INO-4800 Non-Confidential Presentation
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INOVI 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 localized edema prior to injection site reactions. INO-4800 only takes a few seconds to administer intradermally followed by electroporation.

• Immunogenic: Most Phase 1 studies have 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 2°C/8°C for more than a month, and at 28°C for 5 days, unlike our vaccine does not need to be frozen during transport or storage – a critical element when considering the scalability of global distribution.

• Characterizable and Scalable: INO-4800 is highly characterizable and scalable. The highly characteristic nature of the vaccine enables timely scaling of manufacturing with multiple manufacturing facilities able to be utilized.

• Able to be Safety 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 platforms. INO-4800 can be safely re-administered in a favorable manner offering homogenous boosting without any concerns of generating an anti-vector response.

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
• Dose selected from 0.5mg, 1mg and 2mg of INO-4800 for evaluation in a 2-dose regimen (Dose E. 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
• Aivac3a China Phase 1 study initiated in September 2020, Phase 2 study initiated in December 2020

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

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

U.S. Phase 1: Immunogenicity Evaluations

Immunogenicity assays:
• Cellular (T cell) responses via ELISPOT
• Phenotypic Flow Cytometry
• Humoral (B cell) antibody responses via:
  • ELISA, assessing binding antibodies to the SARS-CoV-2 Spike glycoprotein
  • ELISAs, assessing binding antibodies to the SARS-CoV-2 N protein
• Live-virus neutralizing antibodies

Response Data:
• Post-dose 2 response compared to baseline, and
• Responses: specific only to the SARS-CoV-2 spike antigen

U.S. Phase 1: Week 8 Immunogenicity on 40 Subjects in 18-50 year age group
Spike of Antigen-Binding T cells by ELISPOT – 1.0µg to 2.0µg
U.S. Phase 1: Week 6 Immunogenicity on 40 Subjects in 18-50 year age group

Induction of Binding Antibodies to S1/S2 Spike of SARS-CoV-2, Neutralization – 1.0 mg vs 2.0 mg

- Binding observed to the Receptor Binding Domain and 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