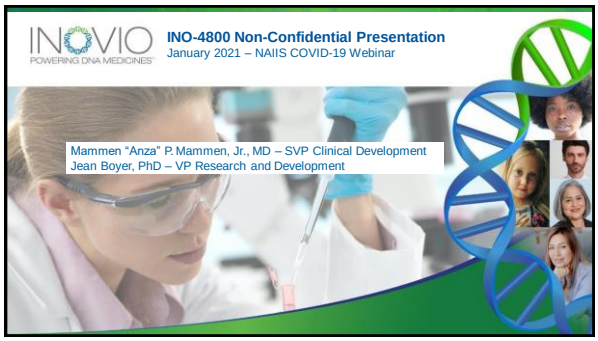

1

INOVIO DNA Medicine Platform and INO-4800 Pre-clinical and Phase 1 Studies Position INO-4800 to Contribute to Protecting the Global Population

- **Safe, Tolerable and Easy to Administer:** Unlike other COVID-19 vaccine candidates, INO-4800 is administered intradermally and, to date, has caused only limited side effects (mostly mild injection site reactions). INO-4800 only takes a few seconds to administer intradermally followed by electroporation.
- **Immunogenic:** Most Phase 1 participants demonstrated immunological responses comprising balanced neutralizing antibodies and favorable T-cell responses (CD8 and CD4).
- **Stable and Transportable:** INO-4800 has an unmatched stability profile. Our vaccine is stable at room temperature for more than a year, at 37ºC for more than a month, and at 2-8ºC for a 5-year shelf life; our vaccine does not need to be frozen during transport or storage – a critical element when considering the feasibility of global distribution.
- **Characterizable and Scalable:** INO-4800 is highly characterizable and scalable. The highly characterizable nature of the vaccine enables timely scaling of manufacturing with multiple manufacturing facilities able to be utilized.
- **Able to be Safely Re-administered with Potentially Improved CD8 Responses:** We expect to be able to boost our immune profile with repeat administrations based on pre-clinical studies and what we have seen with other vaccines within our DNA platform. INO-4800 can be safely readministered if immunity wanes, offering seasonal homologous boosting and potentially heterologous boosting without any concerns of generating an anti-vector response.

2

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Near Term Clinical Studies for INO-4800

U.S. Phase 1 Safety and Immunogenicity Study

- Initiation of first-in-human (FIH) study in April 2020 in young (18-50 years), healthy subjects
- Expansion to include older (51-64 years) and elderly (65 years and older) subjects
- Down-select from 0.5mg, 1.0mg and 2.0mg of INO-4800 for evaluation in a 2-dose regimen (Days 0, 28) in INNOVATE Phase 2

Studies in South Korea and China

- International Vaccine Institute (IVI) South Korea Phase 1/2a study; initiated in July 2020
- Advaccine China Phase 1 study initiated in September 2020; Phase 2 study initiated in December 2020

U.S. Phase 2/3 Efficacy Study

- INNOVATE Phase 2 to down-select age-appropriate doses for efficacy evaluation in a Phase 3 segment following FDA concurrence

3

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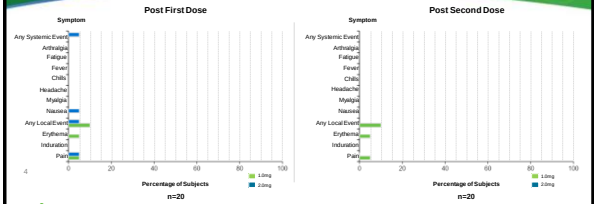
U.S. Phase 1: Week 8 Safety on 40 Subjects in 18-50 year olds

Systemic and Local Adverse Events (AEs) Related to Study Drug by Dose



No serious adverse events (SAEs) reported and all adverse events (AEs) reported were mild
No dose discontinuations due to AEs
No safety concerns as per independent Data Safety Monitoring Board (DSMB)

4

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U.S. Phase 1: Immunogenicity Evaluations

Immunogenicity assays:

- **Cellular (T cell) responses via**
  - IFNγ by ELISpot
  - Phenotype by Flow Cytometry
- **Humoral (B cell) antibody responses via**
  - ELISA, assessing binding antibodies to the SARS-CoV-2 Spike glycoprotein
  - ELISA, assessing binding antibodies to the SARS-CoV-2 RBD protein
  - Live virus neutralizing antibodies

Response Data:

- **Post-dose 2 responses** compared to baseline, and
- Responses **specific only to the SARS-CoV-2 spike antigen**

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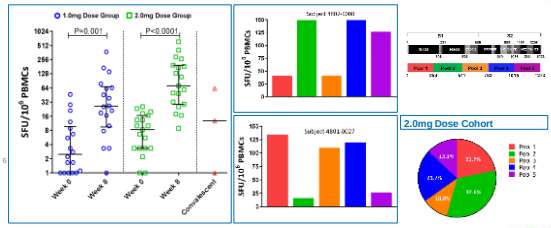
U.S. Phase 1: Week 8 Immunogenicity on 40 Subjects in 18-50 year age group

Induction of Antigen Specific T Cells by ELISpot – 1.0mg vs 2.0mg



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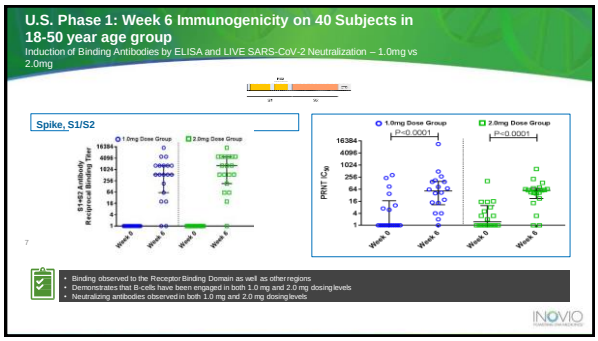
U.S. Phase 1: Week 6 Immunogenicity on 40 Subjects in 18-50 year age group
Induction of Binding Antibodies by ELISA and LIVE SARS-CoV-2 Neutralization – 1.0mg vs 2.0mg
Spike, S1/S2
1.0mg Dose Group
2.0mg Dose Group
S1+S2 Antibody Reciprocal Binding Titer
16384
4096
1024
256
64
16
4
1
Week 0
Week 6
PRNT FC50
P<0.0001
P<0.0001
• Binding observed to the Receptor Binding Domain as well as other regions
• Demonstrates that B-cells have been engaged in both 1.0 mg and 2.0 mg dosing levels
• Neutralizing antibodies observed in both 1.0 mg and 2.0 mg dosing levels
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