CORAL-BOOST Study Data Presentation

January 4, 2022

Safe Harbor and Forward-Looking Statements

This presentation contains forward-looking statements including, but not limited to, statements related to Gritstone bio, Inc.'s ("Gritstone", "we" or "our") preclinical and clinical product candidates, including GRANITE, SLATE, CORAL, and HIV programs. All statements other than statements of historical facts contained in this presentation, including statements regarding the timing of immunogenicity and clinical data for GRANITE, SLATE, and CORAL, the timing for Gilead's initiation of a Phase 1 in HIV, collaborations surrounding our infectious disease programs, future results of operations and financial position, business strategy, prospective products, availability of funding, clinical trial results, product approvals and regulatory pathways, timing and likelihood of success, plans and objectives of management for future operations, future results of current and anticipated products, and our ability to create value are forward-looking statements. Forward-looking statements generally contain words such as "believes," "expects," "may," "will," "should," "seeks," "approximately," "intends," "plans," "estimates," "anticipates," and other expressions that are predictions of or indicate future events and trends and that do not relate to historical matters. Because forward-looking statements are inherently subject to risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements.

Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. For a further description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to the business of the company in general, see Gritstone's periodic filings with the Securities and Exchange Commission (the "SEC"), including its Quarterly Report filed on November 3, 2021, and any current and periodic reports filed thereafter.

Agenda

Welcome and Overview	**Welcome and Overview of Gritstone bio** Andrew Allen, MD, PhD, President and CEO, Gritstone bio, Inc
CORAL-BOOST	**CORAL-BOOST: Phase 1 study evaluating CORAL samRNA vaccine as a boost following Vaxzevria COVID-19 vaccination** Karin Jooss, PhD, Executive Vice President and Head of R&D at Gritstone bio, Inc
Closing Remarks	**Closing Remarks** Andrew Allen, MD, PhD, President and CEO, Gritstone bio, Inc
Q&A	**Q&A**

Welcome and Overview

Gritstone: Taking Immunotherapy to the Next Level

Leveraging proprietary target identification & vaccine platform technologies

EDGE™ AI Antigen Discovery Platform

Vaccine Delivery Platforms: Viral & Self-amplifying mRNA

1

Proprietary Synergistic Technologies + In-House Manufacturing Capabilities

Oncology

Infectious Diseases

2

Differentiated and Expansive Pipeline

CEPI
GILEAD
BILL & MELINDA GATES foundation
National Institute of Allergy and Infectious Diseases
2seventybio

3

Premier Government and Industry Partnerships

CORAL *(COVID-19)*

SLATE *(off-the-shelf neoantigen)*

GRANITE *(individualized neoantigen)*

4

Multiple Near-Term Catalysts

~$216.4M

Cash Position* as of Sept 30, 2021

**cash, cash equivalents, marketable securities, and restricted cash*

samRNA: A Second-Generation mRNA Platform with Unique Attributes

Differentiated vector that drives robust antibody and CD8+ T cell responses

samRNA
self-amplifying mRNA

- Extended duration and magnitude of antigen expression
- Strong & potentially durable induction of neutralizing antibody & T cell immunity (CD4+ and CD8+)
- Dose sparing potential: Equivalent neutralizing antibody (nAb) induction at up to ~1/10 dose of approved mRNA vaccines
- Potential for refrigerator stable product

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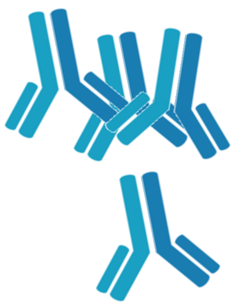
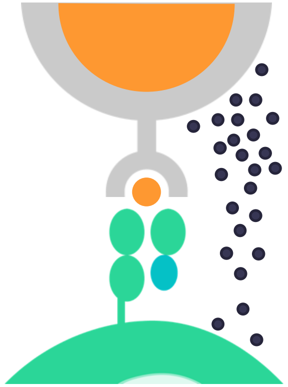
- First to put samRNA into humans*
- Ongoing vector innovations to increase immunogenicity/efficacy, tolerability, and manufacturability
- Extensive clinical and regulatory experience
- INDs (or equivalent) and trials for 7 products in oncology and SARS-CoV-2 across four continents

*first to introduce samRNA + LNP into clinical trials

CORAL's Approach Broadens Immune Response to Address Key Unmet Needs in Infectious Disease Applications

Chimeric immunogen design optimizes vaccine for both antibody and T cell production

Neutralizing antibodies against Spike	***Cytolytic CD8+ T cell immunity against TCE****
Surface Antigen	***T Cell Epitopes***
↓	↓
SARS-CoV-2 Spike	**TCE from Viral Genes**
B cells (nAbs)	***CD8+ T cells***
	

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*TCE = T cell epitopes

Process: Designing Vaccines that Drive Both B and T Cell Immune Responses

Careful design of the immunogen, the antigenic payload, to optimize the nature of the immune response

Pathogen Gene Selection

Both surface antigens (for nAbs) and other viral genes (for T cell epitopes)

Epitope Identification

AI platform (EDGE™) identifies and prioritizes conserved T cell epitopes

Immunogen Design

Prioritized targets captured efficiently in vectors

Optimal immunogens added to vectors

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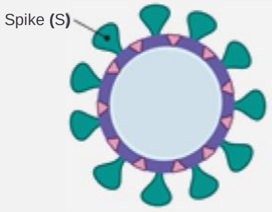
CORAL: A New Approach to COVID-19

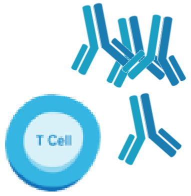
Spike + T cell epitopes in samRNA vector offers potential for potent and durable immunity across current and future variants

1st Generation Approaches

Spike-dedicated – solutions target spike only: Protection dependent on one highly-mutable surface antigen



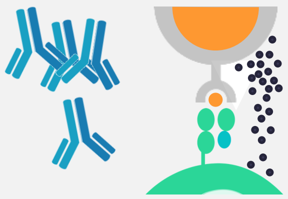
Highly dependent on neutralizing antibodies – nAb effectiveness wanes over time and frequently provides reduced protection against new variants



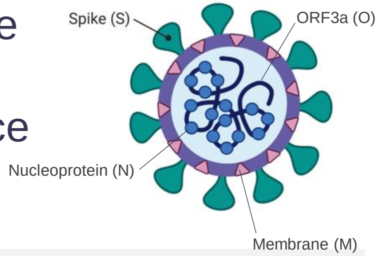
Dose is comparably high

CORAL

Spike + T cell epitopes from other viral genes – allows prioritization of conserved protein sequences



Drives robust and broad immune response against spike and conserved viral epitopes: Reduce impact of Spike mutations



samRNA offers dose sparing opportunity

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CORAL Clinical Development Strategy Designed to Answer Key Questions Concerning Dose, Regimen and Patient Population

Optimized construct and dose to be identified to enable pivotal trial initiation

Study	Population	Vaccine	Location	Construct	n
CORAL - BOOST	Healthy volunteers ≥60 years previously vaccinated	samRNA samRNA/samRNA	UK & US	S_{WT}-TCE5	120
CORAL - IMMUNO-COMPROMISED	B-cell deficient (hematologic malignancies, MS), previously vaccinated	ChAd/samRNA ChAd/ChAd	UK	S_{WT}-TCE5	20-30
CORAL - CEPI	Healthy volunteers (naïve or convalescent; including PLWH)	samRNA samRNA/samRNA	S. Africa	S_{beta}-TCE9 S_{beta}-N-TCE11 $S_{omicron}$-N-TCE11	320
CORAL - NIH	Healthy volunteers previously vaccinated	samRNA ChAd samRNA/samRNA	U.S.	S_{WT} S_{WT}-TCE5	150

S_{WT} – Wild Type variant Spike; S_{beta} – Beta variant Spike (B.1.351); $S_{omicron}$ – Omicron variant Spike (B.1.1.529); TCE – T-cell epitopes; N – Nucleocapsid; PLWH – People Living with HIV; ChAd – Chimpanzee adenovirus

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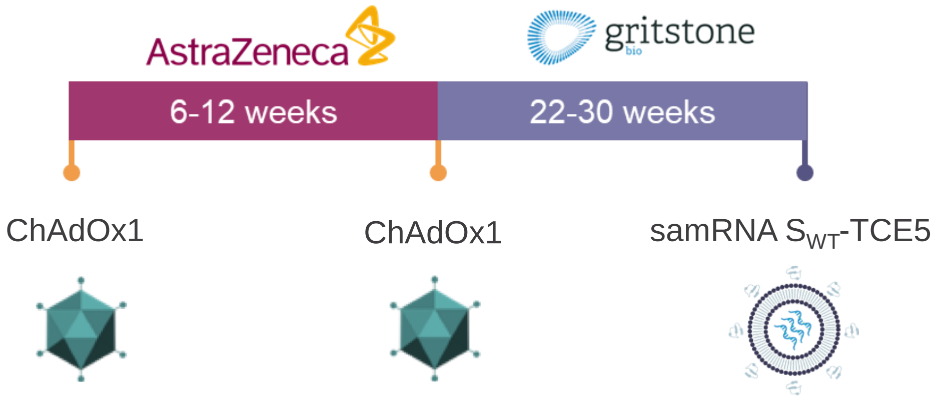
CORAL-BOOST Results

CORAL-BOOST: samRNA as Boost Following Approved COVID-19 Vaccination

Single dose of samRNA CORAL vaccine containing T cell epitopes and WT Strain Spike antigen

CORAL-BOOST	
Vaccine Candidate	**CORAL samRNA-S_{WT}-TCE5 (GRT-R910)**
Population	Healthy volunteers ≥60 years Previously vaccinated with 2 doses of ChAdOx1 ≥ 4 months prior
Timing	• Vaccination initiated in September 2021 • Cohort 1 (10 µg) fully enrolled; n = 10 • Cohort 2 (30 µg) currently enrolling; n =10
Sites	University of Manchester (UK) - Prof Andy Ustianowski (PI)



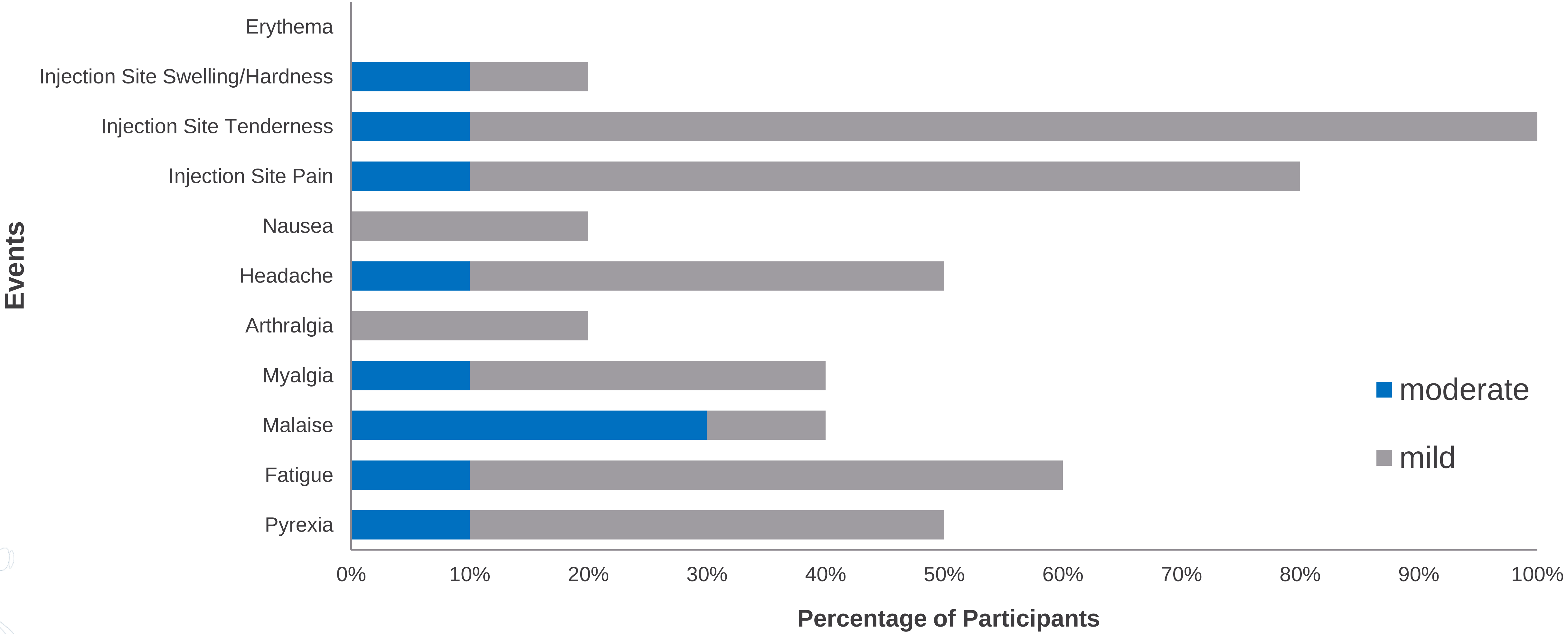
Immunogenicity Endpoints	
Neutralizing Antibodies and IgG Titers	Pseudovirus neutralizing antibody and IgG titers assessed against multiple Spike variants
CD8+ T Cell Priming vs Novel T Cell Epitopes	In vitro stimulated ELISpot assay using overlapping peptide pools derived from TCE5-included target gene regions (ORF3a, N, M)
T Cell Boosting vs Spike Epitopes	Ex vivo ELISpot assay using overlapping peptide pools derived from Spike

Cohort 1: Subject Demographics

Subject ID	Gender	Age	Weeks post 2nd Vaxzevria dose
0001	M	63	30
0002	F	64	30
0003	F	63	22
0004	M	63	22
0005	M	69	25
0007	F	63	24
0008	M	81	25
0009	F	75	23
0014	M	75	27
0015	M	72	22

samRNA Boost was Shown to Have a Favorable Safety and Tolerability Profile at 10μg in Healthy Volunteers ≥60 yrs

No unexpected reactogenicity or safety events



1 AE of recurrence of asthma and 1 AE of recurrence of muscle spasm in 10 μg dose cohort

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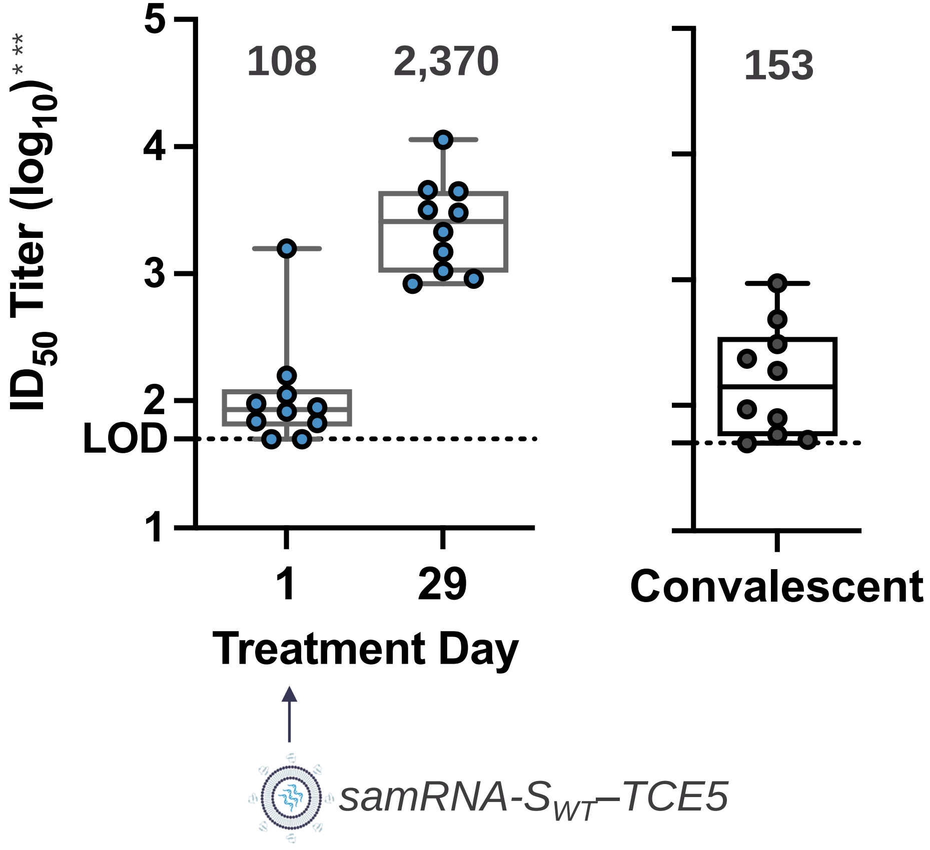
Database snapshot as of 11/29/2021

Single 10µg samRNA Boost Dose Post Vaxzevria Two Dose Series Induced Potent Neutralizing Antibody Response Against SARS-CoV-2

Neutralizing antibodies (geomean) against
Wild Type Variant



*ID_{50} = Median infective dose; **Geomean ID_{50} titer values notated; Assays conducted using WHO international standards
Treatment day = day 1 GRTS samRNA boost dose was administered. Boxes and horizontal bars denote interquartile range (IQR) and median neutralization, respectively. Whisker endpoints are equal to the maximum and minimum values below or above the median +/- 1.5 x IQR.

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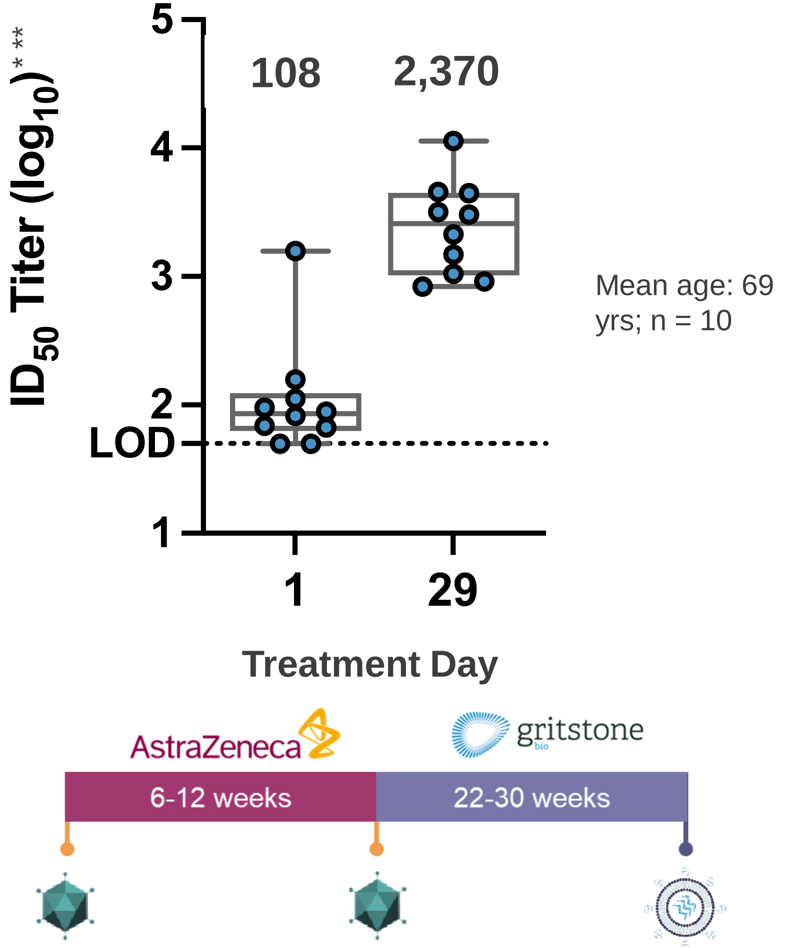
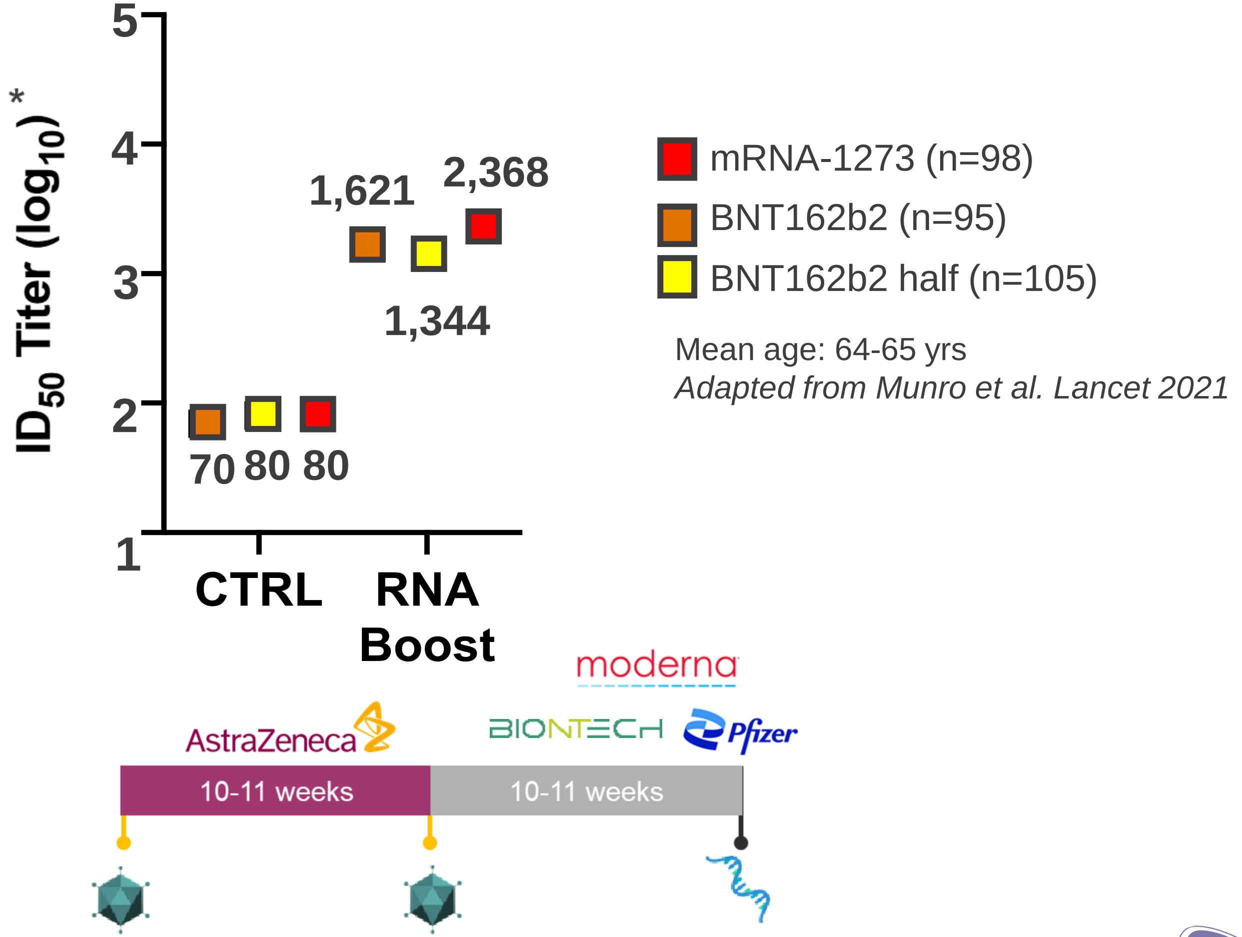
Comparison Across Studies: 10µg samRNA Boost Elicited Similar, Potent nAb Response to 100µg of Moderna (mRNA-1273) after AZ Primary Series

Neutralizing antibodies (geomean) against **Wild Type Variant**

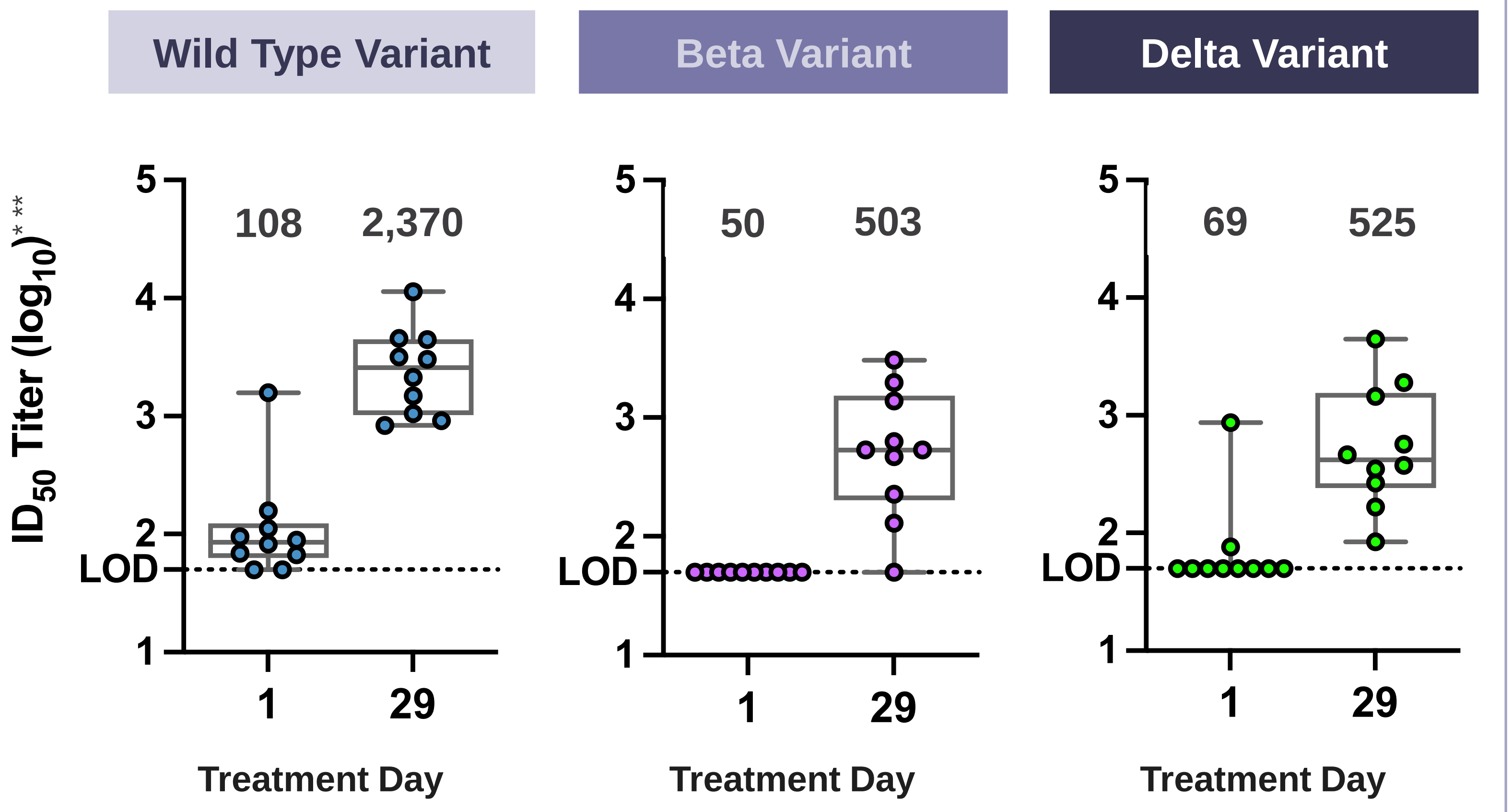




*ID_{50} = Median infective dose; **Geomean ID_{50} titer values notated – not studied head-to-head directly; CTRL: Equivalent meningococcal conjugate vaccine; Treatment day = day 1 GRTS samRNA boost dose was administered. Boxes and horizontal bars denote interquartile range (IQR) and median neutralization, respectively. Whisker endpoints are equal to the maximum and minimum values below or above the median +/- 1.5 x IQR.

Single 10µg samRNA Boost Dose Induced a Broad, Potent nAb Response

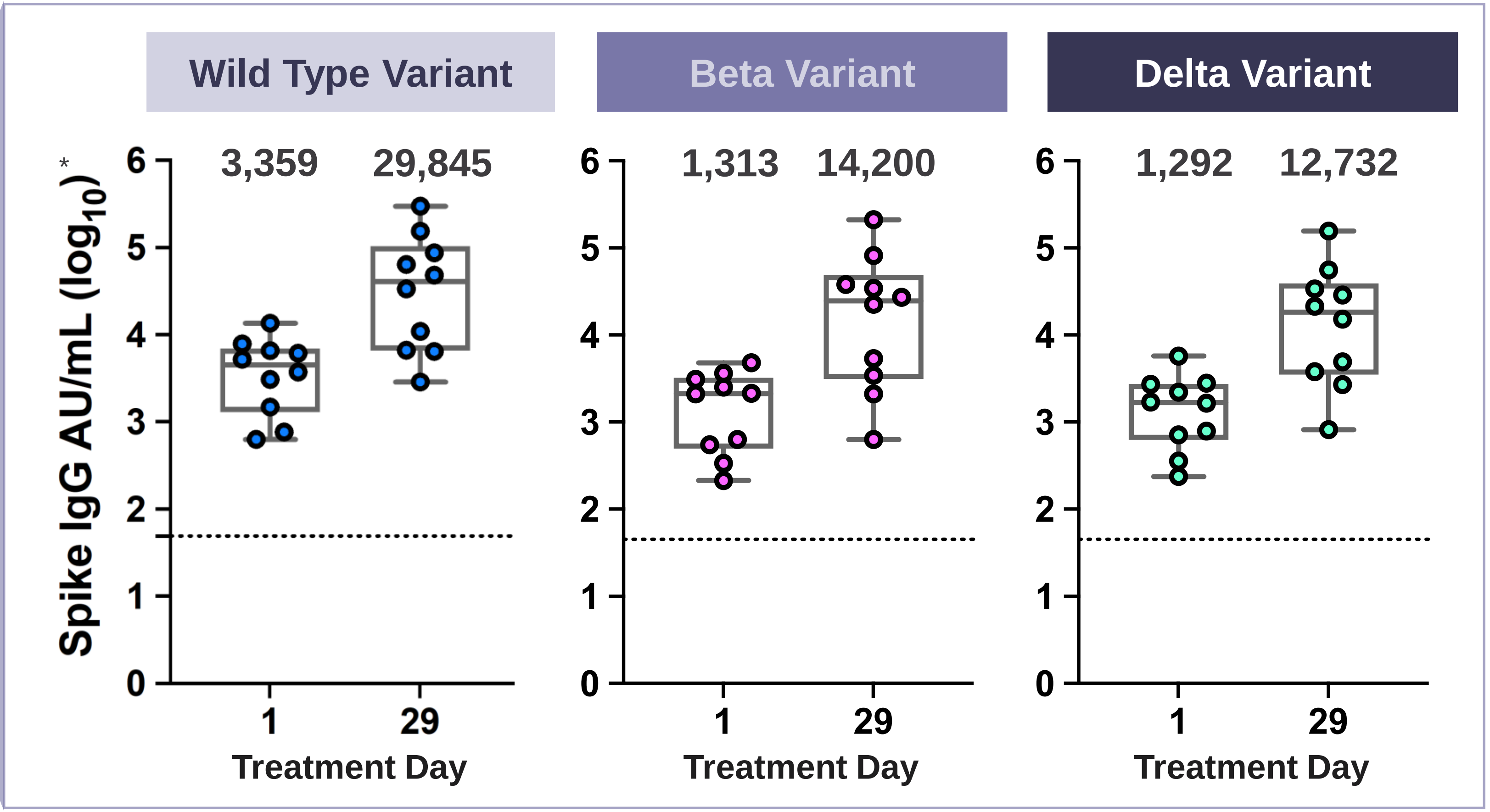
nAbs induced against Wild Type, Beta, and Delta variants of SARS-CoV-2



*ID_{50} = Median infective dose, **Geomean ID_{50} titer values notated – not studied head-to-head directly.
Treatment day = day 1 GRTS samRNA boost dose was administered. Boxes and horizontal bars denote interquartile range (IQR) and median neutralization, respectively. Whisker endpoints are equal to the maximum and minimum values below or above the median +/- 1.5 x IQR.*

Single 10µg samRNA Boost Dose Induced Broad Anti-Spike IgG Response

ELISA-based assay assessing anti-Spike IgG concentration in arbitrary units (AU) per mL

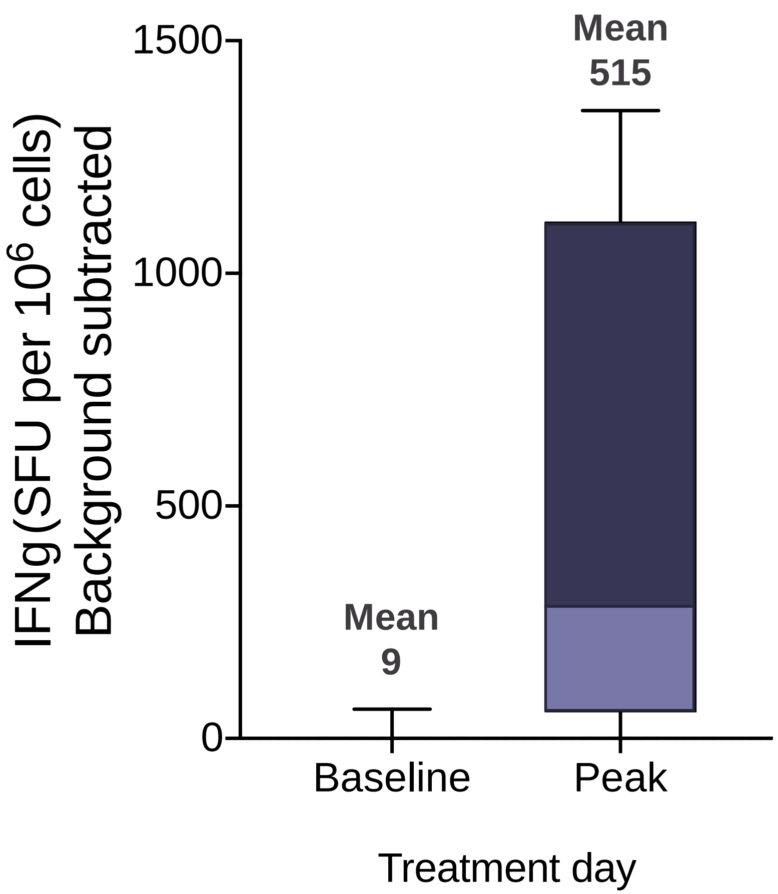


*Geomean AU/ml indicated

Treatment day = day 1 GRTS samRNA boost dose was administered. Boxes and horizontal bars denote interquartile range (IQR) and median neutralization, respectively. Whisker endpoints are equal to the maximum and minimum values below or above the median +/- 1.5 x IQR.

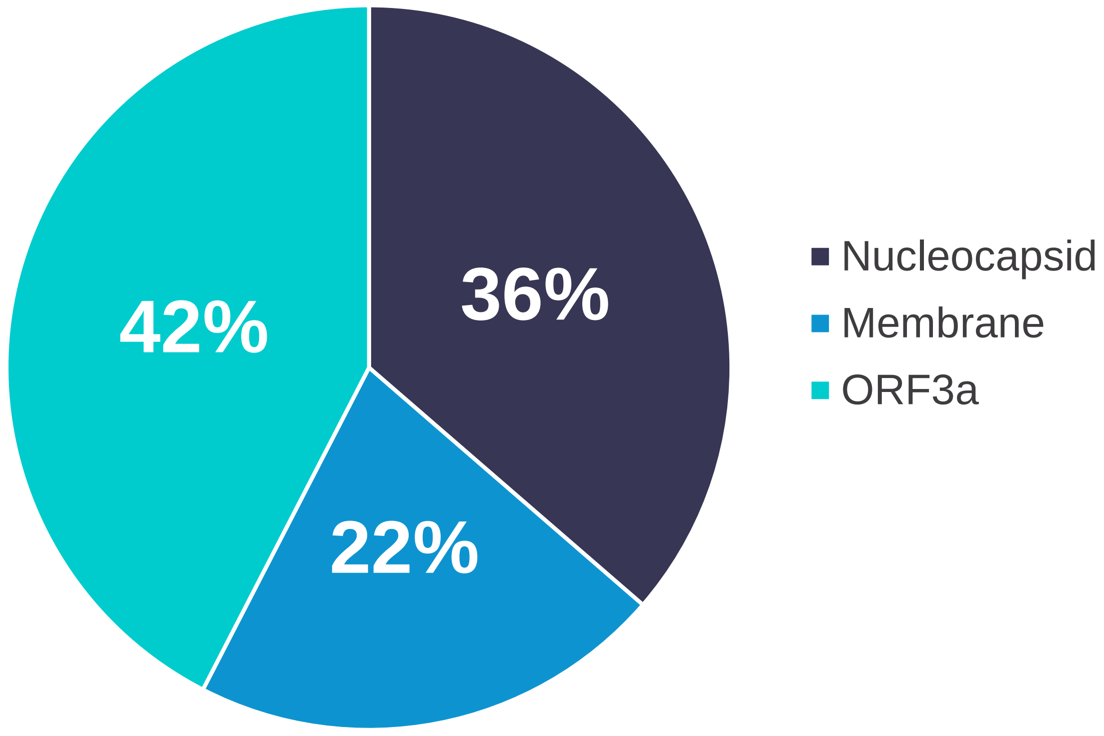
Single 10μg samRNA Boost was Shown to Drive Significant CD8+ T Cell Responses to Non-Spike Epitopes – Potential for Variant-Proof Immunity

Post-IVS ELISPOT



Minimal TCE5 epitope pools (stacked); background subtracted
Box and whisker plot: 90% CI and median shown

Proportion of responses to TCE5 regions assessed by post-IVS ELISpot



TCE5 overlapping peptide (OLP) pools to TCE5 Nucleocapsid, Membrane and ORF3a regions assessed by post-IVS ELISpot (post-treatment timepoint)

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As Expected, Variant Mutations Had Minimal Impact on Gritstone Vaccine T Cell Epitopes (TCE)

Comparison of Mutations within Variants to the Original SARS-CoV-2 Wild Type Strain

Variant	Spike (1273AA)	Orf1ab (7096AA)	Orf3a (275AA)	E (75AA)	M (222AA)	Orf7a (121AA)	N (419AA)
Beta	7	7	2	1	0	0	1
Delta	10	3	1	0	1	2	3
Omicron	37	12	3	1	3	1	6

Impact of Omicron Mutations on Gritstone TCE Cassettes*

Gritstone Construct	# of Epitopes Impacted	Total # of Epitopes	% of Epitopes Impacted
TCE5	**3**	146	2.1%
TCE9	**2***	72	2.8%
TCE11**	**0**	25	0%

analyses for the table above were executed Nov 28, 2021

E=Envelope
M=Membrane
N=Nucleoprotein
**2 epitopes impacted in 10% of Omicron isolates; 0 epitopes impacted in other isolates*
*** N-TCE11: no epitopes impacted in TCE but 6 Omicron mutations in 419 AA Nucleoprotein <1.5% of total protein*

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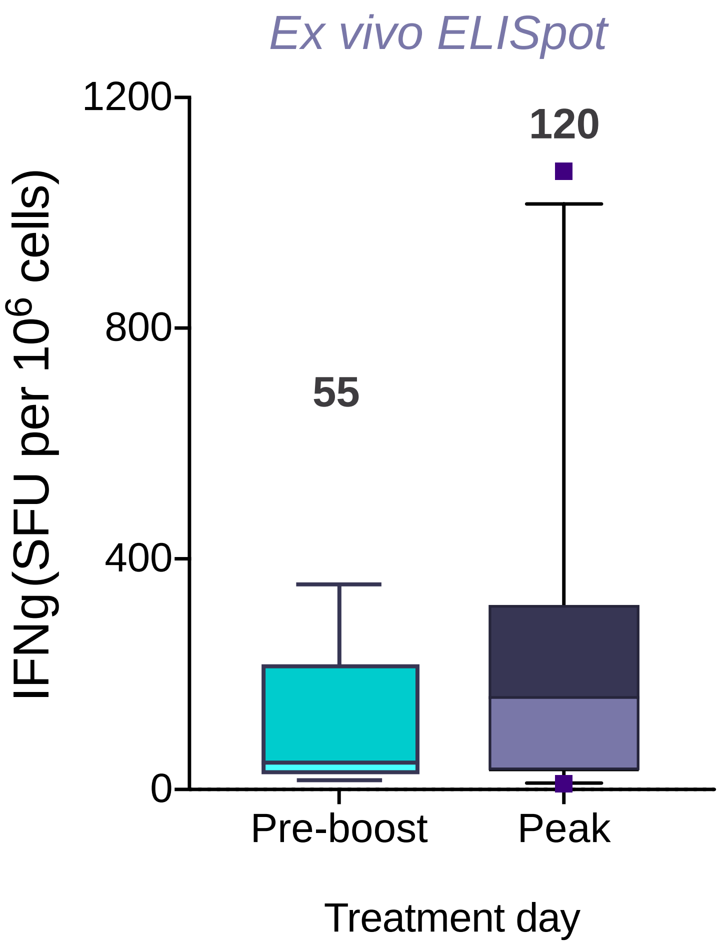
Spike-Specific T Cell Responses Boosted after Single 10µg Dose of samRNA



Spike overlapping peptide pools (stacked)

**Geometric mean is indicated*
Box and whisker plot: 90% CI and median shown

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Initial Conclusions: 10μg samRNA Boost Safely Induced Robust Antibody & T Cell Immunity to Diverse SARS-CoV-2 Epitopes in Volunteers ≥60 years

10μg samRNA-S_{WT}-TCE5 in 10 healthy volunteers ≥60 yrs, after Vaxzevria (AZ) primary series:

Safety Profile	**Mild to moderate, self-limiting AEs with no unexpected reactogenicity or safety events**
Immuno-genicity	**Antibody Responses:** • Induced potent neutralizing antibody responses against Wild Type, Beta, and Delta SARS-CoV-2 variants ○ Cross-trial comparison suggests 10μg samRNA induction of nAb titers similar to 100μg of mRNA-1273 in same context • Induced broad anti-Spike IgG antibody responses to Wild Type, Beta, and Delta variants **T Cell Responses:** • Primed and boosted CD8+ T cell responses across wide set of epitopes from N, M, ORF3a • Boosted pre-existing T cell responses to Spike

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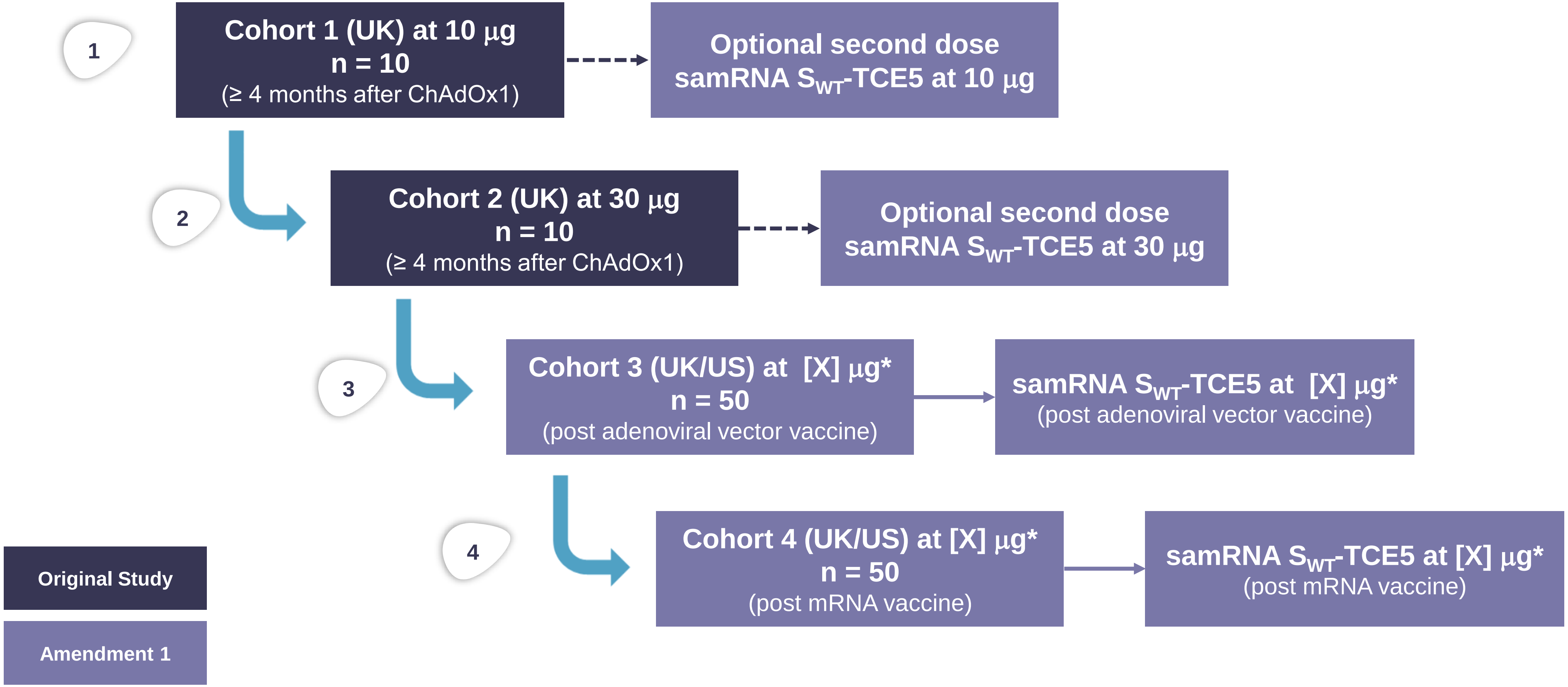
CORAL-BOOST: Planned Study Expansion

Expanded study intended to explore effects of 2nd samRNA dose and assess different primary vaccine series

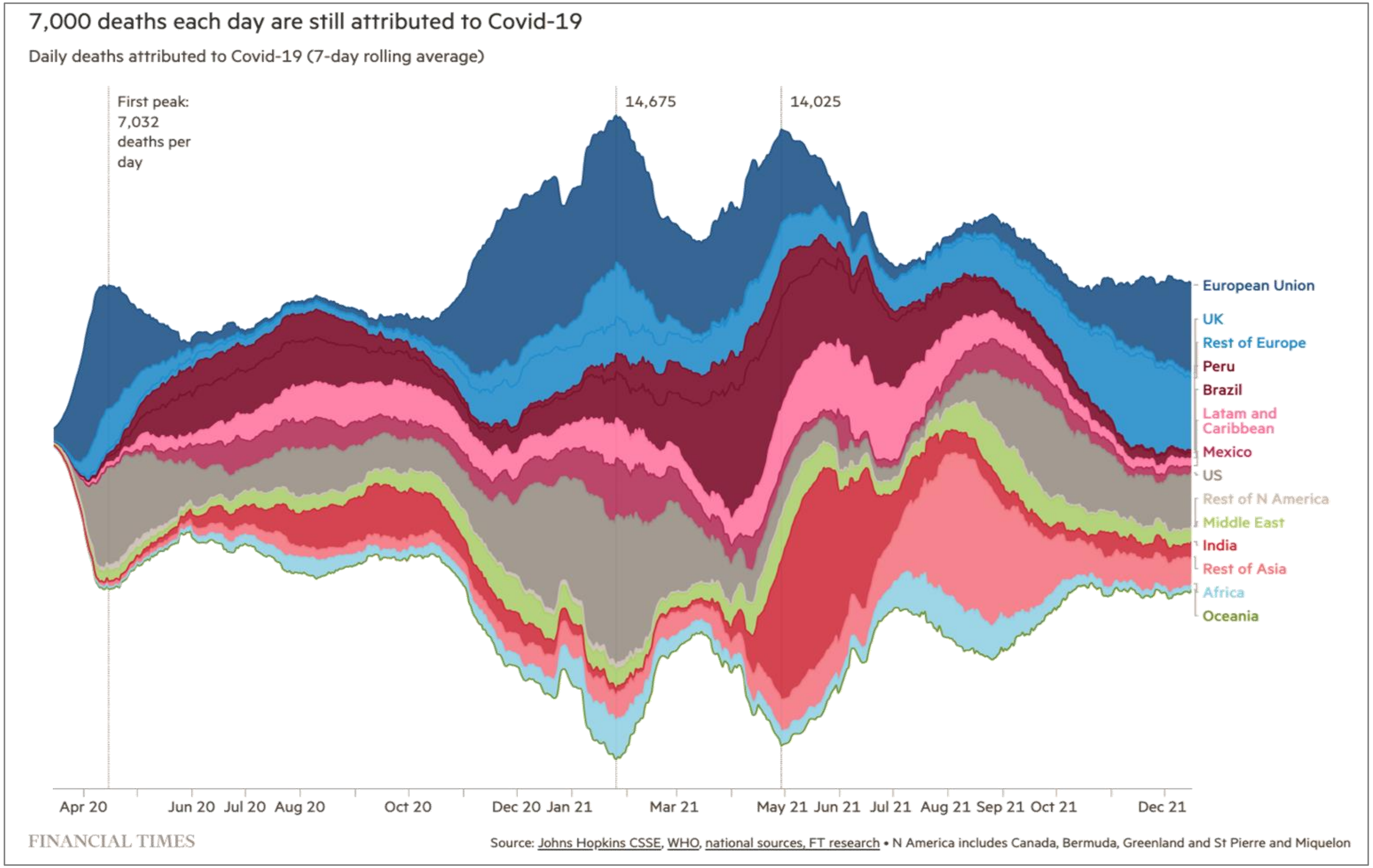


*Dose to be determined by immune and safety data from Cohorts 1&2

Closing Remarks

COVID-19 Remains a Global Pandemic

Omicron is now the globally dominant variant; what’s next?



**Adapted from the Financial Times Coronavirus Tracker, Jan 2, 2022*

New Vaccine Approach is Desired to Achieve Durable Immunity

Existing vaccine solutions have limitations as Spike rapidly mutates and variants of concern (VoC) emerge

Vaccination Approach to VoC	Limitations
Re-boost	• Requires repeated vaccinations • Protection is often less complete than against reference strain[1] • Protection reduces as nAb titers wane
Variant-specific	• Longer production cycle • Expensive • Production required for each variant • Potential loss of efficacy over time*

Ideal Solution

Protection across current and future variants

Favorable dosing and administration

Rapid and scalable production

Potential pan-corona virus protection

[1]*Hansen et al. medRxiv 12/22/2021*

T Cells Offer Potential Path to More Robust and Durable Immunity

nature biotechnology

NEWS | 13 December 2021

T-cell vaccines could top up immunity to COVID, as variants loom large

THE WALL STREET JOURNAL.

The T-Cell Covid Cavalry

Two studies suggest this line of defense reduces Omicron's severity.

The Atlantic

T Cells Might Be Our Bodies' Best Shot Against Omicron

MEDICALNEWSTODAY

Beyond the spike: Are T cell COVID-19 vaccines the future?

nature

NEWS | 12 February 2021

How 'killer' T cells could boost COVID immunity in face of new variants

BBC NEWS

Covid-resistant people inspire new vaccine tactic

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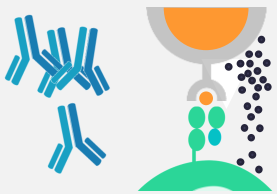
Dates of articles above: "The T-Cell Covid Cavalry", Dec 30, 2021; "Beyond the spike…", Dec 20, 2021; "T Cells Might Be Our Bodies….", Dec 14, 2021; "Covid-resistant people…", Nov 10, 2021.

CORAL-BOOST Cohort 1: Single 10 µg samRNA Boost Induced Robust T Cell Immunity and Robust Antibody Response in Subjects ≥60yrs

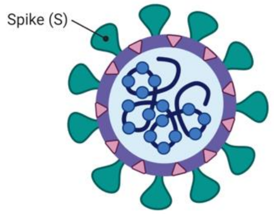
10µg samRNA vaccine dose administered at least 22 weeks after prime-boost with Vaxzevria

Gritstone Solution

Drive antibody and CD8+ T cell responses for more complete and durable protection



Deliver broad set of conserved viral antigens to minimize impact of Spike mutations



Antigen amplification with samRNA is dose sparing

CORAL – BOOST: Cohort 1 10µg

Priming of de novo CD8+ T cell responses to viral proteins: Nucleoprotein (N), Membrane (M) and ORF3a ✓

Boosting of pre-existing Spike-specific T cell responses ✓

Potent pseudovirus nAb titers of 2,370 (wild-type Spike) at day 29, consistent with best-in-class first-generation mRNA vaccines in the same clinical context* ✓

**COV-BOOST study; Munro et al. Lancet 2021*

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Thank You

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