing antibody titers after 1 and 2 doses of SCB-2019 (CpG 1018/Alum)
- **Durable & High Vaccine Efficacy:** No decline in vaccine efficacy observed at 5 months after the second dose

Neutralizing Antibodies (Original Strain)

Live Virus Neutralization Titers Against *Original Strain* (IU/mL)

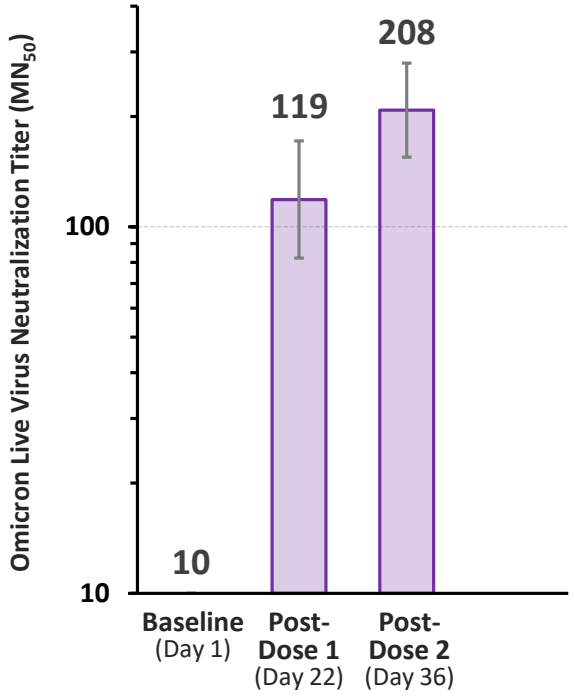
In Individuals Previously Infected with SARS-CoV-2 and Boosted with SCB-2019



Vaccine Efficacy

	Day 89	Day 205
COVID-19 Risk Reduction (*Versus Infected But Non-Vaccinated Individuals*):	**64.2% Efficacy** (95% CI: 26.5, 83.8)	**71.6% Efficacy** (95% CI: 60.2, 80.1)
COVID-19 Risk Reduction (*Versus Non-Infected & Non-Vaccinated Individuals*):	**93.8% Efficacy** (95% CI: 88.9, 97.0)	

Omicron Neutralizing Antibodies (Live Virus Neutralization Titer – MN_{50})



Significant Omicron Neutralizing Antibodies induced by SCB-2019 Booster in Individuals Previously Infected by SARS-CoV-2 [(1)]

Notes: Data from SPECTRA Phase 2/3 trial enrolling participants with evidence of prior SARS-CoV-2 infection subsequently receiving 2 doses of SCB-2019 (CpG 1018/Alum) on Days 1 and 22.
Bars and points represent Geometric Mean Titers (GMT) ± 95% confidence intervals (95% CI). Validated live virus neutralization assays conducted in same laboratory across all strains tested (VisMederi). Titers expressed as international units per mL (IU/mL) for Original strain assay and as 50% microneutralization titers (MN50) for Omicron variant assay.
(1) N = 29 samples tested per group.

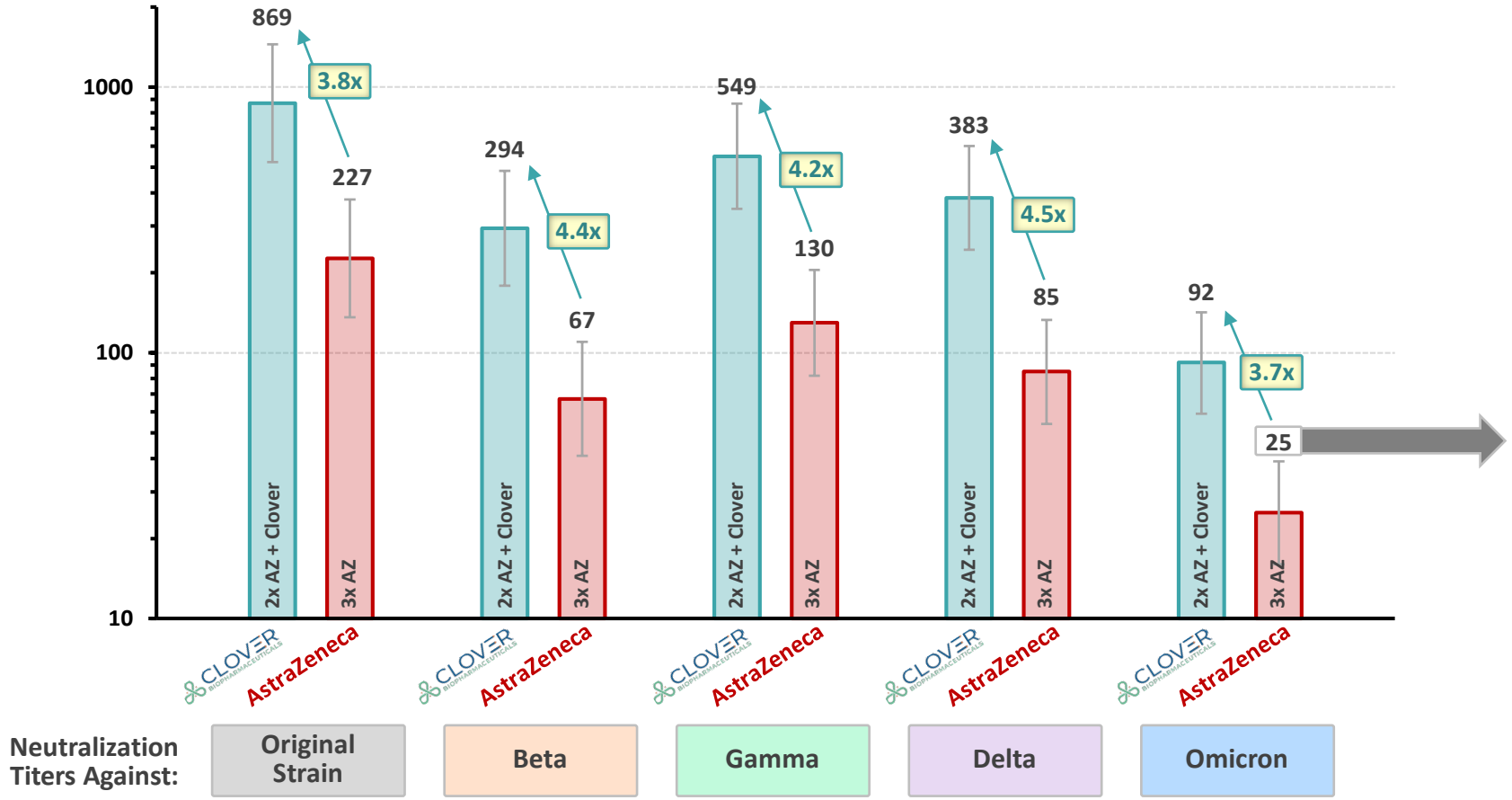
Universal Booster: Heterologous Booster for AstraZeneca Viral-Vectored Vaccine

June 2022

- **Broader & Stronger Immune Response:** Broader spectrum & stronger cross-neutralization compared to AstraZeneca homologous booster
- **>3x higher neutralization across all variants tested, including Omicron**

Live Virus Neutralization Titers at 2-Weeks After Booster Dose [1]

In Individuals Previously Receiving 2 Doses of AstraZeneca Vaccine And Boosted



AstraZeneca homologous booster demonstrated ~56% vaccine effectiveness against symptomatic COVID-19 caused by Omicron variant [2]

Notes: Final data readout from trial enrolling participants receiving 2 doses of AstraZeneca COVID-19 vaccine ≥6 months prior to enrolling and receiving booster (N=25-27/group).

(1) Bars represent Geometric Mean Titers (GMT) ± 95% confidence intervals (95% CI). Validated live virus neutralization assays conducted in same laboratory across all strains tested (VisMederi). Titers against Original Strain expressed as international units/mL (IU/mL) based on WHO international standard sera (WHO IS 20/136); titers against Variant Strains expressed as 50% microneutralization titers (MN50).

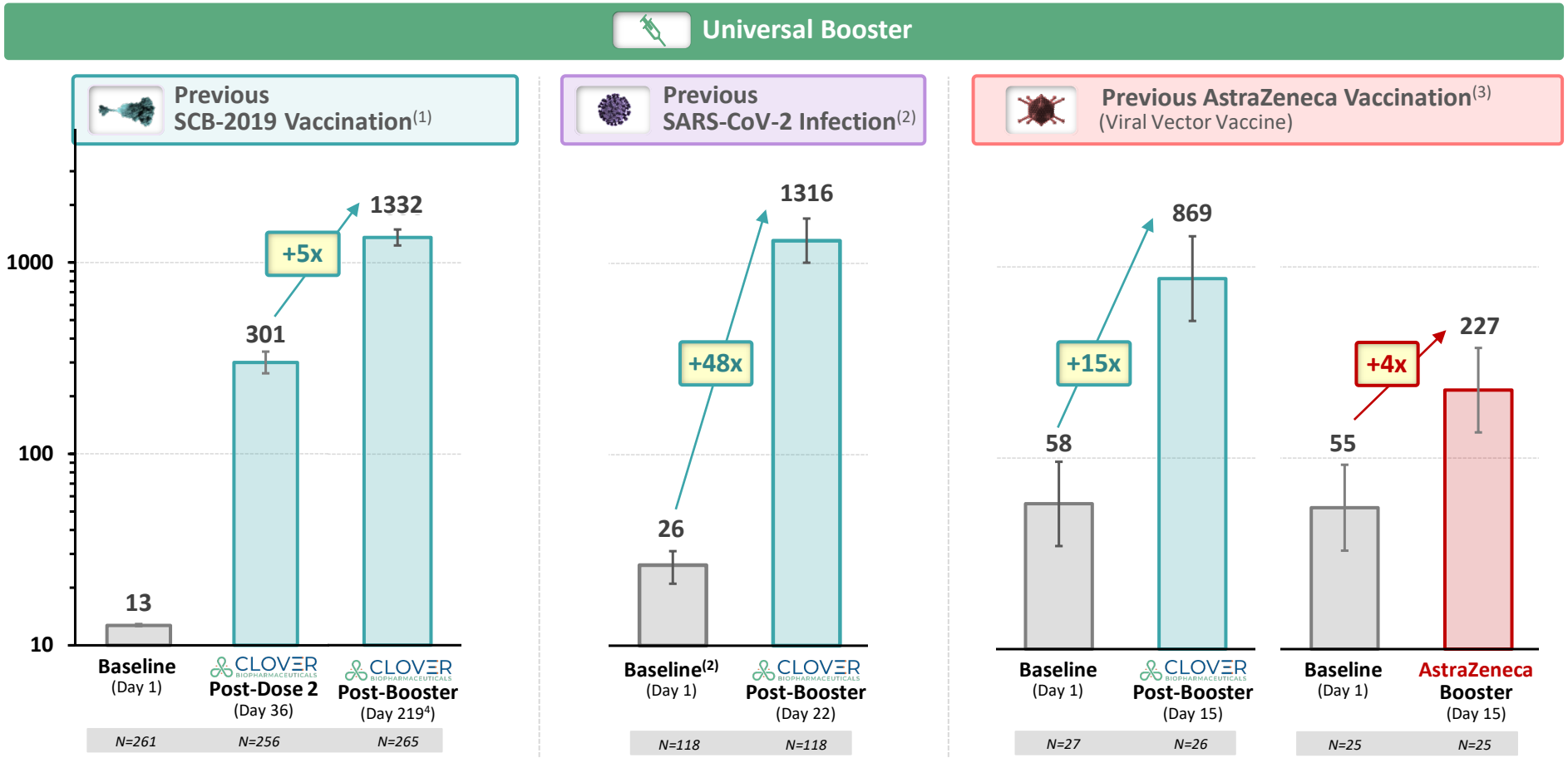
(2) Andrews *et al.*, 2022 (DOI: 10.1056/NEJMoa2119451). Effectiveness against symptomatic Omicron infection at 2-4 weeks after booster dose.

Universal Booster: Accumulating Strong Universal COVID-19 Booster Data

June 2022

- **Rapid & Strong Booster Immune Responses Observed** (in individuals with previous SARS-CoV-2 infection or vaccinated with AstraZeneca vaccine)
- SCB-2019 (CpG 1018/Alum) post-booster **neutralizing antibodies observed at levels expected to provide high-levels of protection** against COVID-19

Live Virus Neutralization Titers Against *Original Strain* (IU/mL)



Notes: Bars represent Geometric Mean Concentrations (GMC) ± 95% confidence intervals (95% CI). Same validated Wildtype neutralization assay against the original strain of SARS-CoV-2 utilized across all trials shown (VisMederi). Titers expressed was international units/mL (IU/mL) based on WHO international standard sera (WHO IS 20/136). Data for Primary Vaccination and in Previous SARS-CoV-2 Infection from global SPECTRA Phase 2/3 trial.
(1) Interim data readout from SPECTRA booster clinical trial. Enrolled participants previously receiving 2 doses of SCB-2019 (CpG 1018/Alum) ≥6 months prior to receiving booster. **(2)** Baseline seropositivity status (previous SARS-CoV-2 infection status) was determined by presence of antibodies binding to SARS-CoV-2 Spike (S) protein in Day 1 serum samples (Roche Elecsys® anti-S test). **(3)** Final data readout at Day 15. Enrolled participants receiving 2 doses of AstraZeneca COVID-19 vaccine ≥6 months prior to enrolling and receiving booster. **(4)** Dose 3 was administered at ~ day 205, and the data collection occurred 14 days Post-Dose 3, approximately day 219 .

Universal Booster: Strong Preliminary Booster Data on Omicron

June 2022

- Booster dose induces **strong immune responses and broad neutralization against all variants of concern, including Omicron**
  - Preliminary data against AstraZeneca's COVID-19 vaccine was compared in the same validated live-virus neutralization assays in the same laboratory

	SCB-2019 (CpG 1019/Alum)	Preliminary Data for SCB-2019 (CpG 1018/Alum) against Omicron Variant *Compared to Three Doses of AstraZeneca's COVID-19 vaccine*
Previous AstraZeneca Vaccination (Viral Vector Vaccine)	**Heterologous booster**	✓ **Approximately 3-fold higher levels** of neutralizing antibodies
Previous SARS-CoV-2 Infection	**Single dose**	✓ **Approximately 4-fold higher levels** of neutralizing antibodies [1]
Previous SCB-2019 Vaccination (Protein-Based Vaccine)	**Homologous booster**	✓ **Multi-fold higher levels** of neutralizing antibodies [1] ✓ Appeared to induce a **robust and rapid immune response against** prototype strain and **Omicron variant** that **exceed levels after the primary immunization series**

Additional data for Universal Booster against Omicron expected in 2022

Note: (1) Non head-to-head trial.

CLOVER BIOPHARMACEUTICALS

Universal Booster: Landmark Phase 3 Heterologous Booster Trial

June 2022

Clover-sponsored clinical trial to complete development of SCB-219 (CpG 1018/Alum) as a "Universal COVID-19 Booster"

- Clinical Trial Application (CTA) approved in Philippines; enrollment expected to initiate in June-2022

Phase 3 Heterologous Booster Clinical Trial Design [1]

To Receive the First Booster (3rd Dose)

Individuals Previously Receiving:
2x Doses Comirnaty
(Pfizer mRNA Vaccine)

1:1
- SCB-2019 (CpG 1018/Alum) (n =212)
- Comirnaty (n = 212)

Individuals Previously Receiving:
2x Doses CoronaVac
(Sinovac Inactivated Vaccine)

1:1
- SCB-2019 (CpG 1018/Alum) (n =212)
- CoronaVac (n = 212)

Preliminary Data Expected in Q3:2022

To Receive the Second Booster (4th Dose)

Individuals Previously Receiving:
3x Doses CoronaVac
(Sinovac Inactivated Vaccine)

1:1:1
- SCB-2019 (CpG 1018/Alum) (n = 125)
- SCB-2019 (CpG 1018/Alum) – *Half Dose* (n = 50)
- CoronaVac (n = 125)

Preliminary Data Expected in Q4:2022

Primary Objectives to Evaluate Safety & Immunogenicity *(including Omicron neutralization)*

Notes: The clinical trial will also enroll individuals that previously received two doses of AstraZeneca's viral vectored COVID-19 vaccine randomized 1:1 to receive either SCB-2019 (CpG 1018/Alum) (n=212) or homologous AstraZeneca vaccine (n=212) as a 3rd dose booster with results in Q4-2022.

Global Approach for Regulatory Approval

- **Rolling Regulatory Submissions** are anticipated to be **completed in 2H-2022**, with product launches commencing thereafter upon receiving conditional approvals
  - **China NMPA** submission via Clover Changxing Site
  - **EMA and WHO** submissions via CDMO Site

China

- **NMPA Conditional Approval**

Clover In-House Changxing Manufacturing Site

EU

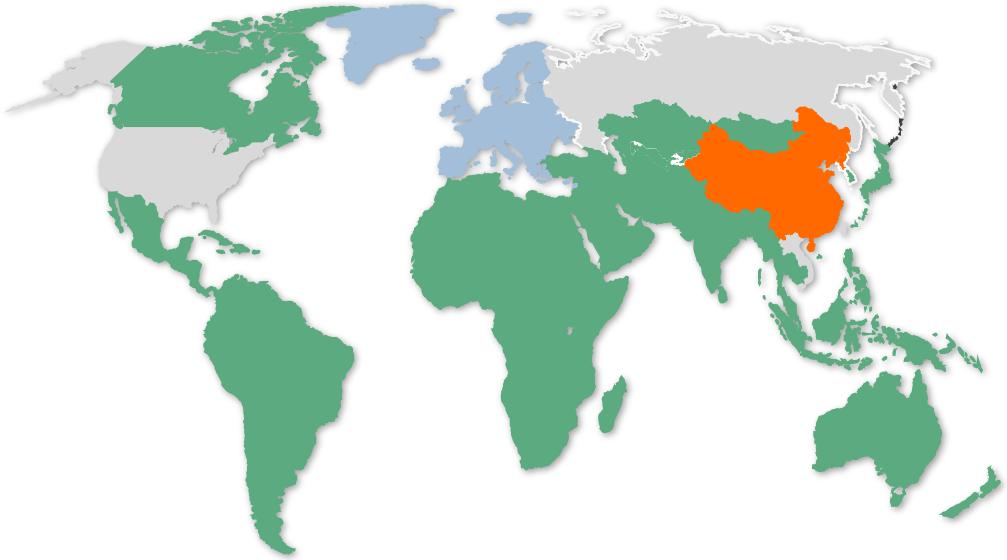
- **EMA Conditional Approval**

CDMO Manufacturing Site (Site has Previously Received EMA/WHO Approvals)

WHO*

- **Emergency Use Listing (EUL)**

CDMO Manufacturing Site Prioritized in 2022 for WHO EUL Submission Process



Clover is also evaluating potential regulatory submissions to specific countries for Emergency Use Authorizations (EUAs) or conditional approvals

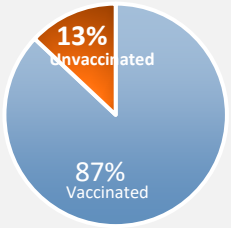
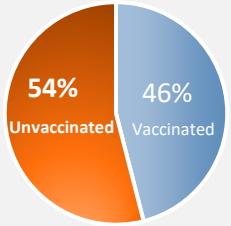
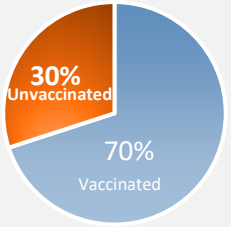
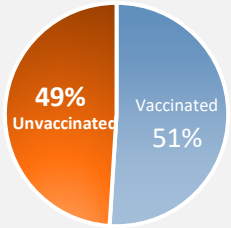
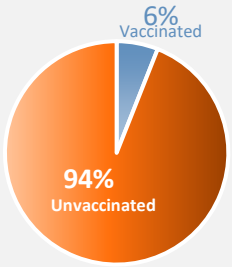
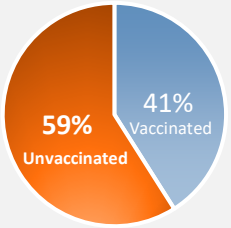
Note: * As of August 2, 2021, there are 194 WHO member states.

Strong Global Demand Persists for SCB-2019 as a Primary & Booster Vaccination

June 2022

- **6.7 Billion+ Dose Demand** in Clover's initial primary markets (**China and LMIC***) across both primary vaccination and booster (3rd dose) settings; continued boosting and/or emergence of new variants to drive further increases in dose demand globally

Clover's Initial Primary Markets

	China	LMIC*	Other Countries	
Primary Vaccination *Still ~50% Unvaccinated Globally*	 **0.2 Billion** Dose Demand	 **2.1 Billion** Dose Demand	 **0.7 Billion** Dose Demand	**3.0 Billion** Dose Demand
Booster Vaccination *Need for Boosters Accepted Globally*	 **0.7 Billion** ** Dose Demand	 **3.7 Billion** Dose Demand	 **1.3 Billion** Dose Demand	**5.8 Billion** Dose Demand
	0.9 Billion Dose Demand	**5.8 Billion** Dose Demand	**2.0 Billion** Dose Demand	

Note: Population includes all age groups. *LMICs represents countries defined as low-income economies or as lower-middle-income and low-income economies as defined by The World Bank Group.
**Adjusted for 35.9MM doses of 4th dose booster as reported by China state media citing data from NHC
Sources: https://ourworldindata.org/covid-vaccinations as of May 25th 2022 and estimated based on country population.

CLOVER BIOPHARMACEUTICALS

China: Significant Heterologous Booster Market Share for Clover Expected

June 2022

- **3rd Dose Booster Rollout** (in people previously receiving 2 doses of inactivated vaccine) currently at **~51% coverage**
- **4th Dose Booster Rollout** (in people previously receiving 3 doses of inactivated vaccine) expected to peak in **YE-2022/Q1-2023**
  - **Heterologous boosting** expected to comprise majority of 4th doses administered [1]
- **Clover Well-positioned:** Robust universal booster dataset; completion of NMPA submission in **2H-2022**

Effective Boosters Needed to Prevent Severe Outbreaks

Recent Study by Fudan University (published in *Nature Medicine*)[2]:

If China Moved Away from Dynamic Zero-COVID Strategy:

>1.55 million	**Projected COVID-19 Deaths**
>110 million	**Projected COVID-19 Cases**
>15.6x	**Projected ICU Capacity Shortage**

Study Indicates Key Mitigation Strategy is Heterologous Boosting (including with Protein-Based Vaccines)

Clover Booster Data Expected in Timeframe Needed

	China Booster Campaign Status	Clover Phase 3 CoronaVac Booster Data
3rd Dose Rollout (Primarily Inactivated Vaccines)	▪ Started in NOV-2021 ▪ **~51% Coverage[3]**	**Q3:2022**
4th Dose Rollout (Primarily Heterologous Boosting Expected)	▪ Started in MAY-2022 ▪ **Peak Rollout in YE-2022/Q1-2023**	**Q4:2022**

Note: Population includes all age groups.

(1) Based on data demonstrating 4 doses of inactivated vaccine produces suboptimal immune responses, potentially inferior to 3 doses of inactivated vaccine in some individuals (**DOI: 10.1101/2022.02.19.22271215**).

(2) Projected numbers over a 6-month simulation period (**DOI: 10.1038/s41591-022-01855-7**).

(3) As of May 25, 2022 (Sources: https://ourworldindata.org/covid-vaccinations as of May 25th 2022 and estimated based on country population).

CLOVER BIOPHARMACEUTICALS

Global: Promoting Fair & Equitable Access of COVID-19 Vaccines to Those in Need

June 2022

Vaccination Rates Remain Low in LMICs…

COVID-19 Vaccination Rates[1] (as of 25-MAY 2022)

High Income Countries	**~75%**
Lower Middle Income Countries	**~53%**
Low Income Countries	**~13%**

- The developing world (**LMICs**) remain **largely unvaccinated and unprotected**
- LMICs are even **further behind** when factoring need for **booster doses**

Clover Proudly Supports Fair & Equitable Access of SCB-2019 (CpG 1018/Alum)

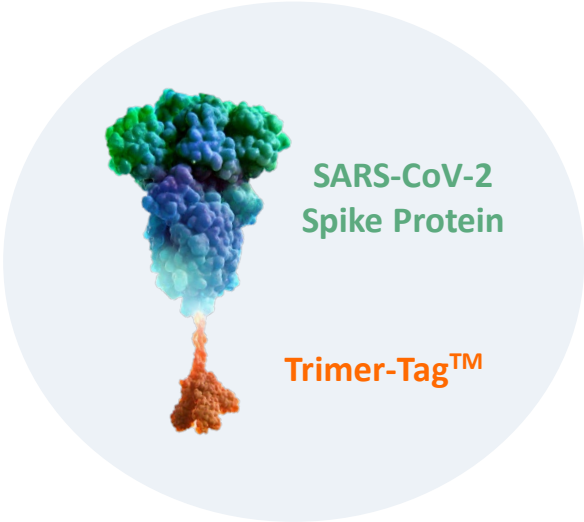
- ✓ **Advanced purchase agreement signed with GAVI** to supply **up to 414 million doses (64 million committed doses)** of SCB-2019 to the **COVAX Facility*** for procurement and global allocation
- ✓ **137 countries (including 92 low- and middle-income countries)** could be eligible for SCB-2019 (CpG 1018/Alum) through COVAX

(1) Data shown for percentage of population receiving two doses of COVID-19 vaccines (https://ourworldindata.org/covid-vaccinations)

- COVID-19 Vaccines Global Access, a global initiative aimed at equitable access to COVID-19 vaccines led by UNICEF, GAVI, the Vaccine Alliance, the World Health Organization, the Coalition for Epidemic Preparedness Innovations, and others

Next-Generation COVID-19 Vaccine Strategy

Clover To Utilize ☑ Validated Trimer-Tag™ Platform for Next-Gen COVID-19 Vaccine Development



- ✓ **Validated Platform Technology:** SCB-2019 Phase 2/3 results has validated Trimer-Tag™ approach to COVID-19 vaccine development
- ✓ **Vaccine Efficacy Demonstrated:** Efficacy results from SPECTRA (Ph2/3) study provides basis for future immuno-bridging licensure pathway for second-gen vaccines using Trimer-Tag™
- ✓ **Rapid 'Plug & Play' Development Expected** with more experienced global team & expanded capabilities since 2020

Strain-Change Clinical Proof-of-Concept in 2022:

SCB-2020S (Beta/Prototype Chimeric S-Trimer™) is currently in a Phase 1 clinical trial in South Africa to demonstrate strain-change clinical proof-of-concept for Trimer-Tag™

Candidate will be evaluated with CpG/Alum as well as Clover's in-house adjuvant CAS-1 (oil-in-water emulsion).

Initial safety & immunogenicity data in **Q4:2022**.

Evaluating Broadly-Protective Candidates (including Bivalent):

Clover is evaluating a **bivalent Omicron + Prototype S-Trimer™ vaccine** as a potentially broadly-protective COVID-19 vaccine candidate.

Initial preclinical results demonstrate proof-of-concept, and advancement to clinical stage is planned.

Numerous Upcoming Milestones for SCB-2019 (CpG 1018/Alum)

Near-Term Commercial Launch

- **2H-2022: Complete regulatory submissions** (China NMPA, EMA, WHO)
- **Global product launches** upon receiving conditional approvals
- **Working Capital Management:** Credit agreement approved by China Merchants Bank for up to US$300 million to support potential working capital needs during commercial launch of SCB-2019*

Upcoming Clinical Data & Trial Initiations

- **SCB-2019 (CpG 1018/Alum) Universal Booster**
  - ❑ **JUN-2022**: Initiate Phase 3 heterologous booster trial (CoronaVac™ & Comirnaty®)
  - ❑ **MID-2022**: Additional data from Phase 2/3 homologous booster trial
  - ❑ **Q3-2022**: Adolescent Phase 2/3 safety & immunogenicity data
  - ❑ **Q3-2022**: Data from Phase 3 heterologous 3rd dose booster trial (CoronaVac™& Comirnaty®)
  - ❑ **Q4-2022**: Data from Phase 3 heterologous 4th dose booster trial (CoronaVac™)
- **SCB-2020S (Beta/Prototype Chimeric S-Trimer™)**
  - ❑ **Q4-2022**: Phase 1 preliminary safety & immunogenicity data

* Drawdown on this agreement is subject to a review of Clover's business condition and changes in Clover's condition may result in early repayment.

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Thank You!