

# **SARS-CoV-2 Spike Ferritin Nanoparticle Vaccine**

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**World Health Organization Pan-Sarbecovirus Vaccine Consultation**

**25 March 2022**

**EIDB**

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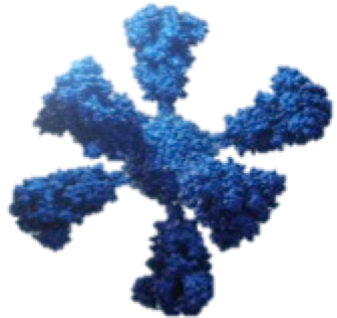
# Preclinical Summary

## Cell Reports

**SARS-CoV-2 ferritin nanoparticle vaccines elicit broad SARS coronavirus immunogenicity**

npj | vaccines

**A SARS-CoV-2 spike ferritin nanoparticle vaccine protects hamsters against Alpha and Beta virus variant challenge**

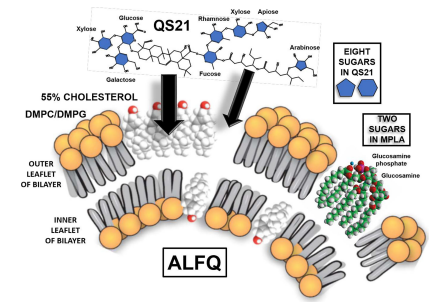


Science Translational Medicine

RESEARCH ARTICLES

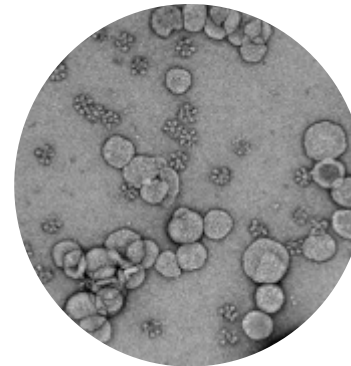
CORONAVIRUS

**A SARS-CoV-2 ferritin nanoparticle vaccine elicits protective immune responses in nonhuman primates**



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**SARS-CoV-2 ferritin nanoparticle vaccine induces robust innate immune activity driving polyfunctional spike-specific T cell responses**



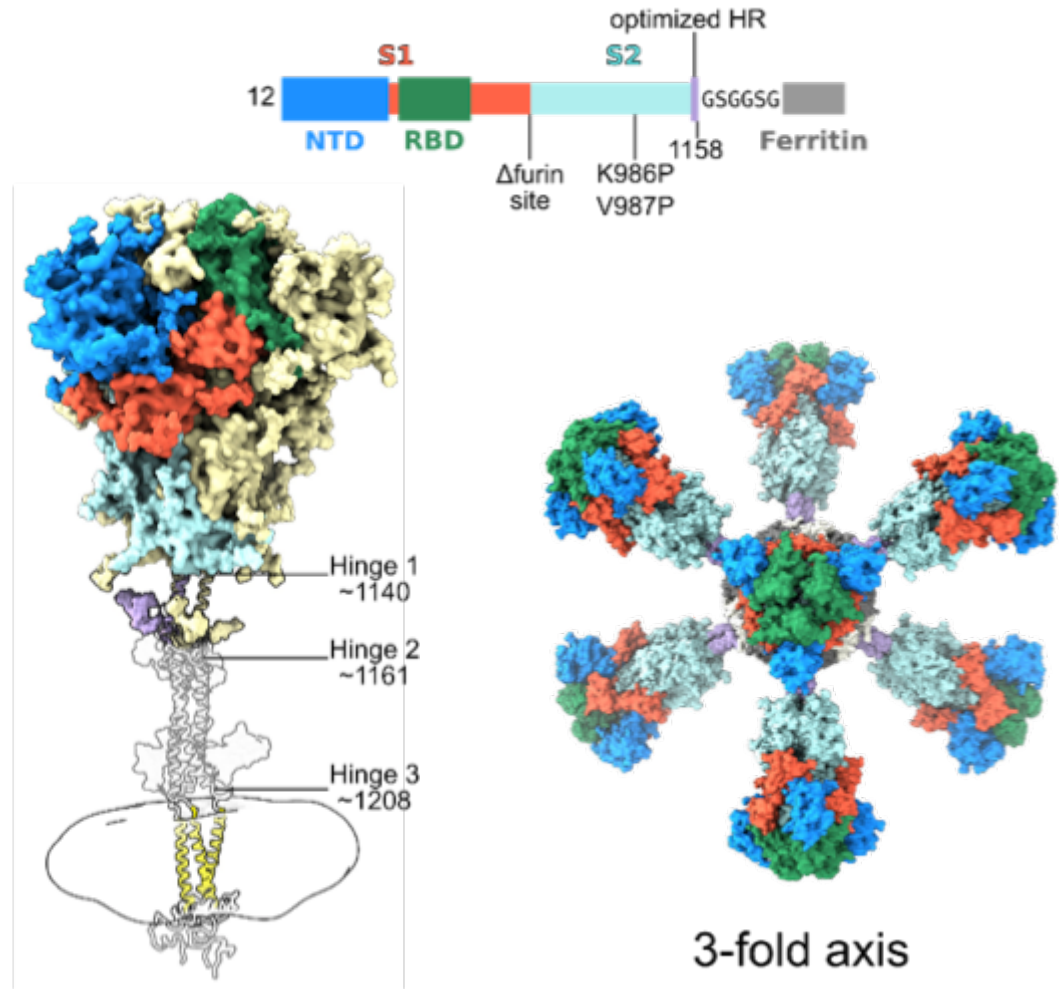
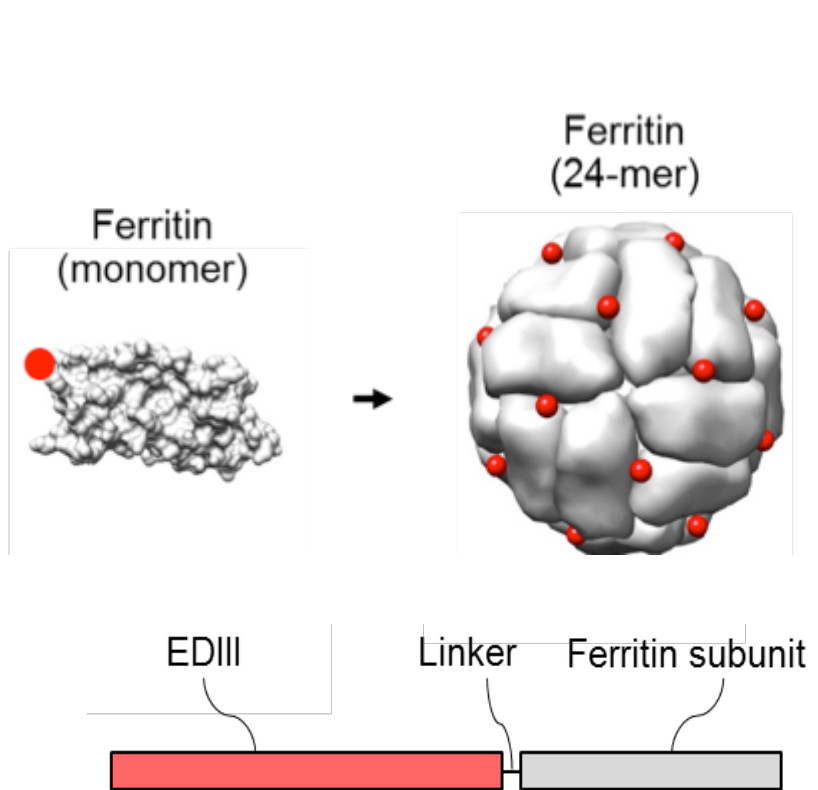
PNAS

Proceedings of the  
National Academy of Sciences  
of the United States of America

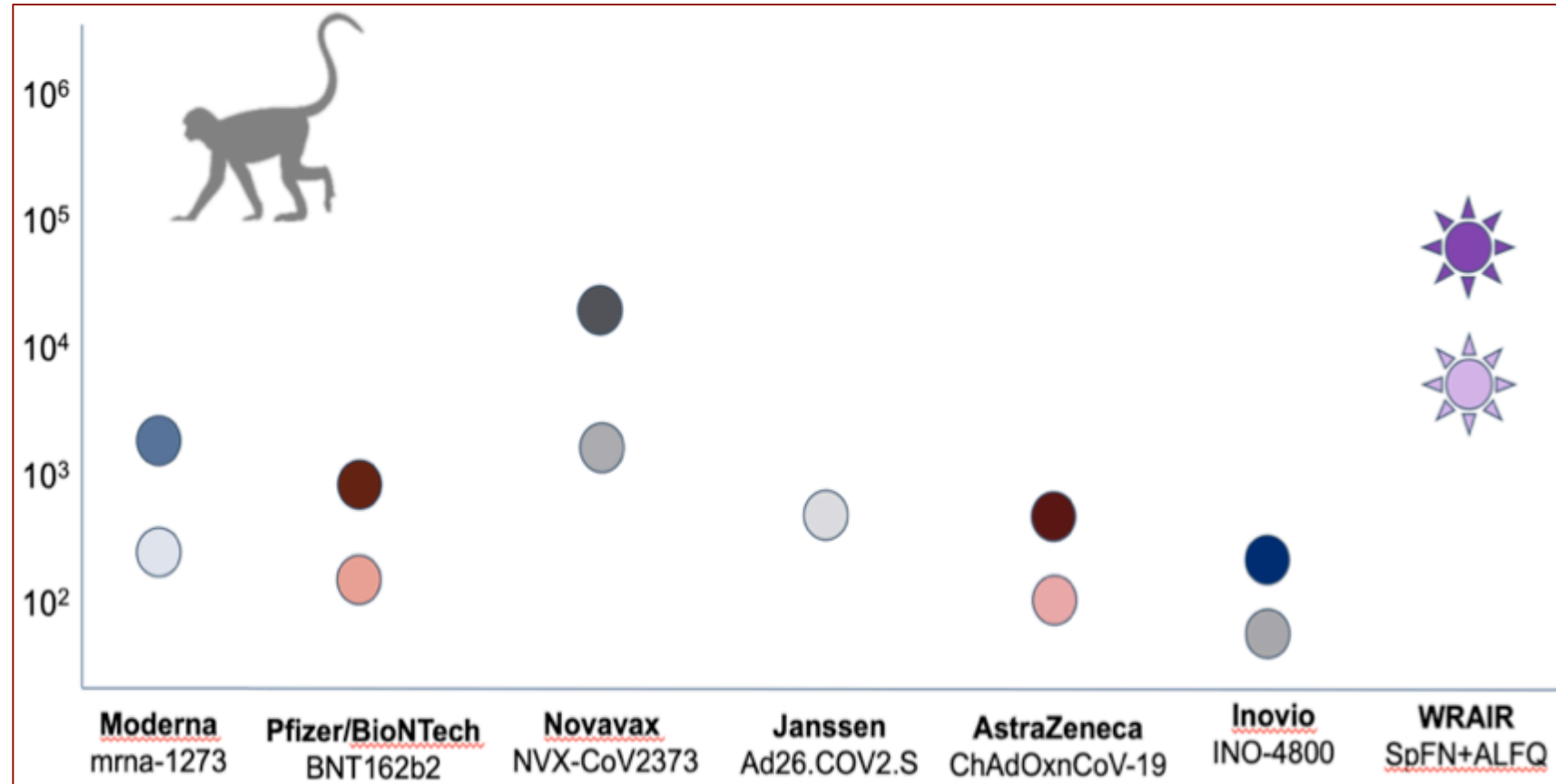
**Efficacy and breadth of adjuvanted SARS-CoV-2 receptor-binding domain nanoparticle vaccine in macaques**

Updated 25 February 2022

# Design of SARS-CoV-2 Spike Ferritin Nanoparticle (SpFN)



# A Suite of Animal Studies: Consistent Potency & Protection



# Next Set of Animal Studies











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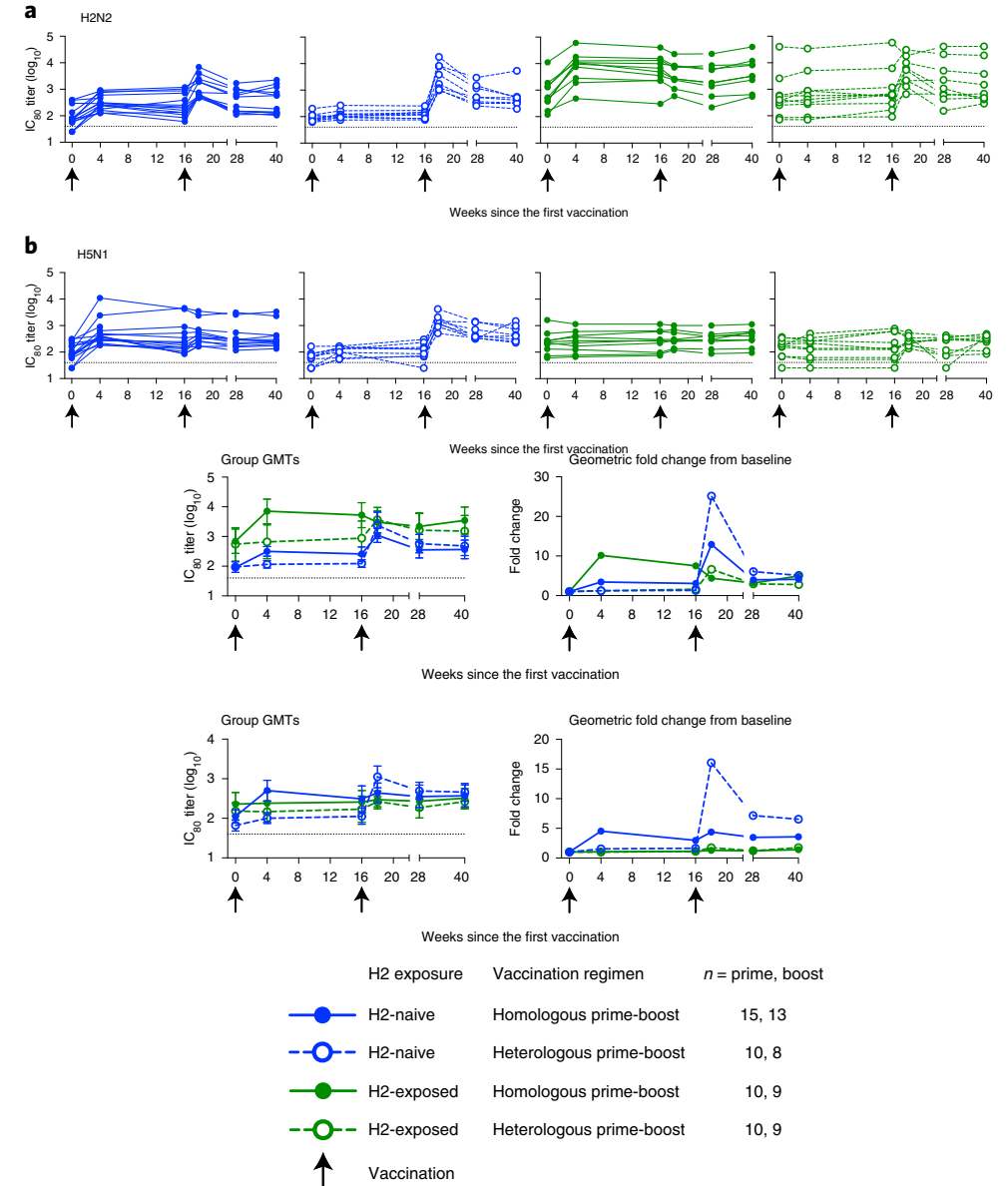
- Multivalent formulations mouse/hamster studies
- Heterologous prime-boost NHP Omicron challenge study
- mRNA formulation mouse studies
- Passive transfer human IgG hamster SARS1/2 challenge
- Adjuvant and Immunogen combination comparison - NHP

# Ferritin Influenza HA Clinical Trial



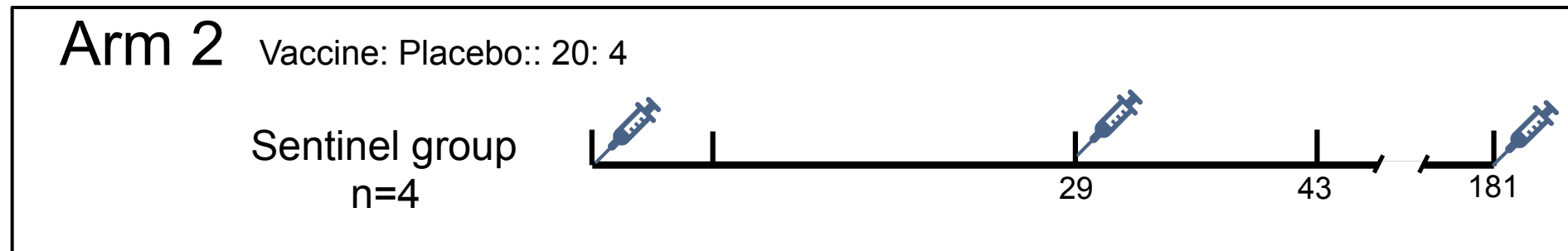
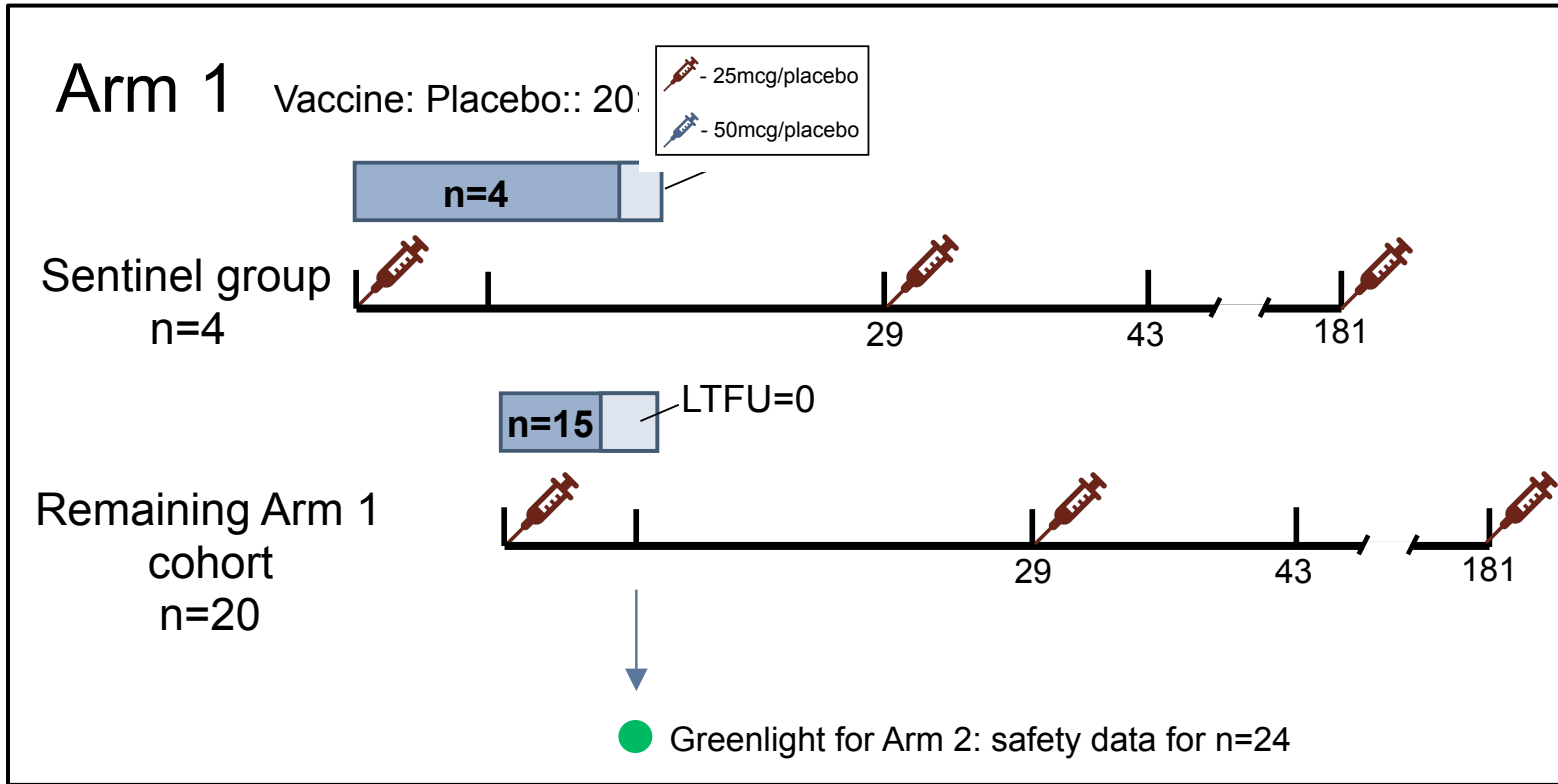
# Safety and immunogenicity of a ferritin nanoparticle H2 influenza vaccine in healthy adults: a phase 1 trial

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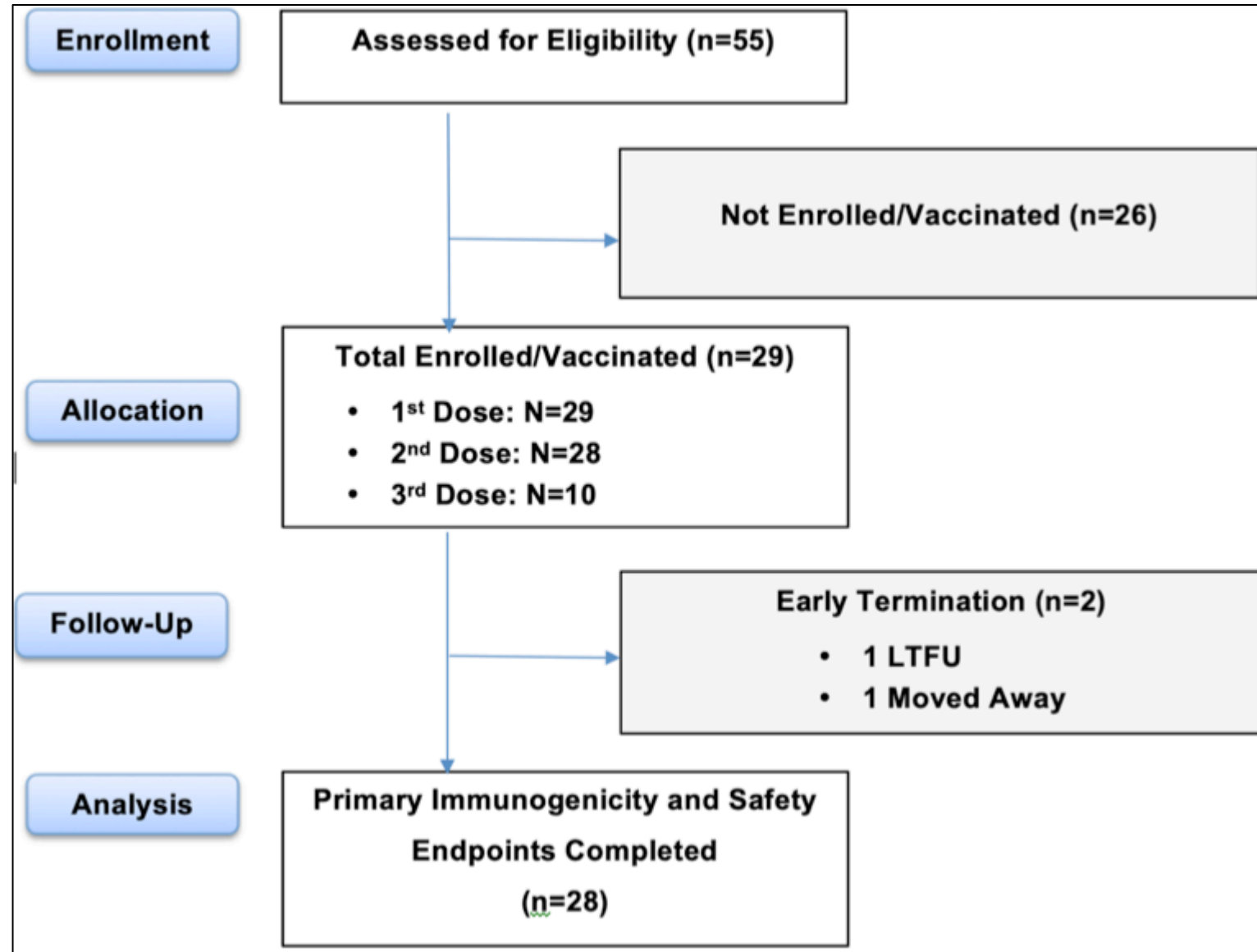




# SpFN Phase I Trial Design



# SpFN Phase I Trial Flow





# SpFN Phase I Trial Endpoints

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- Local and Systemic reactogenicity
- Binding antibody (MSD)
- SARS-CoV-2 VOC Pseudovirus Neutralization
- Cell mediated immunity (ICS)
- Sarbecovirus RBD binding antibody (BLI (Octet)) panel
- Broader sarbecovirus neutralization panel
- Purified IgG passive transfer/challenge (Delta, Omicron, SARS1)

# Acknowledgements

## Emerging Infectious Diseases Branch (EIDB)

Gordon Joyce  
Paul Scott  
Brittany Shepherd  
Mihret Amare  
Sandhya Vasan  
Erifile Zografos  
Heather Liu  
Jarrett Headley  
Greg Bujak  
Jenny Lay  
Kara Lombardi  
Leigh Anne Eller

### MHRP

Gary Matyas  
Mangala Rao  
Vicky Polonis  
Sebastian Molnar

### PBF

LTC Jeffrey Froude  
Rafael de la Barrera  
Stasya Zarling-Bejma

Amy Castellano  
Daniel Choi  
Elizabeth Bianchi  
Erica Sondergaard  
Mark Milazzo  
Mekdi Taddese  
Melanie McCauley  
Paul Zaremba  
Farooq Nasir  
Shilpa Hakre  
Tsedal Mebrahtu  
Theresa Lins

### VDB

Greg Gromowski  
Aslaa Ahmed

### CTC

Melissa Greenleaf  
Evie Guzman  
MAJ Aaron Sanborn  
MAJ Jack Hutter  
MAJ Mike Koren  
MAJ Nathan Jansen

Misook Choe  
Rajeshwer Sankhala  
Wei-Hung Chen  
Paul V. Thomas  
Agi Hajducski  
Caroline Peterson  
William Chang  
Paul Thomas  
Elizabeth Martinez  
Phyllis Rees  
Petra Prins  
Leilani Francisco

### DHVI

David Montefiori  
Hongmei Gao  
Amanda Eaton  
Kelli Greene

## WRAIR / CIDR

Nelson Michael  
COL Robert O'Connell  
COL Chad Koenig  
BG Clinton Murray  
COL(P) Deydre Teyhen

### NIAID/VRC

John Mascola  
Barney Graham  
Rick Koup  
Julie Ledgerwood  
Adrian McDermott  
Kizzmekia Corbett  
Masaru Kanekiyo  
Sarah O'Connell  
Sandeep Narpala  
Sandra Vazquez  
Somia Hickman

### FHCC

Julie McElrath  
Stephen De Rosa

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