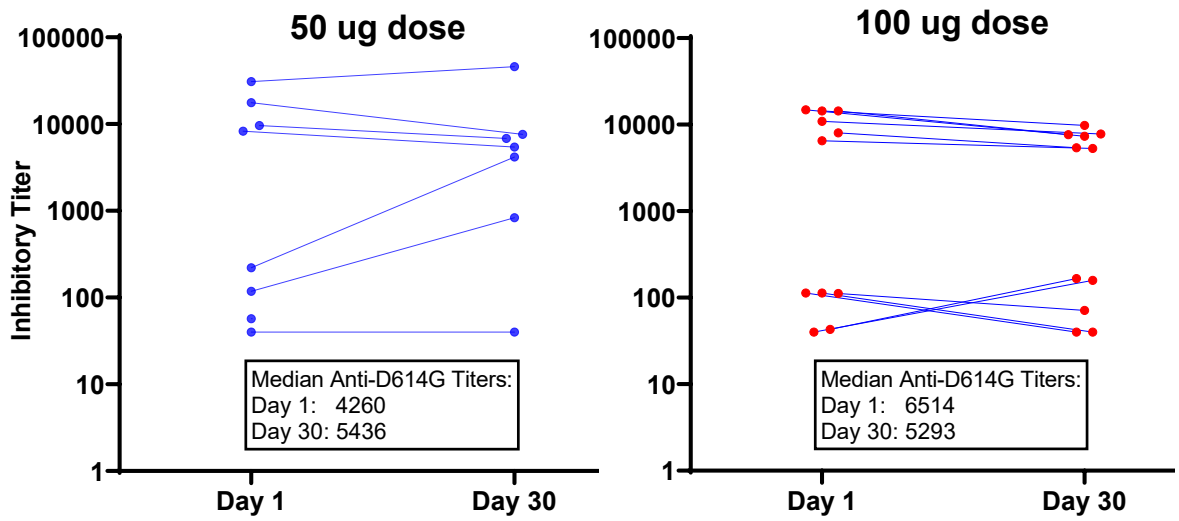

Figure S1 Neutralizing antibody titers measured by the D614G SARS-CoV-2 pseudovirus neutralization assay.

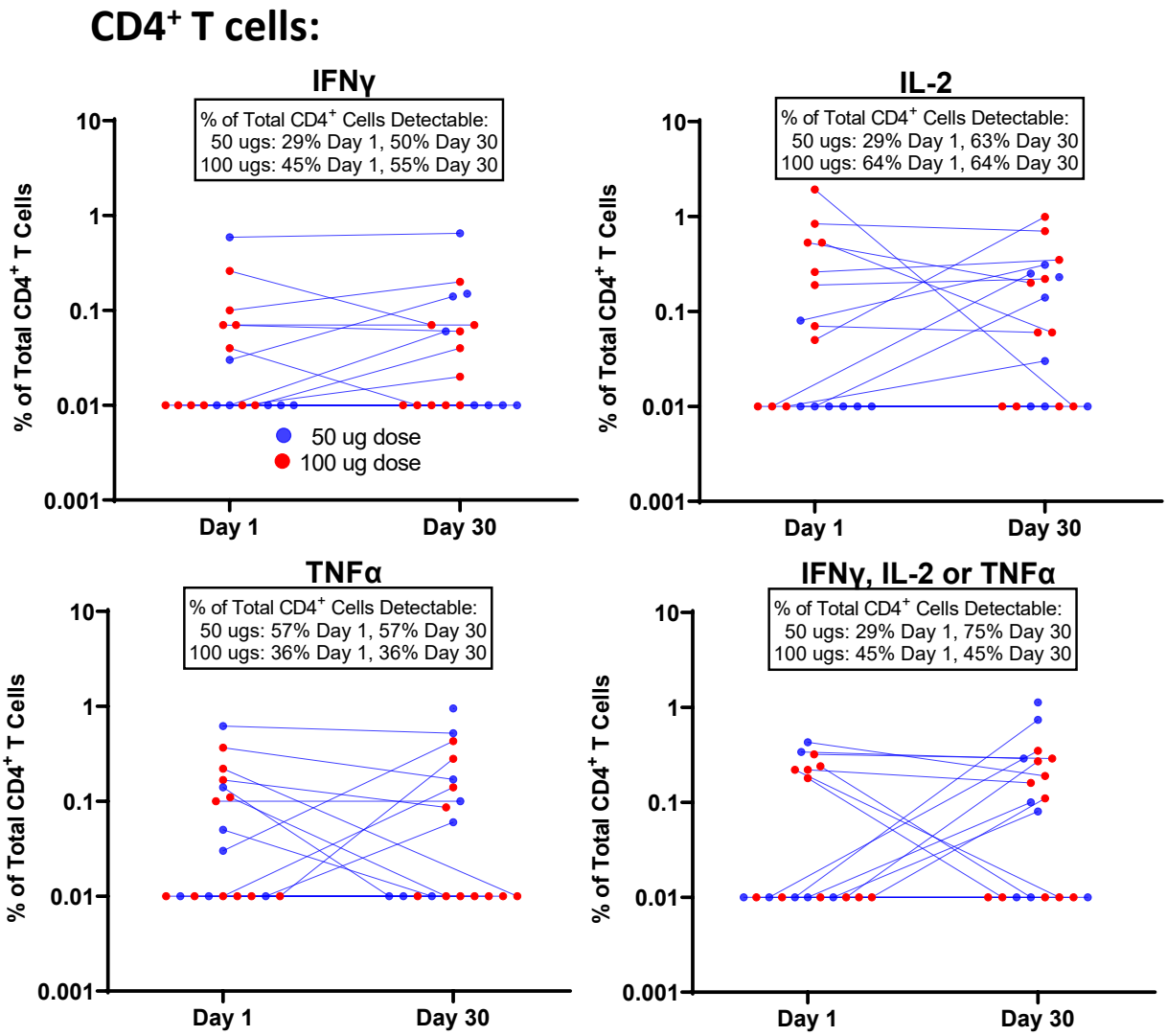

Figure S2 CD4+ response after spike protein peptide pool stimulation measured by flow cytometry with intracellular staining for IFNγ, IL-2 and TNFα.

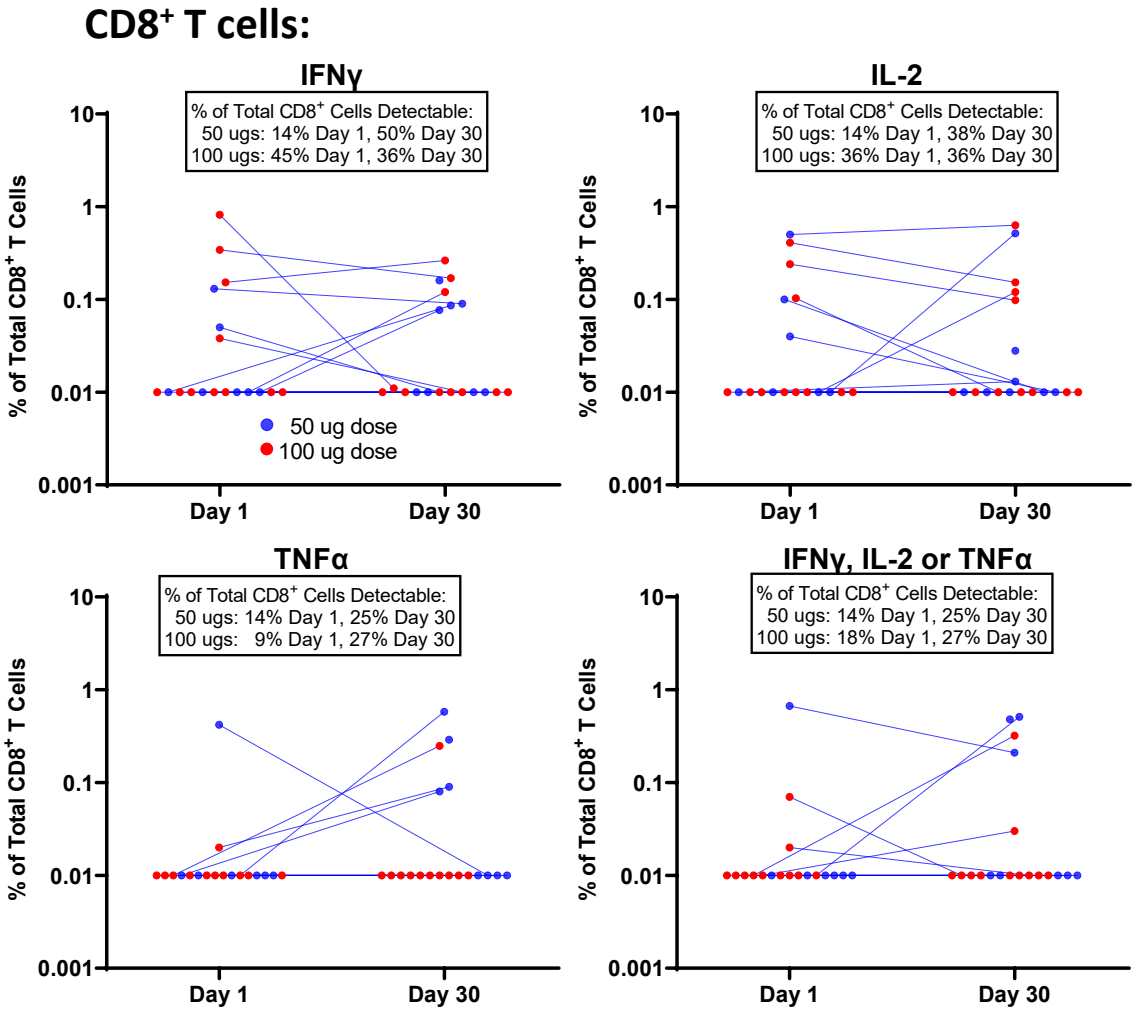

Figure S3 CD8+ response after spike protein peptide pool stimulation measured by flow cytometry with intracellular staining for IFNγ, IL-2 and TNFα.

Appendix 1: Serious Adverse Experiences (SAEs) Unrelated to Study Vaccine

An SAE was defined as any AE occurring at any dose that results in any of the following outcomes:

1. death
2. a life-threatening adverse experience
3. inpatient hospitalization or prolongation of existing hospitalization
4. a persistent or significant disability/incapacity
5. a congenital anomaly/birth defect

Two participants experienced SAEs unrelated to study vaccine during the 6-month follow-up period. One participant required two hospital admissions due to hypoxemia after a COVID-19 infection. A second participant required prolonged hospitalization requiring intensive care management due to complications after an aortic valve replacement including: aspiration pneumonia, sepsis requiring vasopressors and renal failure requiring hemodialysis.

Appendix 2: Adverse Events of Special Interest (AESI) Terms

The Investigator's medical judgement must be applied to assess an event as an AESI, as most AESIs are based on medical concepts. The table below does not provide a comprehensive list of terms. Please note: COVID-19 itself is not an AESI.

Medical Concept	Medical Concept Descriptions/Guidance
0. Not an AESI	
1. Anosmia, Ageusia	● New onset of anosmia or ageusia associated with COVID-19 or idiopathic etiology ● DOES NOT INCLUDE anosmia or ageusia associated with sinus/nasal congestion, congenital, or traumatic etiologies
2. Subacute thyroiditis	● Acute inflammatory disease of the thyroid (immune-mediated or idiopathic) ● DOES NOT INCLUDE new onset of chronic thyroiditis
3. Acute pancreatitis	● New onset of pancreatitis in the absence of a clear, alternate etiology, such as alcohol, gallstones, trauma, recent invasive procedure, etc.
4. Appendicitis	● Any event of appendicitis
5. Rhabdomyolysis	● New onset of rhabdomyolysis in the absence of a clear, alternate etiology, such as drug/alcohol abuse, excessive exercise, trauma, etc.
6. Acute respiratory distress syndrome (ARDS)	● New onset of ARDS/respiratory failure due to acute inflammatory lung injury ● DOES NOT INCLUDE non-specific symptoms of shortness of breath or dyspnea, nor events with underlying etiologies of heart failure or fluid overload
7. Coagulation disorders	● New onset of thrombosis, thromboembolic event, or non-traumatic hemorrhage/bleeding disorder (ex. stroke, DVT, pulmonary embolism, disseminated intravascular coagulation (DIC), etc.)

Medical Concept	Medical Concept Descriptions/Guidance
8. Acute cardiovascular injury	● New onset of clinically confirmed, acute cardiovascular injury, such as myocarditis, pericarditis, arrhythmia confirmed by ECG (ex. atrial fibrillation, atrial flutter, supraventricular tachycardia), stress cardiomyopathy, heart failure, acute coronary syndrome, myocardial infarction, etc. ● DOES NOT INCLUDE transient sinus tachycardia/bradycardia, non-specific symptoms such as palpitations, racing heart, heart fluttering or pounding, irregular heartbeats, shortness of breath, chest pain/discomfort, etc.
9. Acute kidney injury	● New onset of acute kidney injury or acute renal failure in the absence of a clear, alternate etiology, such as urinary tract infection/urosepsis, trauma, tumor, nephrotoxic medications/substances, etc.; ● Increase in serum creatinine by ≥0.3 mg/dl (or ≥26.5 μmol/l) within 48 hours; **OR** ● Increase in serum creatinine to ≥1.5 times baseline, known or presumed to have occurred within prior 7 days
10. Acute liver injury	● New onset in the absence of a clear, alternate etiology, such as trauma, tumor, hepatotoxic medications/substances, etc.: ● >3-fold elevation above the upper normal limit for ALT or AST; **OR** ● >2-fold elevation above the upper normal limit for total serum bilirubin or GGT or ALP
11. Dermatologic findings	● Chilblain-like lesions ● Single organ cutaneous vasculitis ● Erythema multiforme ● Bullous rash ● Severe cutaneous adverse reactions, such as Stevens-Johnson syndrome, Toxic epidermal necrolysis, Drug reaction with eosinophilia and systemic symptoms (DRESS), fixed drug eruptions, and necrotic or exfoliative reactions
12 Systemic inflammatory syndromes	● Multisystem inflammatory syndrome in adults (MIS-A) or children (MIS-C) ● Kawasaki's disease ● Hemophagocytic lymphohistiocytosis (HLH)
13. Thrombocytopenia	● Platelet count <150 × 10^9/L (thrombocytopenia) ● New clinical diagnosis, or worsening, of thrombocytopenic condition, such as immune thrombocytopenia, thrombocytopenic purpura, or HELLP syndrome
14. Acute aseptic arthritis	● Clinical syndrome characterized by acute onset of signs and symptoms of joint inflammation without recent trauma for a period of no longer than 6 weeks, synovial increased leukocyte count and the absence of microorganisms on gram stain, routine culture and/or PCR. ● DOES NOT INCLUDE new onset of chronic arthritic conditions

Medical Concept	Medical Concept Descriptions/Guidance
15. New onset, or worsening, of neurological disease	● Immune-mediated neurological disorders ● Guillain-Barre Syndrome ● Acute disseminated encephalomyelitis (ADEM) ● Peripheral facial nerve palsy (Bell's palsy) ● Transverse myelitis ● Encephalitis/Encephalomyelitis ● Aseptic meningitis ● Seizures/convulsions/epilepsy ● Narcolepsy/hypersomnia
16. Anaphylaxis	● Anaphylaxis associated with study drug administration
17. Other syndromes	● Fibromyalgia ● Postural Orthostatic Tachycardia Syndrome ● Chronic Fatigue Syndrome ● Myalgic encephalomyelitis ● Post viral fatigue syndrome ● Myasthenia gravis

Appendix 3: Immunogenicity Assays

Humoral immunogenicity was measured by the PhenoSense pseudovirus neutralization assay, an FDA approved assay that utilizes lentiviral vector pseudotyped with full-length SARS-CoV-2 D614G spike protein as previously described [18, 19]. The PhenoSense assay employs a specificity control created using the same lentiviral backbone with a 1949 Influenza A H10N3 envelope. The specificity control is designed to detect non-antibody factors that could inhibit SARS-CoV-2 pseudovirus and result in false positive measurements. The inhibitory dilution 50 (ID50), the inhibitory dilution at which 50% neutralization is attained is reported. A detectable anti-SARS-CoV-2 nAb was defined as a nAb titer greater than three times titer of the specificity control on the same serum sample. Cellular immunogenicity was measured by flow cytometry with intracellular staining for IFNγ, IL-2 and TNFα as previously described (Fortessa cytometer using FloJo software) with a 0.01% limit of detection [20, 27]. In brief, PBCSs were incubated with peptide pools consisting of 15-mer sequences with 11 amino acid overlap covering the ancestral Wuhan SARS-CoV-2 spike protein (Peptivator, Miltenyi) at a final concentration of 1.5 μg/mL with brefeldin A, monensin, CD28 and CD49d.