

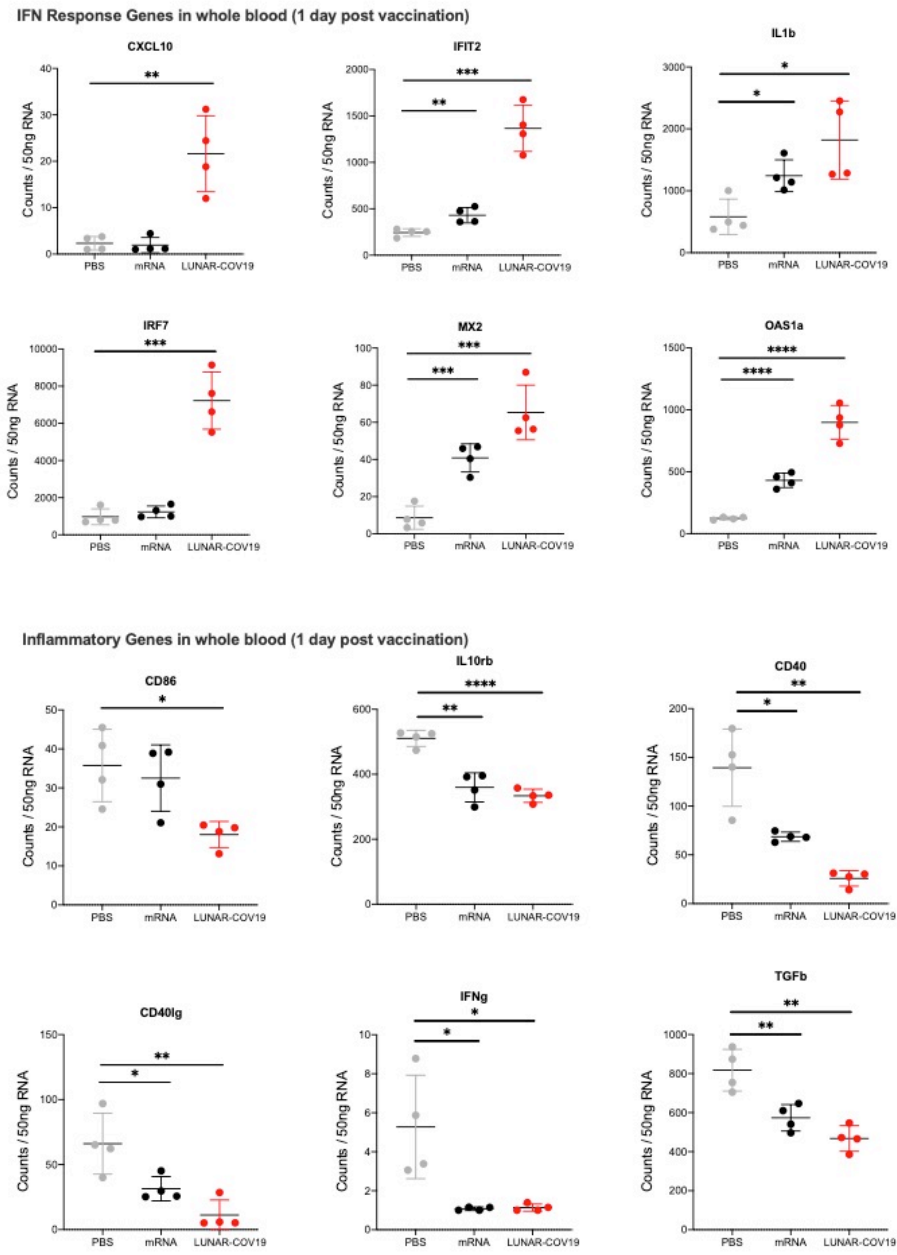
Supplemental Information

A single dose of self-transcribing and replicating RNA-based SARS-CoV-2 vaccine produces protective adaptive immunity in mice

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1 Supplemental Information

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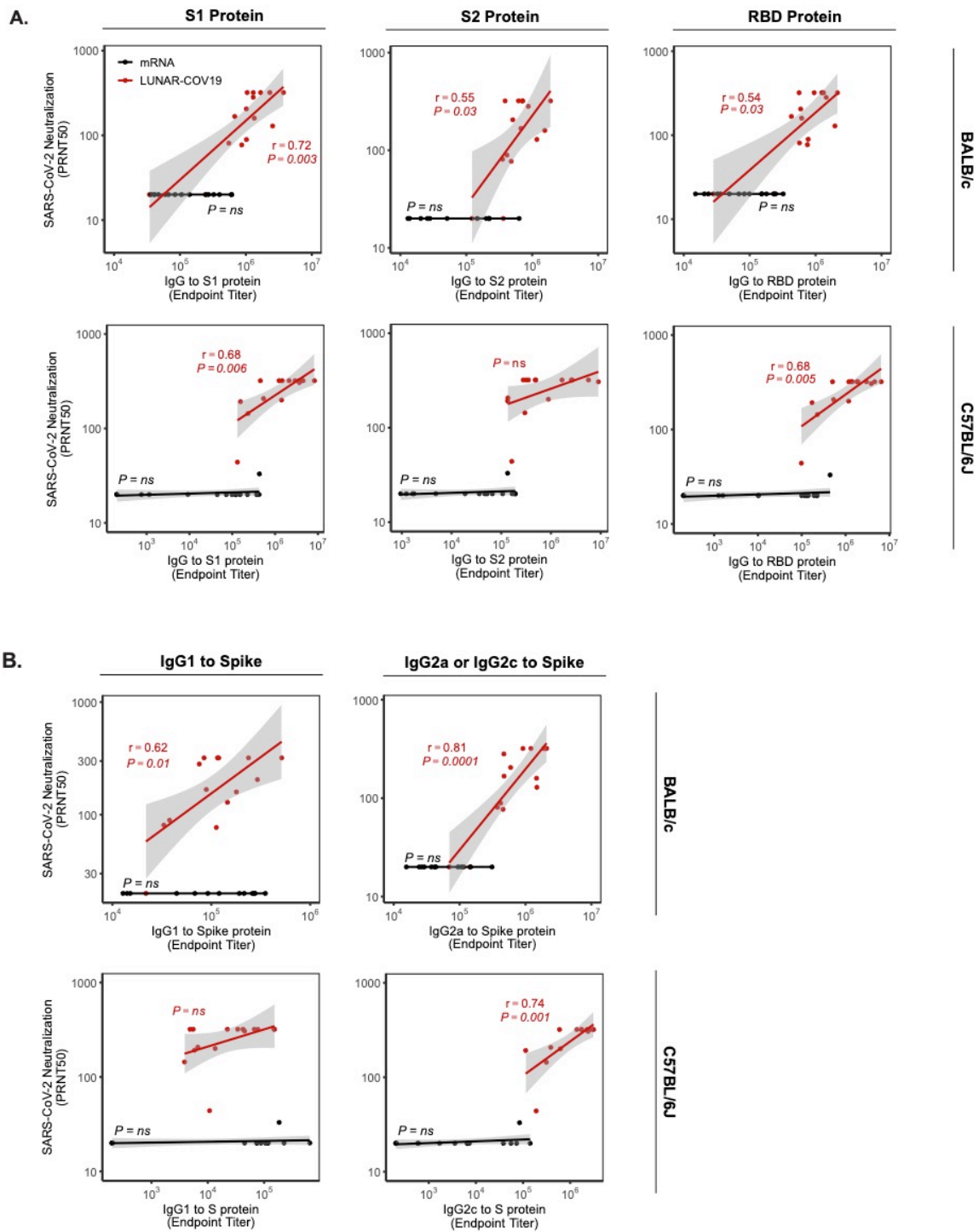
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5 **Figure S1.** Whole blood transcriptomic data at 1-day post-prime vaccination showing
6 Nanostring counts per 50ng RNA of selected IFN and inflammatory genes.

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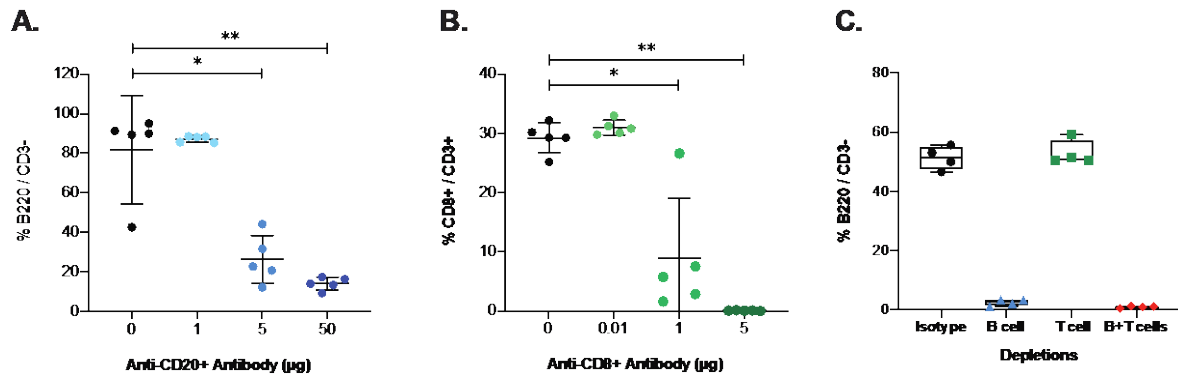
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12 **Figure S2.** Correlation analysis of live SARS-CoV-2 neutralization against binding IgG and
 13 IgG subclasses in BALB/c and C57BL/6J mouse strains. **A)** Spearman correlation analysis of
 14 SARS-CoV-2 neutralization (PRNT50) against total IgG specific to several SARS-CoV2
 15 antigens, including S, S1, and RBD recombinant proteins. **B)** Spearman correlation analysis
 16 of SARS-CoV-2 neutralization (PRNT50) against SARS-CoV2 S-specific IgG subclasses
 17 (IgG1 and IgG2a or IgG2c).

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21 **Figure S3.** Optimization and confirmation of B cell and/or T cell depletions in hACE2 mice.22 **A)** B cells were successfully depleted by treating hACE mice with 1, 5 or 50 μg of anti-CD2023 antibody or IgG2b mouse isotype control (i.e. 0 μg). **B)** T cells were depleted by treating with24 0.01, 1 or 5 μg of anti-CD8 antibody or IgG2b mouse isotype control (i.e. 0 μg). **C)**

25 successful depletion of B cells prior to vaccination and SARS-CoV-2 challenge.

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28 **Table S1. SARS-CoV-2 specific binding and neutralizing antibody in convalescent**
 29 **COVID-19 patients.**

Patient Num	COVID-19 Disease severity	SARS-CoV-2 virus Neutralization (PRNT50)	IgG to SARS-CoV-2 Spike (Endpoint titer)
1	moderate	239	74976
2	mild	36	129499
3	mild	198	1325961
4	mild	397	260182
5	mild	53	10519
6	mild	31	13495
7	severe	403	231718
8	mild	294	123996
9	mild	142	38998
10	moderate	638	924656
11	mild	12	13364
12	mild	104	111612
13	mild	483	209783
14	mild	65	38959
15	mild	527	668338
16	mild	17	30992
17	mild	173	3953089
18	mild	172	53124
19	mild	34	28976
20	mild	16	17408
21	mild	218	1247821
22	mild	33	13099
23	mild	101	293233
24	mild	91	123059
25	mild	308	173622
26	mild	24	89434
27	mild	76	60097
28	mild	53	311261
29	mild	216	55180
30	mild	52	2877451
31	severe	352	1322478
32	mild	20	92233
33	moderate	374	437878
34	moderate	523	173329
35	moderate	1818	2013540
36	severe	487	187322
37	severe	309	166749
38	mild	212	134671
39	mild	257	64057
40	severe	699	474792
41	Severe	712	2069779
42	mild	44	7300
43	severe	424	169514
44	severe	1521	189268
45	mild	29	922536
46	mild	127	54089
47	mild	192	59138
48	mild	253	142354
49	mild	407	654894
50	Asymptomatic	43	53462

51	Asymptomatic	171	15396
52	mild	59	363930
53	Asymptomatic	148	20269
54	Severe	477	233143

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