

COVID-19 Immunogenicity Analysis Report
MockENSEMBLE Study

USG COVID-19 Response Biostatistics Team

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Chapter 1

Tabular Description of Immunogenicity Data

1.1 Demographic and Clinical Characteristics at Baseline in the Baseline SARS-CoV-2 Negative Per-Protocol Cohort

Table 1. Demographic and Clinical Characteristics at Baseline in the Baseline SARS-CoV-2 Negative Per-Protocol Cohort

Characteristics	Vaccine (N = 878)	Placebo (N = 107)	Total (N = 985)
Age			
Age 18 - 59	435 (49.5%)	52 (48.6%)	487 (49.4%)
Age \geq 60	443 (50.5%)	55 (51.4%)	498 (50.6%)
Mean (Range)	56.9 (18.0, 85.0)	55.7 (18.0, 85.0)	56.8 (18.0, 85.0)
BMI			
Mean \pm SD	3.2 ± 0.7	3.3 ± 0.7	3.2 ± 0.7
Risk for Severe Covid-19			
At-risk	435 (49.5%)	55 (51.4%)	490 (49.7%)
Not at-risk	443 (50.5%)	52 (48.6%)	495 (50.3%)
Age, Risk for Severe Covid-19			
Age 18 - 59 At-risk	213 (24.3%)	27 (25.2%)	240 (24.4%)
Age 18 - 59 Not at-risk	222 (25.3%)	25 (23.4%)	247 (25.1%)
Age \geq 60 At-risk	222 (25.3%)	28 (26.2%)	250 (25.4%)
Age \geq 60 Not at-risk	221 (25.2%)	27 (25.2%)	248 (25.2%)
Sex			
Female		40 (37.4%)	40 (4.1%)
Male	878 (100.0%)	67 (62.6%)	945 (95.9%)
Hispanic or Latino ethnicity			
Hispanic or Latino	348 (39.6%)	39 (36.4%)	387 (39.3%)
Not Hispanic or Latino	471 (53.6%)	60 (56.1%)	531 (53.9%)
Not reported and unknown	59 (6.7%)	8 (7.5%)	67 (6.8%)
Race			
White	380 (43.3%)	40 (37.4%)	420 (42.6%)

(continued)

Characteristics	Vaccine (N = 878)	Placebo (N = 107)	Total (N = 985)
Black or African American	306 (34.9%)	40 (37.4%)	346 (35.1%)
Asian	22 (2.5%)	2 (1.9%)	24 (2.4%)
American Indian or Alaska Native	124 (14.1%)	18 (16.8%)	142 (14.4%)
Native Hawaiian or Other Pacific Islander	2 (0.2%)		2 (0.2%)
Multiracial	29 (3.3%)	6 (5.6%)	35 (3.6%)
Not reported and unknown	15 (1.7%)	1 (0.9%)	16 (1.6%)
Underrepresented Minority Status in the U.S.			
URM	630 (71.8%)	77 (72.0%)	707 (71.8%)
Non-URM	248 (28.2%)	30 (28.0%)	278 (28.2%)
Country			
United States	436 (49.7%)	53 (49.5%)	489 (49.6%)
Argentina	43 (4.9%)	5 (4.7%)	48 (4.9%)
Brazil	91 (10.4%)	9 (8.4%)	100 (10.2%)
Chile	16 (1.8%)	3 (2.8%)	19 (1.9%)
Columbia	45 (5.1%)	8 (7.5%)	53 (5.4%)
Mexico	5 (0.6%)	1 (0.9%)	6 (0.6%)
Peru	22 (2.5%)	1 (0.9%)	23 (2.3%)
South Africa	220 (25.1%)	27 (25.2%)	247 (25.1%)

This table summarizes the random subcohort, which was randomly sampled from the per-protocol cohort. The sampling was stratified by strata defined by enrollment characteristics: Assigned treatment arm × Baseline SARS-CoV-2 naïve vs. non-naïve status (defined by serostatus and NAAT testing) × Randomization strata. In the U.S. subcohort 8 baseline demographic strata are used; each of the Latin America and South Africa subcohorts includes 4 baseline demographic strata.

1.2 Demographic and Clinical Characteristics at Baseline in the Baseline SARS-CoV-2 Positive Per-Protocol Cohort

Table 2. Demographic and Clinical Characteristics at Baseline in the Baseline SARS-CoV-2 Positive Per-Protocol Cohort

Characteristics	Vaccine (N = 236)	Placebo (N = 227)	Total (N = 463)
Age			
Age 18 - 59	121 (51.3%)	113 (49.8%)	234 (50.5%)
Age ≥ 60	115 (48.7%)	114 (50.2%)	229 (49.5%)
Mean (Range)	55.6 (18.0, 85.0)	56.9 (18.0, 85.0)	56.2 (18.0, 85.0)
BMI			
Mean ± SD	3.2 ± 0.8	3.3 ± 0.7	3.2 ± 0.7
Risk for Severe Covid-19			
At-risk	116 (49.2%)	113 (49.8%)	229 (49.5%)
Not at-risk	120 (50.8%)	114 (50.2%)	234 (50.5%)
Age, Risk for Severe Covid-19			
Age 18 - 59 At-risk	59 (25.0%)	54 (23.8%)	113 (24.4%)
Age 18 - 59 Not at-risk	62 (26.3%)	59 (26.0%)	121 (26.1%)
Age ≥ 60 At-risk	57 (24.2%)	59 (26.0%)	116 (25.1%)
Age ≥ 60 Not at-risk	58 (24.6%)	55 (24.2%)	113 (24.4%)
Sex			
Female		124 (54.6%)	124 (26.8%)
Male	236 (100.0%)	103 (45.4%)	339 (73.2%)
Hispanic or Latino ethnicity			
Hispanic or Latino	100 (42.4%)	97 (42.7%)	197 (42.5%)
Not Hispanic or Latino	124 (52.5%)	120 (52.9%)	244 (52.7%)
Not reported and unknown	12 (5.1%)	10 (4.4%)	22 (4.8%)
Race			
White	116 (49.2%)	92 (40.5%)	208 (44.9%)
Black or African American	73 (30.9%)	88 (38.8%)	161 (34.8%)
Asian	5 (2.1%)	4 (1.8%)	9 (1.9%)
American Indian or Alaska Native	31 (13.1%)	35 (15.4%)	66 (14.3%)
Multiracial	6 (2.5%)	5 (2.2%)	11 (2.4%)
Not reported and unknown	5 (2.1%)	3 (1.3%)	8 (1.7%)
Underrepresented Minority Status in the U.S.			
URM	165 (69.9%)	168 (74.0%)	333 (71.9%)
Non-URM	71 (30.1%)	59 (26.0%)	130 (28.1%)
Country			
United States	125 (53.0%)	108 (47.6%)	233 (50.3%)
Argentina	9 (3.8%)	9 (4.0%)	18 (3.9%)
Brazil	23 (9.7%)	27 (11.9%)	50 (10.8%)
Chile	4 (1.7%)	2 (0.9%)	6 (1.3%)
Columbia	12 (5.1%)	16 (7.0%)	28 (6.0%)
Mexico	2 (0.8%)		2 (0.4%)
Peru	6 (2.5%)	7 (3.1%)	13 (2.8%)
South Africa	55 (23.3%)	58 (25.6%)	113 (24.4%)

(continued)

Characteristics	Vaccine (N = 236)	Placebo (N = 227)	Total (N = 463)
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This table summarizes the random subcohort, which was randomly sampled from the per-protocol cohort. The sampling was stratified by strata defined by enrollment characteristics: Assigned treatment arm \times Baseline SARS-CoV-2 naïve vs. non-naïve status (defined by serostatus and NAAT testing) \times Randomization strata. In the U.S. subcohort 8 baseline demographic strata are used; each of the Latin America and South Africa subcohorts includes 4 baseline demographic strata.

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1.3 Sample Sizes of Random Subcohort Strata for Measuring Antibody Markers

Table 3. Sample Sizes of Random Subcohort Strata for Measuring Antibody Markers

U.S. Random Subcohort Sample Sizes (N=722 Participants) (Janssen Trial)																
	Baseline SARS-CoV-2 Negative								Baseline SARS-CoV-2 Positive							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Vaccine																
Observed	55	52	54	55	54	54	57	55	16	17	14	15	16	14	17	16
Estimated	1520	1033	758	515	1741	1149	910	641	160	130	85	43	200	124	97	71
Placebo																
Observed	7	7	7	7	5	7	6	7	13	13	14	15	15	9	14	15
Estimated	1501	980	776	523	1792	1149	950	640	159	93	84	56	175	131	93	81

Demographic covariate strata:

- 1. US URM, Age 18-59, Not at risk
- 2. US URM, Age 18-59, At risk
- 3. US URM, Age ≥ 60 , Not at risk
- 4. US URM, Age ≥ 60 , At risk
- 5. US White non-Hisp, Age 18-59, Not at risk
- 6. US White non-Hisp, Age 18-59, At risk
- 7. US White non-Hisp, Age ≥ 60 , Not at risk
- 8. US White non-Hisp, Age ≥ 60 , At risk

Observed = Numbers of participants sampled into the subcohort within baseline covariate strata.

Estimated = Estimated numbers of participants in the whole per-protocol cohort within baseline covariate strata, calculated using inverse probability weighting.

1.4 Sample Sizes of Random Subcohort Strata for Measuring Antibody Markers

Table 4. Sample Sizes of Random Subcohort Strata for Measuring Antibody Markers

Latin America and South Africa Random Subcohort Sample Sizes (N=726 Participants) (Janssen Trial)																
	Baseline SARS-CoV-2 Negative								Baseline SARS-CoV-2 Positive							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Vaccine																
Observed	57	52	56	57	56	55	54	55	15	14	13	14	15	14	14	12
Estimated	2983	2004	1646	1082	1126	756	579	410	334	239	178	128	123	75	79	43
Placebo																
Observed	6	7	7	7	7	6	7	7	14	17	16	14	17	15	11	15
Estimated	2974	1949	1628	1151	1080	747	604	378	330	221	186	94	114	81	61	34

Demographic covariate strata:

- 1. Latin America, Age 18-59, Not at risk
- 2. Latin America, Age 18-59, At risk
- 3. Latin America, Age ≥ 60 , Not at risk
- 4. Latin America, Age ≥ 60 , At risk
- 5. South Africa, Age 18-59, Not at risk
- 6. South Africa, Age 18-59, At risk
- 7. South Africa, Age ≥ 60 , Not at risk
- 8. South Africa, Age ≥ 60 , At risk

Observed = Numbers of participants sampled into the subcohort within baseline covariate strata.

Estimated = Estimated numbers of participants in the whole per-protocol cohort within baseline covariate strata, calculated using inverse probability weighting.

1.5 Percentage of responders, and participants with concentrations $\geq 2\times$ LLOD or $\geq 4\times$ LLOD for binding antibody markers

Table 5a. Percentage of responders, and participants with concentrations $\geq 2\times$ LLOD or $\geq 4\times$ LLOD for binding antibody markers by All participants

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
All participants								
	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	878	1355.3/18853 = 7.2% (5.5%, 9.3%)	16440/18853 = 87.2% (84.4%, 89.6%)	14631.1/18853 = 77.6% (74.2%, 80.7%)
	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	878	10354/18853 = 54.9% (51.2%, 58.6%)	16101.3/18853 = 85.4% (82.4%, 87.9%)	13845.3/18853 = 73.4% (69.9%, 76.7%)
	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	878	8531.9/18853 = 45.3% (41.8%, 48.8%)	18470.1/18853 = 98.0% (96.4%, 98.9%)	17474.2/18853 = 92.7% (90.2%, 94.6%)
	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	236	266.6/2109 = 12.6% (8.5%, 18.3%)	1988.5/2109 = 94.3% (89.8%, 96.9%)	1838.1/2109 = 87.2% (81.4%, 91.3%)
	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	236	1448.9/2109 = 68.7% (61.5%, 75.1%)	1941.6/2109 = 92.1% (87.4%, 95.1%)	1802.1/2109 = 85.4% (79.7%, 89.8%)
	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	236	1257.5/2109 = 59.6% (52.8%, 66.1%)	2081.9/2109 = 98.7% (94.7%, 99.7%)	2059.4/2109 = 97.6% (93.7%, 99.1%)
	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	107	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	107	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	107	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	227	65.6/1993 = 3.3% (1.7%, 6.4%)	1767.8/1993 = 88.7% (83.1%, 92.6%)	1487.6/1993 = 74.6% (67.3%, 80.8%)
	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	227	951/1993 = 47.7% (40.8%, 54.8%)	1605/1993 = 80.5% (73.7%, 86.0%)	1249.3/1993 = 62.7% (55.0%, 69.7%)

Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	227	653.1/1993 = 32.8% (26.7%, 39.5%)	1887.3/1993 = 94.7% (89.5%, 97.4%)	1713.1/1993 = 86.0% (79.6%, 90.6%)
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Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

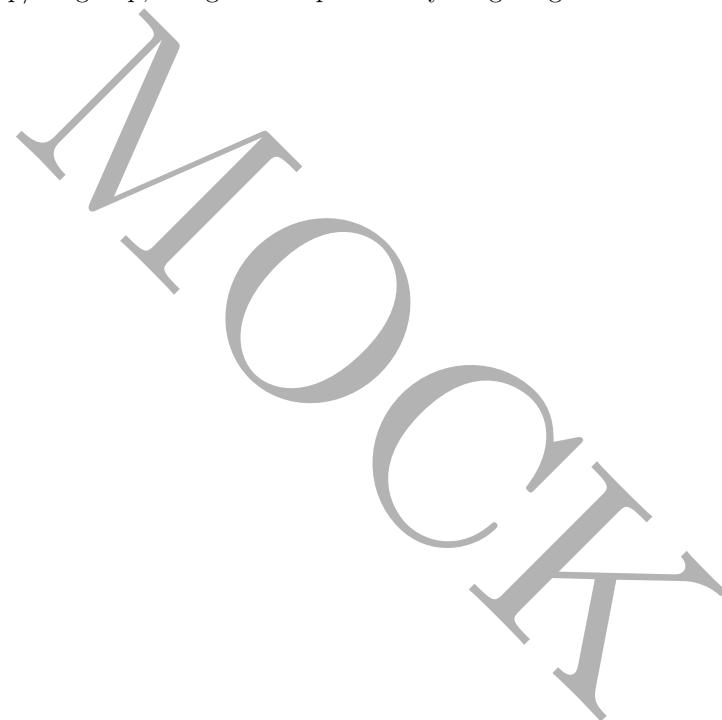


Table 5b. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOD or $\geq 4 \times$ LLOD for binding antibody markers by Age

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age								
Age 18 - 59	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	435	552.8/12312 = 4.5% (2.7%, 7.3%)	10340.9/12312 = 84.0% (79.9%, 87.4%)	8951.5/12312 = 72.7% (67.9%, 77.0%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	5412.3/12312 = 44.0% (38.9%, 49.1%)	9912.7/12312 = 80.5% (76.2%, 84.2%)	8058.6/12312 = 65.5% (60.4%, 70.2%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	3873/12312 = 31.5% (26.9%, 36.4%)	11939.8/12312 = 97.0% (94.6%, 98.3%)	11024/12312 = 89.5% (85.8%, 92.4%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	121	137.9/1385 = 10.0% (5.3%, 18.1%)	1270.2/1385 = 91.7% (85.0%, 95.6%)	1148.4/1385 = 82.9% (74.7%, 88.8%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	121	792.3/1385 = 57.2% (47.1%, 66.7%)	1234.1/1385 = 89.1% (82.2%, 93.6%)	1094.5/1385 = 79.0% (70.6%, 85.5%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	121	606.2/1385 = 43.8% (34.3%, 53.7%)	1357.9/1385 = 98.0% (92.0%, 99.5%)	1335.4/1385 = 96.4% (90.5%, 98.7%)
Age 18 - 59	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	52	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	113	7.2/1304 = 0.5% (0.1%, 3.9%)	1122.8/1304 = 86.1% (77.8%, 91.7%)	886.1/1304 = 68.0% (57.3%, 77.0%)
Age 18 - 59	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	113	443.5/1304 = 34.0% (25.1%, 44.3%)	939.7/1304 = 72.1% (62.0%, 80.3%)	678.7/1304 = 52.1% (41.6%, 62.4%)
Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	113	286.1/1304 = 21.9% (14.8%, 31.2%)	1205/1304 = 92.4% (84.5%, 96.4%)	1034.6/1304 = 79.3% (69.9%, 86.4%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	443	802.5/6541 = 12.3% (9.3%, 16.0%)	6099.1/6541 = 93.2% (90.1%, 95.4%)	5679.6/6541 = 86.8% (83.0%, 89.9%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	4941.7/6541 = 75.5% (70.9%, 79.7%)	6188.5/6541 = 94.6% (91.9%, 96.4%)	5786.8/6541 = 88.5% (84.7%, 91.4%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	4658.9/6541 = 71.2% (66.5%, 75.6%)	6530.3/6541 = 99.8% (98.8%, 100.0%)	6450.2/6541 = 98.6% (97.0%, 99.4%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age ≥ 60	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	115	128.7/724 = 17.8% (11.2%, 27.0%)	718.3/724 = 99.2% (96.9%, 99.8%)	689.7/724 = 95.3% (87.2%, 98.3%)
Age ≥ 60	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	115	656.6/724 = 90.7% (82.0%, 95.4%)	707.6/724 = 97.7% (92.1%, 99.4%)	707.6/724 = 97.7% (92.1%, 99.4%)
Age ≥ 60	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	115	651.3/724 = 90.0% (83.5%, 94.1%)	724/724 = 100.0% (100.0%, 100.0%)	724/724 = 100.0% (100.0%, 100.0%)
Age ≥ 60	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	55	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	114	58.4/689 = 8.5% (4.1%, 16.8%)	645/689 = 93.6% (87.8%, 96.8%)	601.5/689 = 87.3% (80.1%, 92.1%)
Age ≥ 60	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	114	507.5/689 = 73.7% (64.1%, 81.4%)	665.3/689 = 96.6% (91.5%, 98.7%)	570.5/689 = 82.8% (73.5%, 89.3%)
Age ≥ 60	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	114	367/689 = 53.3% (43.0%, 63.3%)	682.3/689 = 99.0% (93.2%, 99.9%)	678.6/689 = 98.5% (93.7%, 99.7%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 5c. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOD or $\geq 4 \times$ LLOD for binding antibody markers by Risk for Severe Covid-19

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Risk for Severe Covid-19								
At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	435	498.4/7590 = 6.6% (4.5%, 9.5%)	6523.4/7590 = 85.9% (81.6%, 89.4%)	5921.5/7590 = 78.0% (73.2%, 82.2%)
At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	4283/7590 = 56.4% (51.2%, 61.6%)	6461.7/7590 = 85.1% (80.8%, 88.6%)	5717/7590 = 75.3% (70.4%, 79.7%)
At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	3440.3/7590 = 45.3% (40.4%, 50.4%)	7460.6/7590 = 98.3% (95.4%, 99.4%)	7195.9/7590 = 94.8% (91.5%, 96.9%)
At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	116	114.1/853 = 13.4% (7.9%, 21.7%)	770.7/853 = 90.4% (80.4%, 95.5%)	700.2/853 = 82.1% (71.4%, 89.4%)
At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	116	594.9/853 = 69.7% (59.1%, 78.6%)	746.3/853 = 87.5% (77.7%, 93.4%)	667.3/853 = 78.2% (67.5%, 86.1%)
At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	116	480.1/853 = 56.3% (46.4%, 65.7%)	835.9/853 = 98.0% (86.6%, 99.7%)	835.9/853 = 98.0% (86.6%, 99.7%)
At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	55	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	113	24.3/791 = 3.1% (1.1%, 8.1%)	674.2/791 = 85.2% (76.0%, 91.3%)	593.6/791 = 75.0% (64.0%, 83.6%)
At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	113	392.6/791 = 49.6% (39.6%, 59.7%)	637.3/791 = 80.6% (70.3%, 87.9%)	516.8/791 = 65.3% (54.3%, 74.9%)
At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	113	294.5/791 = 37.2% (28.3%, 47.1%)	732.7/791 = 92.6% (84.0%, 96.8%)	662.9/791 = 83.8% (73.6%, 90.6%)
Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	443	856.9/11263 = 7.6% (5.3%, 10.7%)	9916.6/11263 = 88.0% (84.1%, 91.1%)	8709.5/11263 = 77.3% (72.6%, 81.5%)
Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	6071.1/11263 = 53.9% (48.8%, 58.9%)	9639.5/11263 = 85.6% (81.4%, 89.0%)	8128.3/11263 = 72.2% (67.2%, 76.7%)
Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	5091.6/11263 = 45.2% (40.5%, 50.0%)	11009.4/11263 = 97.7% (95.6%, 98.9%)	10278.3/11263 = 91.3% (87.6%, 93.9%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	120	152.5/1256 = 12.1% (6.8%, 20.7%)	1217.8/1256 = 97.0% (92.3%, 98.8%)	1137.9/1256 = 90.6% (83.3%, 94.9%)
Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	120	854/1256 = 68.0% (57.9%, 76.6%)	1195.3/1256 = 95.2% (89.8%, 97.8%)	1134.8/1256 = 90.4% (83.3%, 94.6%)
Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	120	777.4/1256 = 61.9% (52.3%, 70.6%)	1246/1256 = 99.2% (94.4%, 99.9%)	1223.5/1256 = 97.4% (92.2%, 99.2%)
Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	52	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	114	41.2/1202 = 3.4% (1.4%, 8.2%)	1093.6/1202 = 91.0% (82.9%, 95.5%)	893.9/1202 = 74.4% (64.0%, 82.5%)
Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	114	558.4/1202 = 46.5% (37.1%, 56.1%)	967.8/1202 = 80.5% (70.7%, 87.6%)	732.4/1202 = 60.9% (50.3%, 70.6%)
Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	114	358.6/1202 = 29.8% (21.9%, 39.2%)	1154.5/1202 = 96.1% (87.3%, 98.8%)	1050.3/1202 = 87.4% (78.3%, 93.0%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 5d. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOD or $\geq 4 \times$ LLOD for binding antibody markers by Age, Risk for Severe Covid-19

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age, Risk for Severe Covid-19								
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	213	183.5/4942 = 3.7% (1.7%, 7.8%)	4112.8/4942 = 83.2% (76.9%, 88.1%)	3686/4942 = 74.6% (67.7%, 80.4%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	213	2300/4942 = 46.5% (39.4%, 53.9%)	4013.3/4942 = 81.2% (74.9%, 86.2%)	3375.1/4942 = 68.3% (61.2%, 74.7%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	213	1600.6/4942 = 32.4% (25.9%, 39.6%)	4812.6/4942 = 97.4% (92.9%, 99.1%)	4612/4942 = 93.3% (88.3%, 96.3%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	59	60.1/568 = 10.6% (4.6%, 22.7%)	491.4/568 = 86.5% (71.7%, 94.2%)	430.1/568 = 75.7% (60.5%, 86.4%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	59	338.5/568 = 59.6% (44.9%, 72.8%)	477.8/568 = 84.1% (70.0%, 92.3%)	398.7/568 = 70.2% (55.1%, 81.9%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	59	232.5/568 = 40.9% (28.0%, 55.2%)	550.9/568 = 97.0% (80.4%, 99.6%)	550.9/568 = 97.0% (80.4%, 99.6%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	54	7.2/526 = 1.4% (0.2%, 9.5%)	441.3/526 = 83.9% (70.5%, 91.9%)	366.7/526 = 69.7% (54.1%, 81.8%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	54	205.5/526 = 39.1% (26.1%, 53.8%)	390.4/526 = 74.2% (59.6%, 84.9%)	292/526 = 55.5% (40.4%, 69.6%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	54	154.4/526 = 29.4% (18.4%, 43.4%)	474.4/526 = 90.2% (77.4%, 96.1%)	408.3/526 = 77.6% (62.9%, 87.6%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	222	369.3/7370 = 5.0% (2.6%, 9.4%)	6228.1/7370 = 84.5% (78.8%, 88.9%)	5265.5/7370 = 71.4% (64.7%, 77.4%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	222	3112.4/7370 = 42.2% (35.4%, 49.4%)	5899.4/7370 = 80.0% (73.8%, 85.1%)	4683.4/7370 = 63.5% (56.5%, 70.1%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	222	2272.4/7370 = 30.8% (24.7%, 37.7%)	7127.1/7370 = 96.7% (93.4%, 98.4%)	6412/7370 = 87.0% (81.4%, 91.1%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	62	77.7/817 = 9.5% (3.7%, 22.5%)	778.8/817 = 95.3% (88.3%, 98.2%)	718.3/817 = 87.9% (77.6%, 93.9%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	62	453.7/817 = 55.5% (41.7%, 68.6%)	756.3/817 = 92.6% (84.4%, 96.6%)	695.8/817 = 85.2% (74.5%, 91.9%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	62	373.7/817 = 45.7% (32.6%, 59.5%)	807/817 = 98.8% (91.4%, 99.8%)	784.5/817 = 96.0% (88.0%, 98.8%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	25	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	25	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	25	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	0/778 = 0.0% (0.0%, 0.0%)	681.6/778 = 87.6% (75.3%, 94.3%)	519.4/778 = 66.8% (51.8%, 79.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	238/778 = 30.6% (19.0%, 45.3%)	549.3/778 = 70.6% (56.1%, 81.8%)	386.8/778 = 49.7% (35.4%, 64.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	131.7/778 = 16.9% (8.6%, 30.7%)	730.5/778 = 93.9% (80.7%, 98.3%)	626.3/778 = 80.5% (66.9%, 89.4%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	222	314.9/2648 = 11.9% (7.9%, 17.5%)	2410.6/2648 = 91.0% (85.8%, 94.5%)	2235.6/2648 = 84.4% (78.4%, 89.0%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	222	1983/2648 = 74.9% (68.2%, 80.6%)	2448.4/2648 = 92.5% (87.8%, 95.4%)	2341.9/2648 = 88.4% (83.1%, 92.2%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	222	1839.7/2648 = 69.5% (62.6%, 75.6%)	2648/2648 = 100.0% (100.0%, 100.0%)	2583.9/2648 = 97.6% (93.9%, 99.1%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	57	54/285 = 18.9% (10.1%, 32.8%)	279.3/285 = 98.0% (92.3%, 99.5%)	270.1/285 = 94.8% (81.6%, 98.7%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	57	256.4/285 = 90.0% (78.0%, 95.8%)	268.6/285 = 94.2% (80.7%, 98.5%)	268.6/285 = 94.2% (80.7%, 98.5%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	57	247.6/285 = 86.9% (74.7%, 93.7%)	285/285 = 100.0% (100.0%, 100.0%)	285/285 = 100.0% (100.0%, 100.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	28	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	28	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	28	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	17.2/265 = 6.5% (2.0%, 19.2%)	233/265 = 87.9% (75.2%, 94.6%)	227/265 = 85.6% (72.9%, 93.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	187.1/265 = 70.6% (57.1%, 81.2%)	246.9/265 = 93.2% (81.3%, 97.7%)	224.9/265 = 84.9% (72.3%, 92.3%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age ≥ 60 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	140.1/265 = 52.9% (39.3%, 66.0%)	258.3/265 = 97.5% (83.2%, 99.7%)	254.6/265 = 96.1% (84.1%, 99.1%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	221	487.6/3893 = 12.5% (8.6%, 18.0%)	3688.5/3893 = 94.7% (90.2%, 97.2%)	3444.1/3893 = 88.5% (83.0%, 92.3%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	2958.7/3893 = 76.0% (69.3%, 81.6%)	3740.1/3893 = 96.1% (92.2%, 98.1%)	3444.9/3893 = 88.5% (82.9%, 92.4%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	2819.2/3893 = 72.4% (65.7%, 78.2%)	3882.3/3893 = 99.7% (98.0%, 100.0%)	3866.3/3893 = 99.3% (97.2%, 99.8%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	58	74.8/439 = 17.0% (8.7%, 30.7%)	439/439 = 100.0% (100.0%, 100.0%)	419.6/439 = 95.6% (81.4%, 99.1%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	58	400.3/439 = 91.2% (76.7%, 97.0%)	439/439 = 100.0% (100.0%, 100.0%)	439/439 = 100.0% (100.0%, 100.0%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	58	403.7/439 = 92.0% (83.3%, 96.3%)	439/439 = 100.0% (100.0%, 100.0%)	439/439 = 100.0% (100.0%, 100.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	55	41.2/424 = 9.7% (3.8%, 22.7%)	412/424 = 97.2% (89.3%, 99.3%)	374.5/424 = 88.3% (78.4%, 94.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	320.4/424 = 75.6% (61.6%, 85.6%)	418.5/424 = 98.7% (90.8%, 99.8%)	345.7/424 = 81.5% (67.4%, 90.4%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	55	227/424 = 53.5% (39.0%, 67.5%)	424/424 = 100.0% (100.0%, 100.0%)	424/424 = 100.0% (100.0%, 100.0%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

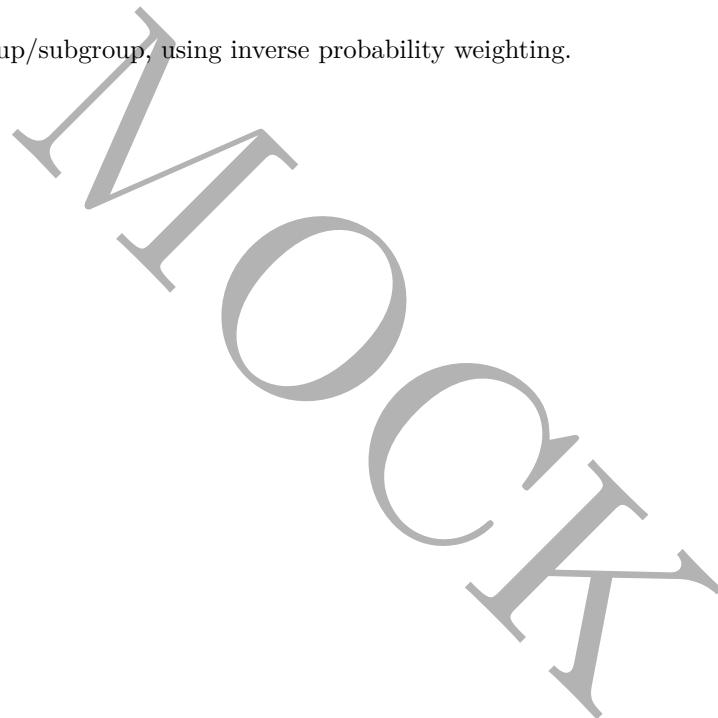


Table 5e. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOD or $\geq 4 \times$ LLOD for binding antibody markers by Sex

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Sex								
Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	878	1355.3/18853 = 7.2% (5.5%, 9.3%)	16440/18853 = 87.2% (84.4%, 89.6%)	14631.1/18853 = 77.6% (74.2%, 80.7%)
Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	878	10354/18853 = 54.9% (51.2%, 58.6%)	16101.3/18853 = 85.4% (82.4%, 87.9%)	13845.3/18853 = 73.4% (69.9%, 76.7%)
Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	878	8531.9/18853 = 45.3% (41.8%, 48.8%)	18470.1/18853 = 98.0% (96.4%, 98.9%)	17474.2/18853 = 92.7% (90.2%, 94.6%)
Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	236	266.6/2109 = 12.6% (8.5%, 18.3%)	1988.5/2109 = 94.3% (89.8%, 96.9%)	1838.1/2109 = 87.2% (81.4%, 91.3%)
Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	236	1448.9/2109 = 68.7% (61.5%, 75.1%)	1941.6/2109 = 92.1% (87.4%, 95.1%)	1802.1/2109 = 85.4% (79.7%, 89.8%)
Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	236	1257.5/2109 = 59.6% (52.8%, 66.1%)	2081.9/2109 = 98.7% (94.7%, 99.7%)	2059.4/2109 = 97.6% (93.7%, 99.1%)
Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	67	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	67	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	67	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	103	30.3/898.4 = 3.4% (1.2%, 9.2%)	793.5/898.4 = 88.3% (79.6%, 93.6%)	685.2/898.4 = 76.3% (64.5%, 85.0%)
Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	103	438.6/898.4 = 48.8% (37.8%, 59.9%)	752/898.4 = 83.7% (72.8%, 90.8%)	570.9/898.4 = 63.5% (51.7%, 74.0%)
Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	103	293.6/898.4 = 32.7% (24.1%, 42.6%)	886.2/898.4 = 98.6% (90.7%, 99.8%)	801.5/898.4 = 89.2% (78.5%, 94.9%)
Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	124	35.2/1094.6 = 3.2% (1.2%, 8.0%)	974.3/1094.6 = 89.0% (80.4%, 94.1%)	802.3/1094.6 = 73.3% (62.9%, 81.6%)
Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	124	512.4/1094.6 = 46.8% (37.4%, 56.5%)	853/1094.6 = 77.9% (67.9%, 85.5%)	678.4/1094.6 = 62.0% (51.6%, 71.4%)
Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	124	359.6/1094.6 = 32.8% (24.3%, 42.8%)	1001.1/1094.6 = 91.5% (82.8%, 96.0%)	911.6/1094.6 = 83.3% (74.1%, 89.7%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 5f. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOD or $\geq 4 \times$ LLOD for binding antibody markers by Age, sex

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age, sex								
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	21	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	65	7.2/747.9 = 1.0% (0.1%, 6.8%)	656.5/747.9 = 87.8% (75.3%, 94.4%)	515.4/747.9 = 68.9% (54.7%, 80.3%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	65	243.9/747.9 = 32.6% (21.5%, 46.1%)	524.6/747.9 = 70.1% (56.3%, 81.1%)	383.4/747.9 = 51.3% (37.7%, 64.6%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	65	201.9/747.9 = 27.0% (16.7%, 40.5%)	661.1/747.9 = 88.4% (76.0%, 94.8%)	575.4/747.9 = 76.9% (64.1%, 86.2%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	435	552.8/12312 = 4.5% (2.7%, 7.3%)	10340.9/12312 = 84.0% (79.9%, 87.4%)	8951.5/12312 = 72.7% (67.9%, 77.0%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	5412.3/12312 = 44.0% (38.9%, 49.1%)	9912.7/12312 = 80.5% (76.2%, 84.2%)	8058.6/12312 = 65.5% (60.4%, 70.2%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	3873/12312 = 31.5% (26.9%, 36.4%)	11939.8/12312 = 97.0% (94.6%, 98.3%)	11024/12312 = 89.5% (85.8%, 92.4%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	121	137.9/1385 = 10.0% (5.3%, 18.1%)	1270.2/1385 = 91.7% (85.0%, 95.6%)	1148.4/1385 = 82.9% (74.7%, 88.8%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	121	792.3/1385 = 57.2% (47.1%, 66.7%)	1234.1/1385 = 89.1% (82.2%, 93.6%)	1094.5/1385 = 79.0% (70.6%, 85.5%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	121	606.2/1385 = 43.8% (34.3%, 53.7%)	1357.9/1385 = 98.0% (92.0%, 99.5%)	1335.4/1385 = 96.4% (90.5%, 98.7%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	31	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	31	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	31	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	48	0/556.1 = 0.0% (0.0%, 0.0%)	466.3/556.1 = 83.9% (70.2%, 92.0%)	370.7/556.1 = 66.7% (49.4%, 80.3%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	48	199.6/556.1 = 35.9% (22.0%, 52.6%)	415.1/556.1 = 74.6% (58.2%, 86.2%)	295.4/556.1 = 53.1% (36.8%, 68.8%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	48	84.2/556.1 = 15.1% (7.3%, 28.6%)	543.8/556.1 = 97.8% (85.1%, 99.7%)	459.2/556.1 = 82.6% (66.2%, 92.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	19	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	19	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	19	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	28.1/346.7 = 8.1% (2.7%, 21.7%)	317.7/346.7 = 91.7% (81.2%, 96.5%)	286.9/346.7 = 82.8% (70.5%, 90.6%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	268.5/346.7 = 77.4% (63.9%, 86.9%)	328.4/346.7 = 94.7% (85.4%, 98.2%)	295/346.7 = 85.1% (71.6%, 92.8%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	157.6/346.7 = 45.5% (31.9%, 59.7%)	339.9/346.7 = 98.1% (86.9%, 99.7%)	336.2/346.7 = 97.0% (87.7%, 99.3%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	443	802.5/6541 = 12.3% (9.3%, 16.0%)	6099.1/6541 = 93.2% (90.1%, 95.4%)	5679.6/6541 = 86.8% (83.0%, 89.9%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	4941.7/6541 = 75.5% (70.9%, 79.7%)	6188.5/6541 = 94.6% (91.9%, 96.4%)	5786.8/6541 = 88.5% (84.7%, 91.4%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	4658.9/6541 = 71.2% (66.5%, 75.6%)	6530.3/6541 = 99.8% (98.8%, 100.0%)	6450.2/6541 = 98.6% (97.0%, 99.4%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	115	128.7/724 = 17.8% (11.2%, 27.0%)	718.3/724 = 99.2% (96.9%, 99.8%)	689.7/724 = 95.3% (87.2%, 98.3%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	115	656.6/724 = 90.7% (82.0%, 95.4%)	707.6/724 = 97.7% (92.1%, 99.4%)	707.6/724 = 97.7% (92.1%, 99.4%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	115	651.3/724 = 90.0% (83.5%, 94.1%)	724/724 = 100.0% (100.0%, 100.0%)	724/724 = 100.0% (100.0%, 100.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	36	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	36	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	36	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	55	30.3/342.3 = 8.9% (3.1%, 22.9%)	327.2/342.3 = 95.6% (86.4%, 98.7%)	314.6/342.3 = 91.9% (81.2%, 96.7%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	239/342.3 = 69.8% (54.9%, 81.5%)	336.9/342.3 = 98.4% (89.1%, 99.8%)	275.5/342.3 = 80.5% (65.5%, 89.9%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	55	209.4/342.3 = 61.2% (46.1%, 74.4%)	342.3/342.3 = 100.0% (100.0%, 100.0%)	342.3/342.3 = 100.0% (100.0%, 100.0%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 5g. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOD or $\geq 4 \times$ LLOD for binding antibody markers by Hispanic or Latino ethnicity

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Hispanic or Latino ethnicity								
Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	348	729.1/9675.5 = 7.5% (5.0%, 11.2%)	8300.6/9675.5 = 85.8% (81.0%, 89.5%)	7408.7/9675.5 = 76.6% (71.1%, 81.3%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	348	5213.6/9675.5 = 53.9% (48.1%, 59.6%)	8179.7/9675.5 = 84.5% (79.6%, 88.4%)	7001.8/9675.5 = 72.4% (66.7%, 77.4%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	348	4345.3/9675.5 = 44.9% (39.5%, 50.4%)	9397.1/9675.5 = 97.1% (94.2%, 98.6%)	8855.9/9675.5 = 91.5% (87.3%, 94.4%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	100	149.1/1136.3 = 13.1% (7.2%, 22.6%)	1064.6/1136.3 = 93.7% (85.9%, 97.3%)	947.7/1136.3 = 83.4% (73.6%, 90.1%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	100	732.8/1136.3 = 64.5% (53.0%, 74.5%)	1050.7/1136.3 = 92.5% (84.6%, 96.5%)	956.6/1136.3 = 84.2% (74.7%, 90.6%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	100	678.6/1136.3 = 59.7% (49.2%, 69.4%)	1119.3/1136.3 = 98.5% (89.7%, 99.8%)	1109.3/1136.3 = 97.6% (90.3%, 99.5%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	39	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	97	53.6/1060.9 = 5.0% (2.3%, 10.7%)	947.2/1060.9 = 89.3% (80.0%, 94.5%)	767.9/1060.9 = 72.4% (60.8%, 81.5%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	97	482.9/1060.9 = 45.5% (35.3%, 56.2%)	853.1/1060.9 = 80.4% (69.3%, 88.2%)	670.4/1060.9 = 63.2% (51.4%, 73.6%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	97	325.5/1060.9 = 30.7% (22.1%, 40.9%)	972.2/1060.9 = 91.6% (82.3%, 96.3%)	885.2/1060.9 = 83.4% (72.9%, 90.4%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	471	514.2/8038 = 6.4% (4.5%, 9.0%)	7115.1/8038 = 88.5% (84.9%, 91.4%)	6278.5/8038 = 78.1% (73.7%, 82.0%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	471	4440.4/8038 = 55.2% (50.4%, 60.0%)	6911.6/8038 = 86.0% (82.1%, 89.2%)	5953.9/8038 = 74.1% (69.4%, 78.2%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	471	3657.4/8038 = 45.5% (40.8%, 50.2%)	7965.8/8038 = 99.1% (97.5%, 99.7%)	7593.2/8038 = 94.5% (91.4%, 96.5%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	124	105/863.8 = 12.2% (7.3%, 19.6%)	823.2/863.8 = 95.3% (88.9%, 98.1%)	789.8/863.8 = 91.4% (84.5%, 95.4%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	124	627.2/863.8 = 72.6% (63.4%, 80.3%)	782.1/863.8 = 90.5% (83.2%, 94.9%)	745.5/863.8 = 86.3% (78.4%, 91.6%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	124	527.6/863.8 = 61.1% (51.6%, 69.8%)	853.8/863.8 = 98.8% (92.1%, 99.8%)	841.3/863.8 = 97.4% (89.9%, 99.4%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	60	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	60	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	60	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	120	6/818.4 = 0.7% (0.1%, 5.1%)	719.8/818.4 = 88.0% (79.7%, 93.1%)	618.9/818.4 = 75.6% (65.5%, 83.5%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	120	405.4/818.4 = 49.5% (40.1%, 59.1%)	651.2/818.4 = 79.6% (70.0%, 86.7%)	492.7/818.4 = 60.2% (50.2%, 69.5%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	120	283.3/818.4 = 34.6% (26.0%, 44.4%)	801.3/818.4 = 97.9% (91.1%, 99.5%)	714.2/818.4 = 87.3% (78.1%, 93.0%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	59	111.9/1139.4 = 9.8% (4.2%, 21.4%)	1024.3/1139.4 = 89.9% (76.8%, 96.0%)	943.9/1139.4 = 82.8% (68.4%, 91.5%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	59	700/1139.4 = 61.4% (47.0%, 74.1%)	1010/1139.4 = 88.6% (76.8%, 94.9%)	889.7/1139.4 = 78.1% (63.9%, 87.8%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	59	529.3/1139.4 = 46.5% (32.9%, 60.5%)	1107.2/1139.4 = 97.2% (81.7%, 99.6%)	1025.1/1139.4 = 90.0% (76.8%, 96.1%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	12	12.5/108.8 = 11.5% (0.7%, 71.4%)	100.6/108.8 = 92.5% (39.2%, 99.6%)	100.6/108.8 = 92.5% (39.2%, 99.6%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	88.9/108.8 = 81.7% (36.8%, 97.2%)	108.8/108.8 = 100.0% (100.0%, 100.0%)	100/108.8 = 91.9% (37.1%, 99.5%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	51.3/108.8 = 47.1% (12.9%, 84.3%)	108.8/108.8 = 100.0% (100.0%, 100.0%)	108.8/108.8 = 100.0% (100.0%, 100.0%)
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	8	0/1239.1 = 0.0%	0/1239.1 = 0.0%	0/1239.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0/1239.1 = 0.0%	0/1239.1 = 0.0%	0/1239.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0/1239.1 = 0.0%	0/1239.1 = 0.0%	0/1239.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	10	6/113.8 = 5.3% (0.1%, 84.3%)	100.8/113.8 = 88.6% (7.4%, 99.9%)	100.8/113.8 = 88.6% (7.4%, 99.9%)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	10	62.6/113.8 = 55.1% (5.0%, 96.6%)	100.8/113.8 = 88.6% (7.4%, 99.9%)	86.2/113.8 = 75.8% (8.2%, 99.1%)
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	10	44.3/113.8 = 38.9% (3.1%, 92.8%)	113.8/113.8 = 100.0% (100.0%, 100.0%)	113.8/113.8 = 100.0% (100.0%, 100.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
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Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

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Table 5h. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOD or $\geq 4 \times$ LLOD for binding antibody markers by Race

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Race								
White Non-Hispanic	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	180	261.2/3638.2 = 7.2% (4.1%, 12.3%)	3284.6/3638.2 = 90.3% (84.3%, 94.2%)	2803.8/3638.2 = 77.1% (69.6%, 83.1%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	180	1978.1/3638.2 = 54.4% (46.6%, 61.9%)	3151.4/3638.2 = 86.6% (79.9%, 91.3%)	2680.6/3638.2 = 73.7% (66.0%, 80.1%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	180	1578.2/3638.2 = 43.4% (36.1%, 50.9%)	3638.2/3638.2 = 100.0% (100.0%, 100.0%)	3455.7/3638.2 = 95.0% (89.3%, 97.7%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	54	77.1/413.3 = 18.7% (10.1%, 31.9%)	404.4/413.3 = 97.9% (85.5%, 99.7%)	389.9/413.3 = 94.3% (83.3%, 98.2%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	54	353.6/413.3 = 85.6% (70.2%, 93.7%)	408.8/413.3 = 98.9% (92.4%, 99.9%)	391.1/413.3 = 94.6% (83.9%, 98.4%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	54	259/413.3 = 62.7% (47.3%, 75.8%)	413.3/413.3 = 100.0% (100.0%, 100.0%)	400.8/413.3 = 97.0% (80.3%, 99.6%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	22	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	22	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	22	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	49	0/419.8 = 0.0% (0.0%, 0.0%)	356.5/419.8 = 84.9% (71.3%, 92.7%)	307.4/419.8 = 73.2% (56.9%, 85.0%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	49	188.7/419.8 = 45.0% (31.3%, 59.4%)	337.7/419.8 = 80.4% (66.3%, 89.6%)	236.1/419.8 = 56.2% (41.2%, 70.3%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
White Non-Hispanic	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	49	172.1/419.8 = 41.0% (27.2%, 56.4%)	408.1/419.8 = 97.2% (81.5%, 99.6%)	389.7/419.8 = 92.8% (79.1%, 97.8%)
Black or African American	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	306	214.2/4507.5 = 4.8% (3.1%, 7.2%)	3942.3/4507.5 = 87.5% (82.6%, 91.1%)	3544.7/4507.5 = 78.6% (73.2%, 83.3%)
Black or African American	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	306	2411/4507.5 = 53.5% (47.4%, 59.4%)	3885.1/4507.5 = 86.2% (81.4%, 89.9%)	3319.6/4507.5 = 73.6% (67.8%, 78.8%)
Black or African American	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	306	2099.4/4507.5 = 46.6% (40.7%, 52.5%)	4407.7/4507.5 = 97.8% (94.5%, 99.1%)	4241.8/4507.5 = 94.1% (90.2%, 96.5%)
Black or African American	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	73	34/474.5 = 7.2% (3.0%, 16.2%)	451.6/474.5 = 95.2% (84.9%, 98.6%)	422.7/474.5 = 89.1% (78.2%, 94.9%)
Black or African American	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	73	306.4/474.5 = 64.6% (52.5%, 75.1%)	399.7/474.5 = 84.2% (72.9%, 91.4%)	380.8/474.5 = 80.3% (68.6%, 88.3%)
Black or African American	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	73	293.9/474.5 = 61.9% (49.9%, 72.7%)	464.5/474.5 = 97.9% (86.1%, 99.7%)	464.5/474.5 = 97.9% (86.1%, 99.7%)
Black or African American	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Black or African American	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	88	15.7/513.8 = 3.1% (1.0%, 9.2%)	459.7/513.8 = 89.5% (78.5%, 95.2%)	381.2/513.8 = 74.2% (62.0%, 83.5%)
Black or African American	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	88	271.6/513.8 = 52.9% (41.8%, 63.6%)	406.6/513.8 = 79.1% (67.4%, 87.4%)	340.4/513.8 = 66.2% (54.7%, 76.1%)
Black or African American	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	88	151.7/513.8 = 29.5% (20.7%, 40.2%)	489.5/513.8 = 95.3% (85.1%, 98.6%)	423.1/513.8 = 82.3% (70.8%, 90.0%)
Asian	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	22	0/493.6 = 0.0% (0.0%, 0.0%)	427.8/493.6 = 86.7% (62.7%, 96.2%)	368/493.6 = 74.6% (47.7%, 90.4%)
Asian	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	22	204.6/493.6 = 41.5% (19.5%, 67.5%)	410.7/493.6 = 83.2% (57.0%, 94.9%)	326.1/493.6 = 66.1% (39.3%, 85.4%)
Asian	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	22	129.3/493.6 = 26.2% (10.5%, 51.9%)	465.9/493.6 = 94.4% (63.5%, 99.4%)	373.8/493.6 = 75.7% (47.2%, 91.6%)
Asian	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	5	0/55.4 = 0.0%	38.4/55.4 = 69.2%	38.4/55.4 = 69.2%
Asian	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	12.4/55.4 = 22.5%	42.9/55.4 = 77.4%	42.9/55.4 = 77.4%
Asian	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	25.8/55.4 = 46.7%	55.4/55.4 = 100.0%	55.4/55.4 = 100.0%
Asian	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	2	0/178.5 = 0.0%	0/178.5 = 0.0%	0/178.5 = 0.0%
Asian	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0/178.5 = 0.0%	0/178.5 = 0.0%	0/178.5 = 0.0%
Asian	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0/178.5 = 0.0%	0/178.5 = 0.0%	0/178.5 = 0.0%
Asian	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	4	0/53.5 = 0.0%	53.5/53.5 = 100.0%	38.9/53.5 = 72.8%
Asian	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	4	3.7/53.5 = 7.0%	38.9/53.5 = 72.8%	27.3/53.5 = 51.1%
Asian	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	4	0/53.5 = 0.0%	53.5/53.5 = 100.0%	38.9/53.5 = 72.8%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	124	291/4407.9 = 6.6% (3.1%, 13.4%)	3721.6/4407.9 = 84.4% (76.2%, 90.2%)	3195.2/4407.9 = 72.5% (63.1%, 80.2%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	124	2084.3/4407.9 = 47.3% (38.2%, 56.5%)	3714.3/4407.9 = 84.3% (75.7%, 90.2%)	2965.7/4407.9 = 67.3% (57.7%, 75.6%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	124	1676.6/4407.9 = 38.0% (29.8%, 47.0%)	4330.9/4407.9 = 98.3% (93.2%, 99.6%)	3992.7/4407.9 = 90.6% (82.9%, 95.0%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	31	75.9/474.2 = 16.0% (6.1%, 35.8%)	422.9/474.2 = 89.2% (71.0%, 96.5%)	366/474.2 = 77.2% (58.9%, 88.9%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	31	282.1/474.2 = 59.5% (39.9%, 76.4%)	413.8/474.2 = 87.3% (69.3%, 95.4%)	357.4/474.2 = 75.4% (55.9%, 88.1%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	31	291/474.2 = 61.4% (42.7%, 77.2%)	457.1/474.2 = 96.4% (76.2%, 99.6%)	457.1/474.2 = 96.4% (76.2%, 99.6%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	18	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	18	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	18	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	35	36.7/473.4 = 7.7% (2.7%, 20.0%)	397.8/473.4 = 84.0% (65.2%, 93.7%)	327.1/473.4 = 69.1% (48.7%, 84.0%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	35	209.6/473.4 = 44.3% (27.9%, 62.0%)	337.7/473.4 = 71.3% (51.0%, 85.6%)	265.9/473.4 = 56.2% (37.4%, 73.3%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	35	131.4/473.4 = 27.8% (15.2%, 45.1%)	423.8/473.4 = 89.5% (69.5%, 97.0%)	387.2/473.4 = 81.8% (61.0%, 92.8%)
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	2	0/66.4 = 0.0%	14/66.4 = 21.1%	14/66.4 = 21.1%
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	2	14/66.4 = 21.1%	66.4/66.4 = 100.0%	66.4/66.4 = 100.0%
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	2	14/66.4 = 21.1%	66.4/66.4 = 100.0%	66.4/66.4 = 100.0%
Multiracial	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	29	94.2/631.2 = 14.9% (5.4%, 35.0%)	530/631.2 = 84.0% (61.7%, 94.4%)	470.1/631.2 = 74.5% (51.8%, 88.8%)
Multiracial	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	29	432.9/631.2 = 68.6% (46.7%, 84.5%)	546.6/631.2 = 86.6% (63.3%, 96.0%)	484/631.2 = 76.7% (54.3%, 90.1%)
Multiracial	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	29	364.6/631.2 = 57.8% (36.7%, 76.3%)	631.2/631.2 = 100.0% (100.0%, 100.0%)	577.7/631.2 = 91.5% (68.6%, 98.2%)
Multiracial	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	6	2.9/53 = 5.4%	53/53 = 100.0%	45.3/53 = 85.6%
Multiracial	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	17.4/53 = 32.8%	45.3/53 = 85.6%	45.3/53 = 85.6%
Multiracial	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	23.1/53 = 43.5%	53/53 = 100.0%	53/53 = 100.0%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Multiracial	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	6	0/1244.5 = 0.0%	0/1244.5 = 0.0%	0/1244.5 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0/1244.5 = 0.0%	0/1244.5 = 0.0%	0/1244.5 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	6	0/1244.5 = 0.0%	0/1244.5 = 0.0%	0/1244.5 = 0.0%
Multiracial	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	5	0/35.9 = 0.0%	35.9/35.9 = 100.0%	35.9/35.9 = 100.0%
Multiracial	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	16.2/35.9 = 45.1%	35.9/35.9 = 100.0%	29.2/35.9 = 81.3%
Multiracial	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	4.5/35.9 = 12.6%	35.9/35.9 = 100.0%	22.9/35.9 = 63.8%
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	15	42.3/348 = 12.2% (2.4%, 44.1%)	317.2/348 = 91.1% (56.4%, 98.8%)	317.2/348 = 91.1% (56.4%, 98.8%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	15	284.5/348 = 81.7% (47.5%, 95.7%)	314.2/348 = 90.3% (55.0%, 98.6%)	303.5/348 = 87.2% (54.0%, 97.5%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	15	157.6/348 = 45.3% (15.4%, 79.0%)	348/348 = 100.0% (100.0%, 100.0%)	348/348 = 100.0% (100.0%, 100.0%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	5	0/39.6 = 0.0%	39.6/39.6 = 100.0%	39.6/39.6 = 100.0%
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	30.7/39.6 = 77.4%	39.6/39.6 = 100.0%	39.6/39.6 = 100.0%
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	5.4/39.6 = 13.5%	39.6/39.6 = 100.0%	39.6/39.6 = 100.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/164.1 = 0.0%	0/164.1 = 0.0%	0/164.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/164.1 = 0.0%	0/164.1 = 0.0%	0/164.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/164.1 = 0.0%	0/164.1 = 0.0%	0/164.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	3	0/30.4 = 0.0%	30.4/30.4 = 100.0%	30.4/30.4 = 100.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	3	23.2/30.4 = 76.5%	30.4/30.4 = 100.0%	23.2/30.4 = 76.5%
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	3	11.6/30.4 = 38.2%	30.4/30.4 = 100.0%	30.4/30.4 = 100.0%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
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Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

MOCK

Table 5i. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOD or $\geq 4 \times$ LLOD for binding antibody markers by Underrepresented Minority Status in the U.S.

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Underrepresented Minority Status in the U.S.								
URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	630	934.3/13921 = 6.7% (4.8%, 9.3%)	12006.6/13921 = 86.2% (82.7%, 89.2%)	10791.2/13921 = 77.5% (73.4%, 81.2%)
URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	630	7582.7/13921 = 54.5% (50.0%, 58.8%)	11850.3/13921 = 85.1% (81.5%, 88.1%)	10200.7/13921 = 73.3% (69.0%, 77.2%)
URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	630	6352/13921 = 45.6% (41.5%, 49.9%)	13570.3/13921 = 97.5% (95.5%, 98.6%)	12890.9/13921 = 92.6% (89.6%, 94.8%)
URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	165	177/1553.9 = 11.4% (6.8%, 18.5%)	1459.3/1553.9 = 93.9%	1323.5/1553.9 = 85.2% (77.8%, 90.4%)
URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	165	997.6/1553.9 = 64.2% (55.3%, 72.2%)	1403.4/1553.9 = 90.3%	1290.5/1553.9 = 83.0% (75.8%, 88.5%)
URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	165	920.9/1553.9 = 59.3% (51.1%, 66.9%)	1526.8/1553.9 = 98.3% (92.8%, 99.6%)	1516.8/1553.9 = 97.6% (92.5%, 99.3%)
URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	77	0/13950.5 = 0.0% (0.0%, 0.0%)	0/13950.5 = 0.0% (0.0%, 0.0%)	0/13950.5 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	77	0/13950.5 = 0.0% (0.0%, 0.0%)	0/13950.5 = 0.0% (0.0%, 0.0%)	0/13950.5 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	77	0/13950.5 = 0.0% (0.0%, 0.0%)	0/13950.5 = 0.0% (0.0%, 0.0%)	0/13950.5 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	168	65.6/1482.9 = 4.4% (2.2%, 8.5%)	1321.1/1482.9 = 89.1% (82.1%, 93.5%)	1104.4/1482.9 = 74.5% (65.6%, 81.7%)
URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	168	707.8/1482.9 = 47.7% (39.6%, 55.9%)	1191.6/1482.9 = 80.4% (72.0%, 86.7%)	958.7/1482.9 = 64.6% (55.5%, 72.8%)
URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	168	438.2/1482.9 = 29.5% (22.8%, 37.3%)	1388.9/1482.9 = 93.7% (86.9%, 97.0%)	1247.7/1482.9 = 84.1% (76.3%, 89.7%)
Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	248	421/4932 = 8.5% (5.6%, 12.8%)	4433.4/4932 = 89.9% (84.9%, 93.4%)	3839.9/4932 = 77.9% (71.6%, 83.0%)
Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	248	2771.4/4932 = 56.2% (49.5%, 62.6%)	4251/4932 = 86.2% (80.6%, 90.4%)	3644.7/4932 = 73.9% (67.5%, 79.4%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	248	2179.9/4932 = 44.2% (38.1%, 50.5%)	4899.7/4932 = 99.3% (95.4%, 99.9%)	4583.3/4932 = 92.9% (88.0%, 95.9%)
Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	89.6/555.1 = 16.1% (8.8%, 27.8%)	529.2/555.1 = 95.3% (86.4%, 98.5%)	514.7/555.1 = 92.7% (83.6%, 96.9%)
Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	451.3/555.1 = 81.3% (68.6%, 89.6%)	538.2/555.1 = 96.9% (86.3%, 99.4%)	511.6/555.1 = 92.2% (81.6%, 96.9%)
Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	336.6/555.1 = 60.6% (47.0%, 72.8%)	555.1/555.1 = 100.0% (100.0%, 100.0%)	542.6/555.1 = 97.7% (84.9%, 99.7%)
Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	30	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	30	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	30	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	0/510.1 = 0.0% (0.0%, 0.0%)	446.7/510.1 = 87.6% (76.1%, 94.0%)	383.1/510.1 = 75.1% (60.4%, 85.7%)
Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	243.2/510.1 = 47.7% (34.2%, 61.4%)	413.4/510.1 = 81.0% (67.4%, 89.9%)	290.6/510.1 = 57.0% (42.6%, 70.2%)
Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	214.9/510.1 = 42.1% (29.1%, 56.4%)	498.4/510.1 = 97.7% (84.6%, 99.7%)	465.5/510.1 = 91.3% (77.6%, 96.9%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 5j. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOD or $\geq 4 \times$ LLOD for binding antibody markers by Age, Underrepresented Minority Status in the U.S.

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age, Underrepresented Minority Status in the U.S.								
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	309	341.7/9086.2 = 3.8% (1.9%, 7.5%)	7543.7/9086.2 = 83.0% (77.9%, 87.1%)	6625.6/9086.2 = 72.9% (67.1%, 78.1%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	309	3942.4/9086.2 = 43.4% (37.4%, 49.6%)	7254.2/9086.2 = 79.8% (74.5%, 84.3%)	5923.6/9086.2 = 65.2% (59.1%, 70.8%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	309	2910.5/9086.2 = 32.0% (26.6%, 38.0%)	8746.2/9086.2 = 96.3% (93.2%, 98.0%)	8130.9/9086.2 = 89.5% (84.9%, 92.8%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	87	77.5/1019.8 = 7.6% (2.9%, 18.5%)	931/1019.8 = 91.3% (82.5%, 95.9%)	818/1019.8 = 80.2% (69.6%, 87.7%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	87	517.2/1019.8 = 50.7% (38.7%, 62.7%)	881.4/1019.8 = 86.4% (77.5%, 92.2%)	768.4/1019.8 = 75.3% (64.7%, 83.6%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	87	430/1019.8 = 42.2% (31.1%, 54.1%)	992.7/1019.8 = 97.3% (89.2%, 99.4%)	982.7/1019.8 = 96.4% (88.7%, 98.9%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	39	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	85	7.2/972.5 = 0.7% (0.1%, 5.2%)	833/972.5 = 85.7% (75.3%, 92.1%)	639.9/972.5 = 65.8% (53.0%, 76.6%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	85	318.7/972.5 = 32.8% (22.5%, 44.9%)	699.4/972.5 = 71.9% (59.7%, 81.6%)	530.6/972.5 = 54.6% (42.1%, 66.5%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	85	161.2/972.5 = 16.6% (9.4%, 27.6%)	885.1/972.5 = 91.0% (80.8%, 96.1%)	747.7/972.5 = 76.9% (65.3%, 85.5%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	126	211.1/3225.8 = 6.5% (3.4%, 12.4%)	2797.2/3225.8 = 86.7% (79.2%, 91.8%)	2325.9/3225.8 = 72.1% (63.2%, 79.6%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	126	1469.9/3225.8 = 45.6% (36.7%, 54.7%)	2658.5/3225.8 = 82.4% (74.3%, 88.4%)	2135/3225.8 = 66.2% (57.1%, 74.2%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	126	962.5/3225.8 = 29.8% (22.1%, 38.9%)	3193.6/3225.8 = 99.0% (93.1%, 99.9%)	2893.1/3225.8 = 89.7% (82.3%, 94.2%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	34	60.4/365.2 = 16.5% (7.1%, 33.9%)	339.3/365.2 = 92.9% (79.5%, 97.8%)	330.4/365.2 = 90.5% (76.9%, 96.4%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	34	275.1/365.2 = 75.3% (56.8%, 87.6%)	352.7/365.2 = 96.6% (77.2%, 99.6%)	326.1/365.2 = 89.3% (73.2%, 96.2%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	34	176.2/365.2 = 48.3% (30.7%, 66.2%)	365.2/365.2 = 100.0% (100.0%, 100.0%)	352.7/365.2 = 96.6% (77.2%, 99.6%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	13	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	13	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	13	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	28	0/331.5 = 0.0% (0.0%, 0.0%)	289.8/331.5 = 87.4% (69.5%, 95.5%)	246.1/331.5 = 74.2% (52.6%, 88.2%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	28	124.8/331.5 = 37.7% (20.8%, 58.1%)	240.3/331.5 = 72.5% (52.5%, 86.2%)	148.2/331.5 = 44.7% (26.1%, 64.9%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	28	124.8/331.5 = 37.7% (20.8%, 58.1%)	319.9/331.5 = 96.5% (76.4%, 99.6%)	286.9/331.5 = 86.5% (66.1%, 95.5%)
Age \geq 60 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	321	592.6/4834.8 = 12.3% (8.8%, 16.8%)	4463/4834.8 = 92.3% (88.2%, 95.1%)	4165.6/4834.8 = 86.2% (81.3%, 89.9%)
Age \geq 60 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	321	3640.3/4834.8 = 75.3% (69.6%, 80.3%)	4596/4834.8 = 95.1% (91.7%, 97.1%)	4277.1/4834.8 = 88.5% (83.8%, 91.9%)
Age \geq 60 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	321	3441.5/4834.8 = 71.2% (65.4%, 76.3%)	4824.1/4834.8 = 99.8% (98.4%, 100.0%)	4760/4834.8 = 98.5% (96.4%, 99.3%)
Age \geq 60 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	78	99.6/534 = 18.6% (10.7%, 30.5%)	528.3/534 = 98.9% (95.8%, 99.7%)	505.5/534 = 94.7% (83.6%, 98.4%)
Age \geq 60 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	78	480.4/534 = 90.0% (78.3%, 95.7%)	522/534 = 97.8% (89.6%, 99.5%)	522/534 = 97.8% (89.6%, 99.5%)
Age \geq 60 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	78	490.9/534 = 91.9% (84.3%, 96.0%)	534/534 = 100.0% (100.0%, 100.0%)	534/534 = 100.0% (100.0%, 100.0%)
Age \geq 60 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	38	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)
Age \geq 60 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)
Age \geq 60 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)
Age \geq 60 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	83	58.4/510.5 = 11.4% (5.5%, 22.5%)	488/510.5 = 95.6% (88.5%, 98.4%)	464.5/510.5 = 91.0% (83.3%, 95.3%)
Age \geq 60 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	83	389.2/510.5 = 76.2% (64.8%, 84.8%)	492.2/510.5 = 96.4% (90.0%, 98.8%)	428.1/510.5 = 83.9% (72.4%, 91.2%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age \geq 60 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	83	277/510.5 = 54.3% (41.9%, 66.1%)	503.8/510.5 = 98.7% (90.9%, 99.8%)	500/510.5 = 98.0% (91.5%, 99.5%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	122	209.9/1706.2 = 12.3% (7.2%, 20.3%)	1636.1/1706.2 = 95.9% (90.9%, 98.2%)	1514/1706.2 = 88.7% (81.8%, 93.2%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	122	1301.4/1706.2 = 76.3% (67.8%, 83.1%)	1592.5/1706.2 = 93.3% (87.4%, 96.6%)	1509.7/1706.2 = 88.5% (81.4%, 93.1%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	122	1217.4/1706.2 = 71.4% (62.4%, 78.9%)	1706.2/1706.2 = 100.0% (100.0%, 100.0%)	1690.2/1706.2 = 99.1% (93.5%, 99.9%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	29.2/190 = 15.4% (6.7%, 31.5%)	190/190 = 100.0% (100.0%, 100.0%)	184.2/190 = 97.0% (79.8%, 99.6%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	176.2/190 = 92.8% (78.2%, 97.9%)	185.5/190 = 97.7% (83.9%, 99.7%)	185.5/190 = 97.7% (83.9%, 99.7%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	160.4/190 = 84.4% (67.9%, 93.3%)	190/190 = 100.0% (100.0%, 100.0%)	190/190 = 100.0% (100.0%, 100.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	17	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	17	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	17	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	31	0/178.5 = 0.0% (0.0%, 0.0%)	156.9/178.5 = 87.9% (71.9%, 95.4%)	137/178.5 = 76.7% (57.0%, 89.2%)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	31	118.3/178.5 = 66.3% (46.4%, 81.7%)	173.1/178.5 = 97.0% (79.6%, 99.6%)	142.4/178.5 = 79.8% (60.0%, 91.2%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	31	90.1/178.5 = 50.5% (32.2%, 68.6%)	178.5/178.5 = 100.0% (100.0%, 100.0%)	178.5/178.5 = 100.0% (100.0%, 100.0%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 5k. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOD or $\geq 4 \times$ LLOD for binding antibody markers by Country

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Country								
United States	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	436	539.3/8267 = 6.5% (4.6%, 9.3%)	7298.6/8267 = 88.3% (84.5%, 91.3%)	6446.1/8267 = 78.0% (73.3%, 82.0%)
United States	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	436	4606.8/8267 = 55.7% (50.8%, 60.6%)	7007.9/8267 = 84.8% (80.6%, 88.2%)	6116.2/8267 = 74.0% (69.2%, 78.3%)
United States	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	436	3733.4/8267 = 45.2% (40.5%, 49.9%)	8096.6/8267 = 97.9% (95.5%, 99.1%)	7638.8/8267 = 92.4% (88.9%, 94.9%)
United States	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	125	141.9/910 = 15.6% (10.2%, 23.2%)	848.9/910 = 93.3% (86.6%, 96.7%)	796.7/910 = 87.5% (80.2%, 92.4%)
United States	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	125	665.9/910 = 73.2% (64.2%, 80.6%)	827.3/910 = 90.9% (83.6%, 95.2%)	763/910 = 83.9% (75.7%, 89.6%)
United States	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	125	505.2/910 = 55.5% (46.3%, 64.3%)	900/910 = 98.9% (92.4%, 99.9%)	877.5/910 = 96.4% (89.3%, 98.9%)
United States	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	108	28.9/872 = 3.3% (1.4%, 7.7%)	760.9/872 = 87.3% (78.8%, 92.7%)	613.3/872 = 70.3% (59.8%, 79.0%)
United States	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	108	396.7/872 = 45.5% (35.7%, 55.6%)	695.7/872 = 79.8% (69.9%, 87.0%)	513.3/872 = 58.9% (48.3%, 68.6%)
United States	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	108	322.5/872 = 37.0% (27.8%, 47.2%)	840.9/872 = 96.4% (88.9%, 98.9%)	754.9/872 = 86.6% (77.2%, 92.5%)
Argentina	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	43	210/1485.3 = 14.1% (6.1%, 29.3%)	1379.4/1485.3 = 92.9% (81.0%, 97.5%)	1206.8/1485.3 = 81.2% (65.0%, 91.0%)
Argentina	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	43	898.9/1485.3 = 60.5% (43.9%, 75.0%)	1244.8/1485.3 = 83.8% (67.2%, 92.9%)	1137.6/1485.3 = 76.6% (60.3%, 87.6%)
Argentina	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	43	919.2/1485.3 = 61.9% (45.2%, 76.2%)	1485.3/1485.3 = 100.0% (100.0%, 100.0%)	1380.6/1485.3 = 93.0% (75.3%, 98.3%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Argentina	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	9	36.5/129.5 = 28.2% (5.7%, 71.8%)	129.5/129.5 = 100.0% (100.0%, 100.0%)	129.5/129.5 = 100.0% (100.0%, 100.0%)
Argentina	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	9	129.5/129.5 = 100.0% (100.0%, 100.0%)	129.5/129.5 = 100.0% (100.0%, 100.0%)	129.5/129.5 = 100.0% (100.0%, 100.0%)
Argentina	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	9	95.3/129.5 = 73.6% (27.6%, 95.3%)	129.5/129.5 = 100.0% (100.0%, 100.0%)	129.5/129.5 = 100.0% (100.0%, 100.0%)
Argentina	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	5	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	5	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	5	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	9	0/125.7 = 0.0% (0.0%, 0.0%)	102.2/125.7 = 81.3% (22.7%, 98.5%)	78.6/125.7 = 62.5% (18.3%, 92.6%)
Argentina	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	9	90.5/125.7 = 72.0% (22.6%, 95.8%)	125.7/125.7 = 100.0% (100.0%, 100.0%)	90.5/125.7 = 72.0% (22.6%, 95.8%)
Argentina	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	9	48.6/125.7 = 38.7% (8.6%, 80.9%)	125.7/125.7 = 100.0% (100.0%, 100.0%)	125.7/125.7 = 100.0% (100.0%, 100.0%)
Brazil	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	91	255/3212.1 = 7.9% (3.9%, 15.4%)	2628.9/3212.1 = 81.8% (71.2%, 89.2%)	2294.2/3212.1 = 71.4% (60.1%, 80.6%)
Brazil	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	91	1671.7/3212.1 = 52.0% (41.2%, 62.7%)	2596.2/3212.1 = 80.8% (70.0%, 88.4%)	2255.6/3212.1 = 70.2% (58.9%, 79.5%)
Brazil	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	91	1085.2/3212.1 = 33.8% (25.2%, 43.5%)	3121.3/3212.1 = 97.2% (89.0%, 99.3%)	2997.6/3212.1 = 93.3% (84.3%, 97.3%)
Brazil	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	23	9.1/337.6 = 2.7% (0.3%, 19.3%)	303.5/337.6 = 89.9% (65.8%, 97.6%)	241.3/337.6 = 71.5% (46.8%, 87.7%)
Brazil	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	23	166/337.6 = 49.2% (28.0%, 70.6%)	294.4/337.6 = 87.2% (64.2%, 96.3%)	277.3/337.6 = 82.1% (59.4%, 93.5%)
Brazil	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	23	220.9/337.6 = 65.4% (43.2%, 82.5%)	320.6/337.6 = 94.9% (68.2%, 99.4%)	320.6/337.6 = 94.9% (68.2%, 99.4%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Brazil	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	9	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	9	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	9	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	27	23.2/373.4 = 6.2% (1.5%, 22.8%)	327.7/373.4 = 87.8% (70.0%, 95.7%)	267.5/373.4 = 71.6% (48.5%, 87.1%)
Brazil	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	27	146.2/373.4 = 39.2% (22.2%, 59.2%)	280.5/373.4 = 75.1% (51.4%, 89.6%)	255.9/373.4 = 68.5% (45.5%, 85.0%)
Brazil	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	27	48.3/373.4 = 12.9% (5.2%, 28.9%)	340.7/373.4 = 91.2% (73.9%, 97.5%)	304.1/373.4 = 81.4% (58.9%, 93.1%)
Chile	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	16	38.5/606.5 = 6.4% (0.7%, 39.5%)	456.9/606.5 = 75.3% (45.2%, 91.9%)	456.9/606.5 = 75.3% (45.2%, 91.9%)
Chile	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	16	308.5/606.5 = 50.9% (25.0%, 76.3%)	515.6/606.5 = 85.0% (51.4%, 96.8%)	424.8/606.5 = 70.0% (39.3%, 89.4%)
Chile	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	16	256.1/606.5 = 42.2% (19.0%, 69.5%)	568/606.5 = 93.6% (60.5%, 99.3%)	496.7/606.5 = 81.9% (50.5%, 95.2%)
Chile	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	4	0/57 = 0.0%	57/57 = 100.0%	57/57 = 100.0%
Chile	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	4	57/57 = 100.0%	57/57 = 100.0%	57/57 = 100.0%
Chile	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	4	39.9/57 = 70.0%	57/57 = 100.0%	57/57 = 100.0%
Chile	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	3	0/1006.7 = 0.0%	0/1006.7 = 0.0%	0/1006.7 = 0.0%
Chile	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	3	0/1006.7 = 0.0%	0/1006.7 = 0.0%	0/1006.7 = 0.0%
Chile	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	3	0/1006.7 = 0.0%	0/1006.7 = 0.0%	0/1006.7 = 0.0%
Chile	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0/26 = 0.0%	13/26 = 50.0%	13/26 = 50.0%
Chile	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	0/26 = 0.0%	13/26 = 50.0%	0/26 = 0.0%
Chile	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0/26 = 0.0%	13/26 = 50.0%	0/26 = 0.0%
Columbia	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	45	100.7/1533.3 = 6.6% (1.9%, 20.7%)	1355.5/1533.3 = 88.4% (73.5%, 95.5%)	1254.8/1533.3 = 81.8% (66.0%, 91.3%)
Columbia	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	45	1006.3/1533.3 = 65.6% (48.6%, 79.4%)	1456.2/1533.3 = 95.0% (81.5%, 98.8%)	1217.5/1533.3 = 79.4% (62.1%, 90.1%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Columbia	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	45	886.1/1533.3 = 57.8% (41.4%, 72.7%)	1494.7/1533.3 = 97.5% (83.3%, 99.7%)	1403.9/1533.3 = 91.6% (76.0%, 97.4%)
Columbia	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	12	61.6/213.4 = 28.9% (7.5%, 66.9%)	213.4/213.4 = 100.0% (100.0%, 100.0%)	213.4/213.4 = 100.0% (100.0%, 100.0%)
Columbia	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	151.8/213.4 = 71.1% (33.1%, 92.5%)	213.4/213.4 = 100.0% (100.0%, 100.0%)	196.3/213.4 = 92.0% (51.0%, 99.2%)
Columbia	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	146.6/213.4 = 68.7% (31.5%, 91.3%)	213.4/213.4 = 100.0% (100.0%, 100.0%)	213.4/213.4 = 100.0% (100.0%, 100.0%)
Columbia	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	8	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	16	13.4/222.4 = 6.0% (1.3%, 24.2%)	209.4/222.4 = 94.2% (62.1%, 99.4%)	185.8/222.4 = 83.6% (46.3%, 96.8%)
Columbia	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	16	76.1/222.4 = 34.2% (15.0%, 60.5%)	172.8/222.4 = 77.7% (43.4%, 94.1%)	125.7/222.4 = 56.5% (27.7%, 81.5%)
Columbia	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	16	64.5/222.4 = 29.0% (11.9%, 55.3%)	198.8/222.4 = 89.4% (45.8%, 98.8%)	185.8/222.4 = 83.6% (46.3%, 96.8%)
Mexico	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	5	0/156.1 = 0.0% (0.0%, 0.0%)	156.1/156.1 = 100.0% (100.0%, 100.0%)	156.1/156.1 = 100.0% (100.0%, 100.0%)
Mexico	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	5	117.6/156.1 = 75.3% (8.1%, 99.1%)	156.1/156.1 = 100.0% (100.0%, 100.0%)	117.6/156.1 = 75.3% (8.1%, 99.1%)
Mexico	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	5	97.3/156.1 = 62.3% (8.1%, 96.9%)	156.1/156.1 = 100.0% (100.0%, 100.0%)	156.1/156.1 = 100.0% (100.0%, 100.0%)
Mexico	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	2	0/44.5 = 0.0%	44.5/44.5 = 100.0%	44.5/44.5 = 100.0%
Mexico	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	2	22.3/44.5 = 50.0%	44.5/44.5 = 100.0%	22.3/44.5 = 50.0%
Mexico	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	2	22.3/44.5 = 50.0%	44.5/44.5 = 100.0%	44.5/44.5 = 100.0%
Mexico	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/278.4 = 0.0%	0/278.4 = 0.0%	0/278.4 = 0.0%
Mexico	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/278.4 = 0.0%	0/278.4 = 0.0%	0/278.4 = 0.0%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
Mexico	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/278.4 = 0.0%	0/278.4 = 0.0%	0/278.4 = 0.0%
Peru	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	22	29.4/721.7 = 4.1% (0.5%, 26.9%)	683.7/721.7 = 94.7% (79.2%, 98.8%)	626.2/721.7 = 86.8% (65.8%, 95.7%)
Peru	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	22	262/721.7 = 36.3% (18.2%, 59.4%)	702.7/721.7 = 97.4% (81.1%, 99.7%)	549.6/721.7 = 76.2% (50.1%, 91.0%)
Peru	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	22	324.2/721.7 = 44.9% (24.2%, 67.6%)	721.7/721.7 = 100.0% (100.0%, 100.0%)	683.1/721.7 = 94.7% (67.1%, 99.4%)
Peru	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	6	0/97 = 0.0% (0.0%, 0.0%)	79.9/97 = 82.4% (11.8%, 99.4%)	62.8/97 = 64.8% (10.7%, 96.6%)
Peru	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	40.6/97 = 41.8% (4.4%, 91.9%)	79.9/97 = 82.4% (11.8%, 99.4%)	79.9/97 = 82.4% (11.8%, 99.4%)
Peru	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	18.3/97 = 18.9% (1.6%, 77.0%)	97/97 = 100.0% (100.0%, 100.0%)	97/97 = 100.0% (100.0%, 100.0%)
Peru	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/164.4 = 0.0%	0/164.4 = 0.0%	0/164.4 = 0.0%
Peru	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/164.4 = 0.0%	0/164.4 = 0.0%	0/164.4 = 0.0%
Peru	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/164.4 = 0.0%	0/164.4 = 0.0%	0/164.4 = 0.0%
Peru	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	7	0/83.5 = 0.0% (0.0%, 0.0%)	83.5/83.5 = 100.0% (100.0%, 100.0%)	83.5/83.5 = 100.0% (100.0%, 100.0%)
Peru	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	7	65.2/83.5 = 78.0% (22.7%, 97.7%)	83.5/83.5 = 100.0% (100.0%, 100.0%)	71.9/83.5 = 86.1% (21.7%, 99.3%)
Peru	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	7	71.9/83.5 = 86.1% (21.7%, 99.3%)	83.5/83.5 = 100.0% (100.0%, 100.0%)	83.5/83.5 = 100.0% (100.0%, 100.0%)
South Africa	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	220	182.4/2871 = 6.4% (3.9%, 10.1%)	2480.9/2871 = 86.4% (80.5%, 90.7%)	2190.1/2871 = 76.3% (69.6%, 81.9%)
South Africa	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	220	1482.2/2871 = 51.6% (44.8%, 58.4%)	2421.8/2871 = 84.4% (78.3%, 88.9%)	2026.5/2871 = 70.6% (63.7%, 76.7%)
South Africa	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	220	1230.5/2871 = 42.9% (36.4%, 49.6%)	2826.4/2871 = 98.4% (95.0%, 99.5%)	2717.4/2871 = 94.7% (90.1%, 97.2%)
South Africa	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	55	17.4/320 = 5.4% (1.6%, 17.2%)	311.8/320 = 97.4% (82.9%, 99.7%)	292.9/320 = 91.5% (78.6%, 96.9%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2xLLOD	% Greater than 4xLLOD
South Africa	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	55	215.9/320 = 67.5% (53.4%, 78.9%)	295.7/320 = 92.4% (80.8%, 97.2%)	276.8/320 = 86.5% (74.0%, 93.5%)
South Africa	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	55	209/320 = 65.3% (51.7%, 76.8%)	320/320 = 100.0% (100.0%, 100.0%)	320/320 = 100.0% (100.0%, 100.0%)
South Africa	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	58	0/290 = 0.0% (0.0%, 0.0%)	271.2/290 = 93.5% (81.1%, 98.0%)	245.9/290 = 84.8% (71.3%, 92.6%)
South Africa	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	58	176.3/290 = 60.8% (47.0%, 73.1%)	233.8/290 = 80.6% (66.7%, 89.6%)	192/290 = 66.2% (52.3%, 77.8%)
South Africa	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	58	97.4/290 = 33.6% (22.8%, 46.4%)	284.6/290 = 98.1% (87.3%, 99.8%)	259.1/290 = 89.3% (76.4%, 95.6%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

1.6 Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers

Table 6a. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by All participants

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
All participants								
	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	878	1355.3/18853 = 7.2% (5.5%, 9.3%)	5105.6/18853 = 27.1% (24.0%, 30.4%)	3066.1/18853 = 16.3% (13.9%, 19.0%)
	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	878	10354/18853 = 54.9% (51.2%, 58.6%)	15849.6/18853 = 84.1% (81.0%, 86.7%)	13698.6/18853 = 72.7% (69.1%, 75.9%)
	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	878	8531.9/18853 = 45.3% (41.8%, 48.8%)	16702.5/18853 = 88.6% (85.8%, 90.9%)	14145.1/18853 = 75.0% (71.6%, 78.2%)
	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	236	266.6/2109 = 12.6% (8.5%, 18.3%)	780.6/2109 = 37.0% (30.4%, 44.2%)	554.5/2109 = 26.3% (20.5%, 33.0%)
	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	236	1448.9/2109 = 68.7% (61.5%, 75.1%)	1931.6/2109 = 91.6% (86.9%, 94.7%)	1802.1/2109 = 85.4% (79.7%, 89.8%)
	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	236	1257.5/2109 = 59.6% (52.8%, 66.1%)	2017/2109 = 95.6% (91.4%, 97.8%)	1799.3/2109 = 85.3% (79.0%, 90.0%)
	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	107	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	107	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	107	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)	0/18822 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	227	65.6/1993 = 3.3% (1.7%, 6.4%)	355.9/1993 = 17.9% (13.2%, 23.7%)	166.5/1993 = 8.4% (5.7%, 12.2%)
	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	227	951/1993 = 47.7% (40.8%, 54.8%)	1532.9/1993 = 76.9% (69.6%, 82.9%)	1236.3/1993 = 62.0% (54.4%, 69.1%)

Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	227	653.1/1993 = 32.8% (26.7%, 39.5%)	1660/1993 = 83.3% (76.9%, 88.2%)	1267.7/1993 = 63.6% (56.1%, 70.5%)
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Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.



Table 6b. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by Age

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age								
Age 18 - 59	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	435	552.8/12312 = 4.5% (2.7%, 7.3%)	2440.1/12312 = 19.8% (16.0%, 24.2%)	1261.9/12312 = 10.2% (7.6%, 13.7%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	5412.3/12312 = 44.0% (38.9%, 49.1%)	9697.9/12312 = 78.8% (74.3%, 82.7%)	7922.6/12312 = 64.3% (59.3%, 69.1%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	3873/12312 = 31.5% (26.9%, 36.4%)	10291.6/12312 = 83.6% (79.4%, 87.1%)	8073.4/12312 = 65.6% (60.5%, 70.3%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	121	137.9/1385 = 10.0% (5.3%, 18.1%)	410.3/1385 = 29.6% (21.4%, 39.4%)	269.6/1385 = 19.5% (12.7%, 28.7%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	121	792.3/1385 = 57.2% (47.1%, 66.7%)	1224.1/1385 = 88.4% (81.4%, 93.0%)	1094.5/1385 = 79.0% (70.6%, 85.5%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	121	606.2/1385 = 43.8% (34.3%, 53.7%)	1293/1385 = 93.4% (86.9%, 96.7%)	1079.7/1385 = 78.0% (68.7%, 85.1%)
Age 18 - 59	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	52	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)	0/12172 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	113	7.2/1304 = 0.5% (0.1%, 3.9%)	128/1304 = 9.8% (5.1%, 18.0%)	26/1304 = 2.0% (0.7%, 5.2%)
Age 18 - 59	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	113	443.5/1304 = 34.0% (25.1%, 44.3%)	871.3/1304 = 66.8% (56.1%, 76.0%)	665.7/1304 = 51.1% (40.6%, 61.4%)
Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	113	286.1/1304 = 21.9% (14.8%, 31.2%)	986.9/1304 = 75.7% (66.2%, 83.2%)	703.4/1304 = 53.9% (43.6%, 63.9%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	443	802.5/6541 = 12.3% (9.3%, 16.0%)	2665.5/6541 = 40.7% (35.8%, 45.8%)	1804.2/6541 = 27.6% (23.2%, 32.4%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	4941.7/6541 = 75.5% (70.9%, 79.7%)	6151.7/6541 = 94.0% (91.2%, 96.0%)	5776/6541 = 88.3% (84.5%, 91.3%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	4658.9/6541 = 71.2% (66.5%, 75.6%)	6410.9/6541 = 98.0% (96.2%, 99.0%)	6071.7/6541 = 92.8% (90.0%, 94.9%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age ≥ 60	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	115	128.7/724 = 17.8% (11.2%, 27.0%)	370.3/724 = 51.2% (40.6%, 61.6%)	284.9/724 = 39.3% (29.7%, 49.9%)
Age ≥ 60	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	115	656.6/724 = 90.7% (82.0%, 95.4%)	707.6/724 = 97.7% (92.1%, 99.4%)	707.6/724 = 97.7% (92.1%, 99.4%)
Age ≥ 60	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	115	651.3/724 = 90.0% (83.5%, 94.1%)	724/724 = 100.0% (100.0%, 100.0%)	719.6/724 = 99.4% (95.7%, 99.9%)
Age ≥ 60	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	55	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)	0/6650 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	114	58.4/689 = 8.5% (4.1%, 16.8%)	227.9/689 = 33.1% (24.1%, 43.5%)	140.5/689 = 20.4% (13.2%, 30.2%)
Age ≥ 60	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	114	507.5/689 = 73.7% (64.1%, 81.4%)	661.6/689 = 96.0% (90.9%, 98.3%)	570.5/689 = 82.8% (73.5%, 89.3%)
Age ≥ 60	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	114	367/689 = 53.3% (43.0%, 63.3%)	673.2/689 = 97.7% (92.8%, 99.3%)	564.3/689 = 81.9% (72.3%, 88.7%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 6c. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by Risk for Severe Covid-19

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Risk for Severe Covid-19								
At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	435	498.4/7590 = 6.6% (4.5%, 9.5%)	2003.8/7590 = 26.4% (22.2%, 31.1%)	1225/7590 = 16.1% (12.7%, 20.3%)
At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	4283/7590 = 56.4% (51.2%, 61.6%)	6391.8/7590 = 84.2% (79.8%, 87.8%)	5581/7590 = 73.5% (68.5%, 78.0%)
At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	3440.3/7590 = 45.3% (40.4%, 50.4%)	6895.7/7590 = 90.9% (87.1%, 93.6%)	5869.5/7590 = 77.3% (72.5%, 81.6%)
At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	116	114.1/853 = 13.4% (7.9%, 21.7%)	324.6/853 = 38.1% (28.7%, 48.4%)	237.1/853 = 27.8% (19.8%, 37.6%)
At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	116	594.9/853 = 69.7% (59.1%, 78.6%)	746.3/853 = 87.5% (77.7%, 93.4%)	667.3/853 = 78.2% (67.5%, 86.1%)
At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	116	480.1/853 = 56.3% (46.4%, 65.7%)	813.5/853 = 95.4% (85.5%, 98.6%)	710.6/853 = 83.3% (72.8%, 90.3%)
At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	55	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)	0/7517 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	113	24.3/791 = 3.1% (1.1%, 8.1%)	146.1/791 = 18.5% (11.6%, 28.1%)	57.8/791 = 7.3% (4.0%, 12.9%)
At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	113	392.6/791 = 49.6% (39.6%, 59.7%)	619/791 = 78.3% (67.5%, 86.2%)	503.8/791 = 63.7% (52.7%, 73.4%)
At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	113	294.5/791 = 37.2% (28.3%, 47.1%)	633.7/791 = 80.1% (69.9%, 87.5%)	491.7/791 = 62.2% (52.2%, 71.2%)
Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	443	856.9/11263 = 7.6% (5.3%, 10.7%)	3101.8/11263 = 27.5% (23.3%, 32.2%)	1841/11263 = 16.3% (13.2%, 20.1%)
Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	6071.1/11263 = 53.9% (48.8%, 58.9%)	9457.7/11263 = 84.0% (79.6%, 87.6%)	8117.6/11263 = 72.1% (67.1%, 76.6%)
Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	5091.6/11263 = 45.2% (40.5%, 50.0%)	9806.7/11263 = 87.1% (83.0%, 90.3%)	8275.7/11263 = 73.5% (68.6%, 77.8%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	120	152.5/1256 = 12.1% (6.8%, 20.7%)	456/1256 = 36.3% (27.3%, 46.4%)	317.3/1256 = 25.3% (17.6%, 34.9%)
Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	120	854/1256 = 68.0% (57.9%, 76.6%)	1185.3/1256 = 94.4% (89.0%, 97.2%)	1134.8/1256 = 90.4% (83.3%, 94.6%)
Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	120	777.4/1256 = 61.9% (52.3%, 70.6%)	1203.5/1256 = 95.8% (90.6%, 98.2%)	1088.7/1256 = 86.7% (78.0%, 92.3%)
Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	52	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)	0/11305 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	114	41.2/1202 = 3.4% (1.4%, 8.2%)	209.7/1202 = 17.4% (11.5%, 25.5%)	108.7/1202 = 9.0% (5.4%, 14.8%)
Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	114	558.4/1202 = 46.5% (37.1%, 56.1%)	913.9/1202 = 76.0% (65.6%, 84.1%)	732.4/1202 = 60.9% (50.3%, 70.6%)
Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	114	358.6/1202 = 29.8% (21.9%, 39.2%)	1026.4/1202 = 85.4% (76.3%, 91.4%)	776/1202 = 64.6% (53.7%, 74.1%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 6d. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by Age, Risk for Severe Covid-19

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age, Risk for Severe Covid-19								
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	213	183.5/4942 = 3.7% (1.7%, 7.8%)	951.9/4942 = 19.3% (14.2%, 25.6%)	596.9/4942 = 12.1% (8.1%, 17.7%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	213	2300/4942 = 46.5% (39.4%, 53.9%)	3950.9/4942 = 79.9% (73.5%, 85.1%)	3239.2/4942 = 65.5% (58.3%, 72.1%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	213	1600.6/4942 = 32.4% (25.9%, 39.6%)	4335.2/4942 = 87.7% (82.1%, 91.8%)	3434.3/4942 = 69.5% (62.5%, 75.7%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	59	60.1/568 = 10.6% (4.6%, 22.7%)	181.6/568 = 32.0% (20.5%, 46.1%)	112.1/568 = 19.7% (10.8%, 33.3%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	59	338.5/568 = 59.6% (44.9%, 72.8%)	477.8/568 = 84.1% (70.0%, 92.3%)	398.7/568 = 70.2% (55.1%, 81.9%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	59	232.5/568 = 40.9% (28.0%, 55.2%)	528.5/568 = 93.0% (78.5%, 98.0%)	430.1/568 = 75.7% (60.5%, 86.4%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)	0/4825 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	54	7.2/526 = 1.4% (0.2%, 9.5%)	67.7/526 = 12.9% (5.4%, 27.5%)	12.6/526 = 2.4% (0.6%, 9.6%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	54	205.5/526 = 39.1% (26.1%, 53.8%)	375.8/526 = 71.5% (56.2%, 83.0%)	279/526 = 53.0% (38.2%, 67.4%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	54	154.4/526 = 29.4% (18.4%, 43.4%)	384.5/526 = 73.1% (58.5%, 84.0%)	269.1/526 = 51.2% (37.7%, 64.4%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	222	369.3/7370 = 5.0% (2.6%, 9.4%)	1488.2/7370 = 20.2% (15.1%, 26.5%)	665/7370 = 9.0% (5.7%, 13.9%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	222	3112.4/7370 = 42.2% (35.4%, 49.4%)	5747/7370 = 78.0% (71.6%, 83.3%)	4683.4/7370 = 63.5% (56.5%, 70.1%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	222	2272.4/7370 = 30.8% (24.7%, 37.7%)	5956.4/7370 = 80.8% (74.7%, 85.8%)	4639.1/7370 = 62.9% (55.9%, 69.5%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	62	77.7/817 = 9.5% (3.7%, 22.5%)	228.7/817 = 28.0% (17.2%, 42.1%)	157.5/817 = 19.3% (10.4%, 32.9%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	62	453.7/817 = 55.5% (41.7%, 68.6%)	746.3/817 = 91.3% (83.2%, 95.7%)	695.8/817 = 85.2% (74.5%, 91.9%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	62	373.7/817 = 45.7% (32.6%, 59.5%)	764.5/817 = 93.6% (85.6%, 97.3%)	649.7/817 = 79.5% (66.7%, 88.3%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	25	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	25	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	25	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)	0/7347 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	0/778 = 0.0% (0.0%, 0.0%)	60.3/778 = 7.8% (2.8%, 19.8%)	13.4/778 = 1.7% (0.4%, 6.6%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	238/778 = 30.6% (19.0%, 45.3%)	495.5/778 = 63.7% (48.5%, 76.5%)	386.8/778 = 49.7% (35.4%, 64.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	131.7/778 = 16.9% (8.6%, 30.7%)	602.4/778 = 77.4% (63.9%, 86.9%)	434.3/778 = 55.8% (41.0%, 69.7%)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	222	314.9/2648 = 11.9% (7.9%, 17.5%)	1051.9/2648 = 39.7% (33.0%, 46.8%)	628.1/2648 = 23.7% (18.2%, 30.3%)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	222	1983/2648 = 74.9% (68.2%, 80.6%)	2441/2648 = 92.2% (87.5%, 95.2%)	2341.9/2648 = 88.4% (83.1%, 92.2%)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	222	1839.7/2648 = 69.5% (62.6%, 75.6%)	2560.5/2648 = 96.7% (92.9%, 98.5%)	2435.1/2648 = 92.0% (86.9%, 95.2%)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	57	54/285 = 18.9% (10.1%, 32.8%)	143/285 = 50.2% (35.5%, 64.8%)	125/285 = 43.9% (29.7%, 59.1%)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	57	256.4/285 = 90.0% (78.0%, 95.8%)	268.6/285 = 94.2% (80.7%, 98.5%)	268.6/285 = 94.2% (80.7%, 98.5%)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	57	247.6/285 = 86.9% (74.7%, 93.7%)	285/285 = 100.0% (100.0%, 100.0%)	280.6/285 = 98.4% (89.2%, 99.8%)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	28	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	28	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	28	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)	0/2692 = 0.0% (0.0%, 0.0%)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	17.2/265 = 6.5% (2.0%, 19.2%)	78.5/265 = 29.6% (18.4%, 43.9%)	45.2/265 = 17.1% (8.7%, 30.7%)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	187.1/265 = 70.6% (57.1%, 81.2%)	243.2/265 = 91.8% (80.1%, 96.9%)	224.9/265 = 84.9% (72.3%, 92.3%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	140.1/265 = 52.9% (39.3%, 66.0%)	249.2/265 = 94.0% (81.7%, 98.2%)	222.6/265 = 84.0% (71.5%, 91.7%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	221	487.6/3893 = 12.5% (8.6%, 18.0%)	1613.6/3893 = 41.4% (34.7%, 48.6%)	1176.1/3893 = 30.2% (24.1%, 37.1%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	2958.7/3893 = 76.0% (69.3%, 81.6%)	3710.7/3893 = 95.3% (91.0%, 97.6%)	3434.2/3893 = 88.2% (82.6%, 92.2%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	2819.2/3893 = 72.4% (65.7%, 78.2%)	3850.3/3893 = 98.9% (96.6%, 99.7%)	3636.6/3893 = 93.4% (89.6%, 95.9%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	58	74.8/439 = 17.0% (8.7%, 30.7%)	227.3/439 = 51.8% (37.3%, 66.0%)	159.8/439 = 36.4% (23.9%, 51.1%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	58	400.3/439 = 91.2% (76.7%, 97.0%)	439/439 = 100.0% (100.0%, 100.0%)	439/439 = 100.0% (100.0%, 100.0%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	58	403.7/439 = 92.0% (83.3%, 96.3%)	439/439 = 100.0% (100.0%, 100.0%)	439/439 = 100.0% (100.0%, 100.0%)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)	0/3958 = 0.0% (0.0%, 0.0%)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	55	41.2/424 = 9.7% (3.8%, 22.7%)	149.4/424 = 35.2% (22.8%, 50.0%)	95.3/424 = 22.5% (12.6%, 36.9%)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	320.4/424 = 75.6% (61.6%, 85.6%)	418.5/424 = 98.7% (90.8%, 99.8%)	345.7/424 = 81.5% (67.4%, 90.4%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	55	227/424 = 53.5% (39.0%, 67.5%)	424/424 = 100.0% (100.0%, 100.0%)	341.7/424 = 80.6% (65.9%, 89.9%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 6e. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by Sex

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Sex								
Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	878	1355.3/18853 = 7.2% (5.5%, 9.3%)	5105.6/18853 = 27.1% (24.0%, 30.4%)	3066.1/18853 = 16.3% (13.9%, 19.0%)
Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	878	10354/18853 = 54.9% (51.2%, 58.6%)	15849.6/18853 = 84.1% (81.0%, 86.7%)	13698.6/18853 = 72.7% (69.1%, 75.9%)
Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	878	8531.9/18853 = 45.3% (41.8%, 48.8%)	16702.5/18853 = 88.6% (85.8%, 90.9%)	14145.1/18853 = 75.0% (71.6%, 78.2%)
Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	236	266.6/2109 = 12.6% (8.5%, 18.3%)	780.6/2109 = 37.0% (30.4%, 44.2%)	554.5/2109 = 26.3% (20.5%, 33.0%)
Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	236	1448.9/2109 = 68.7% (61.5%, 75.1%)	1931.6/2109 = 91.6% (86.9%, 94.7%)	1802.1/2109 = 85.4% (79.7%, 89.8%)
Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	236	1257.5/2109 = 59.6% (52.8%, 66.1%)	2017/2109 = 95.6% (91.4%, 97.8%)	1799.3/2109 = 85.3% (79.0%, 90.0%)
Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	67	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	67	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	67	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)	0/10960.7 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	103	30.3/898.4 = 3.4% (1.2%, 9.2%)	173.1/898.4 = 19.3% (12.5%, 28.5%)	99.3/898.4 = 11.1% (6.5%, 18.3%)
Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	103	438.6/898.4 = 48.8% (37.8%, 59.9%)	703.5/898.4 = 78.3% (66.6%, 86.7%)	570.9/898.4 = 63.5% (51.7%, 74.0%)
Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	103	293.6/898.4 = 32.7% (24.1%, 42.6%)	784.4/898.4 = 87.3% (76.6%, 93.5%)	595.3/898.4 = 66.3% (54.3%, 76.4%)
Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)	0/7861.3 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	124	35.2/1094.6 = 3.2% (1.2%, 8.0%)	182.8/1094.6 = 16.7% (10.5%, 25.4%)	67.2/1094.6 = 6.1% (3.2%, 11.3%)
Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	124	512.4/1094.6 = 46.8% (37.4%, 56.5%)	829.4/1094.6 = 75.8% (65.4%, 83.8%)	665.4/1094.6 = 60.8% (50.4%, 70.3%)
Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	124	359.6/1094.6 = 32.8% (24.3%, 42.8%)	875.6/1094.6 = 80.0% (70.9%, 86.8%)	672.4/1094.6 = 61.4% (51.2%, 70.7%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 6f. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by Age, sex

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age, sex								
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	21	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)	0/5626.2 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	65	7.2/747.9 = 1.0% (0.1%, 6.8%)	80.7/747.9 = 10.8% (4.6%, 23.3%)	19.3/747.9 = 2.6% (0.8%, 8.0%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	65	243.9/747.9 = 32.6% (21.5%, 46.1%)	501/747.9 = 67.0% (52.8%, 78.7%)	370.4/747.9 = 49.5% (36.1%, 63.0%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	65	201.9/747.9 = 27.0% (16.7%, 40.5%)	539.4/747.9 = 72.1% (59.5%, 82.0%)	399.5/747.9 = 53.4% (40.2%, 66.1%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	435	552.8/12312 = 4.5% (2.7%, 7.3%)	2440.1/12312 = 19.8% (16.0%, 24.2%)	1261.9/12312 = 10.2% (7.6%, 13.7%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	5412.3/12312 = 44.0% (38.9%, 49.1%)	9697.9/12312 = 78.8% (74.3%, 82.7%)	7922.6/12312 = 64.3% (59.3%, 69.1%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	3873/12312 = 31.5% (26.9%, 36.4%)	10291.6/12312 = 83.6% (79.4%, 87.1%)	8073.4/12312 = 65.6% (60.5%, 70.3%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	121	137.9/1385 = 10.0% (5.3%, 18.1%)	410.3/1385 = 29.6% (21.4%, 39.4%)	269.6/1385 = 19.5% (12.7%, 28.7%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	121	792.3/1385 = 57.2% (47.1%, 66.7%)	1224.1/1385 = 88.4% (81.4%, 93.0%)	1094.5/1385 = 79.0% (70.6%, 85.5%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	121	606.2/1385 = 43.8% (34.3%, 53.7%)	1293/1385 = 93.4% (86.9%, 96.7%)	1079.7/1385 = 78.0% (68.7%, 85.1%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	31	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	31	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	31	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)	0/6545.8 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	48	0/556.1 = 0.0% (0.0%, 0.0%)	47.3/556.1 = 8.5% (3.0%, 21.8%)	6.7/556.1 = 1.2% (0.2%, 8.6%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	48	199.6/556.1 = 35.9% (22.0%, 52.6%)	370.3/556.1 = 66.6% (49.5%, 80.2%)	295.4/556.1 = 53.1% (36.8%, 68.8%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	48	84.2/556.1 = 15.1% (7.3%, 28.6%)	447.5/556.1 = 80.5% (64.0%, 90.5%)	304/556.1 = 54.7% (38.3%, 70.1%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	19	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	19	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	19	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)	0/2235 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	28.1/346.7 = 8.1% (2.7%, 21.7%)	102.1/346.7 = 29.4% (18.0%, 44.2%)	47.9/346.7 = 13.8% (6.4%, 27.4%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	268.5/346.7 = 77.4% (63.9%, 86.9%)	328.4/346.7 = 94.7% (85.4%, 98.2%)	295/346.7 = 85.1% (71.6%, 92.8%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	157.6/346.7 = 45.5% (31.9%, 59.7%)	336.2/346.7 = 97.0% (87.7%, 99.3%)	273/346.7 = 78.7% (63.8%, 88.6%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	443	802.5/6541 = 12.3% (9.3%, 16.0%)	2665.5/6541 = 40.7% (35.8%, 45.8%)	1804.2/6541 = 27.6% (23.2%, 32.4%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	4941.7/6541 = 75.5% (70.9%, 79.7%)	6151.7/6541 = 94.0% (91.2%, 96.0%)	5776/6541 = 88.3% (84.5%, 91.3%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	4658.9/6541 = 71.2% (66.5%, 75.6%)	6410.9/6541 = 98.0% (96.2%, 99.0%)	6071.7/6541 = 92.8% (90.0%, 94.9%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	115	128.7/724 = 17.8% (11.2%, 27.0%)	370.3/724 = 51.2% (40.6%, 61.6%)	284.9/724 = 39.3% (29.7%, 49.9%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	115	656.6/724 = 90.7% (82.0%, 95.4%)	707.6/724 = 97.7% (92.1%, 99.4%)	707.6/724 = 97.7% (92.1%, 99.4%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	115	651.3/724 = 90.0% (83.5%, 94.1%)	724/724 = 100.0% (100.0%, 100.0%)	719.6/724 = 99.4% (95.7%, 99.9%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	36	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	36	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	36	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)	0/4415 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	55	30.3/342.3 = 8.9% (3.1%, 22.9%)	125.8/342.3 = 36.7% (23.5%, 52.3%)	92.6/342.3 = 27.1% (15.6%, 42.6%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	239/342.3 = 69.8%	333.2/342.3 = 97.3% (89.3%, 99.4%)	275.5/342.3 = 80.5% (65.5%, 89.9%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	55	209.4/342.3 = 61.2% (46.1%, 74.4%)	336.9/342.3 = 98.4% (89.1%, 99.8%)	291.3/342.3 = 85.1% (70.3%, 93.2%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 6g. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by Hispanic or Latino ethnicity

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Hispanic or Latino ethnicity								
Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	348	729.1/9675.5 = 7.5% (5.0%, 11.2%)	2528.9/9675.5 = 26.1% (21.5%, 31.4%)	1555.4/9675.5 = 16.1% (12.5%, 20.5%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	348	5213.6/9675.5 = 53.9% (48.1%, 59.6%)	7998.1/9675.5 = 82.7% (77.6%, 86.8%)	6943.4/9675.5 = 71.8% (66.1%, 76.8%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	348	4345.3/9675.5 = 44.9% (39.5%, 50.4%)	8502.3/9675.5 = 87.9% (83.2%, 91.4%)	7229.4/9675.5 = 74.7% (69.2%, 79.5%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	100	149.1/1136.3 = 13.1% (7.2%, 22.6%)	419.6/1136.3 = 36.9% (27.1%, 48.0%)	304.7/1136.3 = 26.8% (18.4%, 37.4%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	100	732.8/1136.3 = 64.5% (53.0%, 74.5%)	1040.7/1136.3 = 91.6% (83.6%, 95.9%)	956.6/1136.3 = 84.2% (74.7%, 90.6%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	100	678.6/1136.3 = 59.7% (49.2%, 69.4%)	1082.2/1136.3 = 95.2% (87.6%, 98.3%)	978.8/1136.3 = 86.1% (75.9%, 92.5%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	39	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)	0/8929.5 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	97	53.6/1060.9 = 5.0% (2.3%, 10.7%)	178.3/1060.9 = 16.8% (11.2%, 24.5%)	97.3/1060.9 = 9.2% (5.3%, 15.5%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	97	482.9/1060.9 = 45.5% (35.3%, 56.2%)	805.9/1060.9 = 76.0% (64.3%, 84.8%)	657.4/1060.9 = 62.0% (50.2%, 72.5%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	97	325.5/1060.9 = 30.7% (22.1%, 40.9%)	859.9/1060.9 = 81.1% (70.6%, 88.4%)	605.8/1060.9 = 57.1% (45.5%, 67.9%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	471	514.2/8038 = 6.4% (4.5%, 9.0%)	2231.6/8038 = 27.8% (23.7%, 32.3%)	1274.9/8038 = 15.9% (12.8%, 19.5%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	471	4440.4/8038 = 55.2% (50.4%, 60.0%)	6841.4/8038 = 85.1% (81.1%, 88.4%)	5897.6/8038 = 73.4% (68.7%, 77.6%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	471	3657.4/8038 = 45.5% (40.8%, 50.2%)	7255/8038 = 90.3% (86.7%, 92.9%)	6112.5/8038 = 76.0% (71.5%, 80.1%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	124	105/863.8 = 12.2% (7.3%, 19.6%)	330.2/863.8 = 38.2% (29.5%, 47.8%)	237.2/863.8 = 27.5% (19.9%, 36.7%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	124	627.2/863.8 = 72.6% (63.4%, 80.3%)	782.1/863.8 = 90.5% (83.2%, 94.9%)	745.5/863.8 = 86.3% (78.4%, 91.6%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	124	527.6/863.8 = 61.1% (51.6%, 69.8%)	826/863.8 = 95.6% (88.5%, 98.4%)	719.9/863.8 = 83.3% (74.2%, 89.7%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	60	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	60	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	60	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)	0/8653.4 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	120	6/818.4 = 0.7% (0.1%, 5.1%)	128/818.4 = 15.6% (9.7%, 24.3%)	57.8/818.4 = 7.1% (3.8%, 12.8%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	120	405.4/818.4 = 49.5% (40.1%, 59.1%)	626.2/818.4 = 76.5% (66.6%, 84.2%)	492.7/818.4 = 60.2% (50.2%, 69.5%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	120	283.3/818.4 = 34.6% (26.0%, 44.4%)	686.4/818.4 = 83.9% (74.4%, 90.3%)	561.2/818.4 = 68.6% (58.5%, 77.2%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	59	111.9/1139.4 = 9.8% (4.2%, 21.4%)	345/1139.4 = 30.3% (19.1%, 44.4%)	235.8/1139.4 = 20.7% (11.4%, 34.5%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	59	700/1139.4 = 61.4% (47.0%, 74.1%)	1010/1139.4 = 88.6% (76.8%, 94.9%)	857.7/1139.4 = 75.3% (61.0%, 85.6%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	59	529.3/1139.4 = 46.5% (32.9%, 60.5%)	945.2/1139.4 = 83.0% (68.2%, 91.7%)	803.2/1139.4 = 70.5% (55.6%, 82.0%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	12	12.5/108.8 = 11.5% (0.7%, 71.4%)	30.8/108.8 = 28.3% (5.6%, 72.4%)	12.5/108.8 = 11.5% (0.7%, 71.4%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	88.9/108.8 = 81.7% (36.8%, 97.2%)	108.8/108.8 = 100.0% (100.0%, 100.0%)	100/108.8 = 91.9% (37.1%, 99.5%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	51.3/108.8 = 47.1% (12.9%, 84.3%)	108.8/108.8 = 100.0% (100.0%, 100.0%)	100.6/108.8 = 92.5% (39.2%, 99.6%)
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	8	0/1239.1 = 0.0%	0/1239.1 = 0.0%	0/1239.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0/1239.1 = 0.0%	0/1239.1 = 0.0%	0/1239.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0/1239.1 = 0.0%	0/1239.1 = 0.0%	0/1239.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	10	6/113.8 = 5.3% (0.1%, 84.3%)	49.5/113.8 = 43.5% (3.2%, 94.7%)	11.4/113.8 = 10.0% (0.4%, 77.6%)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	10	62.6/113.8 = 55.1% (5.0%, 96.6%)	100.8/113.8 = 88.6% (7.4%, 99.9%)	86.2/113.8 = 75.8% (8.2%, 99.1%)
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	10	44.3/113.8 = 38.9% (3.1%, 92.8%)	113.8/113.8 = 100.0% (100.0%, 100.0%)	100.8/113.8 = 88.6% (7.4%, 99.9%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
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Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

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Table 6h. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by Race

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Race								
White Non-Hispanic	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	180	261.2/3638.2 = 7.2% (4.1%, 12.3%)	977.4/3638.2 = 26.9% (20.6%, 34.2%)	554.9/3638.2 = 15.3% (10.7%, 21.3%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	180	1978.1/3638.2 = 54.4% (46.6%, 61.9%)	3088.8/3638.2 = 84.9% (78.0%, 89.9%)	2638.1/3638.2 = 72.5% (64.8%, 79.1%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	180	1578.2/3638.2 = 43.4% (36.1%, 50.9%)	3341.6/3638.2 = 91.8% (85.8%, 95.4%)	2699.2/3638.2 = 74.2% (66.5%, 80.6%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	54	77.1/413.3 = 18.7% (10.1%, 31.9%)	192.4/413.3 = 46.5% (32.3%, 61.4%)	160.9/413.3 = 38.9% (25.7%, 54.0%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	54	353.6/413.3 = 85.6% (70.2%, 93.7%)	408.8/413.3 = 98.9% (92.4%, 99.9%)	391.1/413.3 = 94.6% (83.9%, 98.4%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	54	259/413.3 = 62.7% (47.3%, 75.8%)	400.8/413.3 = 97.0% (80.3%, 99.6%)	353.6/413.3 = 85.6% (70.2%, 93.7%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	22	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	22	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	22	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)	0/3635.6 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	49	0/419.8 = 0.0% (0.0%, 0.0%)	80.7/419.8 = 19.2% (9.7%, 34.4%)	18.7/419.8 = 4.5% (1.4%, 13.3%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	49	188.7/419.8 = 45.0% (31.3%, 59.4%)	323.1/419.8 = 77.0% (61.3%, 87.6%)	236.1/419.8 = 56.2% (41.2%, 70.3%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
White Non-Hispanic	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	49	172.1/419.8 = 41.0% (27.2%, 56.4%)	372.7/419.8 = 88.8% (74.8%, 95.5%)	317.3/419.8 = 75.6% (59.7%, 86.6%)
Black or African American	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	306	214.2/4507.5 = 4.8% (3.1%, 7.2%)	1224.4/4507.5 = 27.2% (22.3%, 32.6%)	755.3/4507.5 = 16.8% (12.9%, 21.5%)
Black or African American	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	306	2411/4507.5 = 53.5% (47.4%, 59.4%)	3850/4507.5 = 85.4% (80.5%, 89.3%)	3295.1/4507.5 = 73.1% (67.2%, 78.3%)
Black or African American	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	306	2099.4/4507.5 = 46.6% (40.7%, 52.5%)	3942.3/4507.5 = 87.5% (82.6%, 91.1%)	3385.8/4507.5 = 75.1% (69.2%, 80.2%)
Black or African American	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	73	34/474.5 = 7.2% (3.0%, 16.2%)	165.5/474.5 = 34.9% (23.5%, 48.3%)	73.6/474.5 = 15.5% (8.7%, 26.2%)
Black or African American	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	73	306.4/474.5 = 64.6% (52.5%, 75.1%)	399.7/474.5 = 84.2% (72.9%, 91.4%)	380.8/474.5 = 80.3% (68.6%, 88.3%)
Black or African American	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	73	293.9/474.5 = 61.9% (49.9%, 72.7%)	439.1/474.5 = 92.5% (82.0%, 97.1%)	401.5/474.5 = 84.6% (72.7%, 91.9%)
Black or African American	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Black or African American	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)	0/5335.5 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	88	15.7/513.8 = 3.1% (1.0%, 9.2%)	80.2/513.8 = 15.6% (9.7%, 24.2%)	62.6/513.8 = 12.2% (6.9%, 20.5%)
Black or African American	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	88	271.6/513.8 = 52.9% (41.8%, 63.6%)	396.2/513.8 = 77.1% (65.3%, 85.8%)	340.4/513.8 = 66.2% (54.7%, 76.1%)
Black or African American	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	88	151.7/513.8 = 29.5% (20.7%, 40.2%)	412.3/513.8 = 80.2% (68.7%, 88.3%)	319.7/513.8 = 62.2% (50.3%, 72.8%)
Asian	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	22	0/493.6 = 0.0% (0.0%, 0.0%)	130.4/493.6 = 26.4% (9.3%, 55.6%)	38.8/493.6 = 7.9% (1.6%, 30.9%)
Asian	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	22	204.6/493.6 = 41.5% (19.5%, 67.5%)	410.7/493.6 = 83.2% (57.0%, 94.9%)	326.1/493.6 = 66.1% (39.3%, 85.4%)
Asian	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	22	129.3/493.6 = 26.2% (10.5%, 51.9%)	373.8/493.6 = 75.7% (47.2%, 91.6%)	353.7/493.6 = 71.7% (43.8%, 89.1%)
Asian	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	5	0/55.4 = 0.0%	3.6/55.4 = 6.5%	3.6/55.4 = 6.5%
Asian	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	12.4/55.4 = 22.5%	42.9/55.4 = 77.4%	42.9/55.4 = 77.4%
Asian	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	25.8/55.4 = 46.7%	55.4/55.4 = 100.0%	25.8/55.4 = 46.7%
Asian	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	2	0/178.5 = 0.0%	0/178.5 = 0.0%	0/178.5 = 0.0%
Asian	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0/178.5 = 0.0%	0/178.5 = 0.0%	0/178.5 = 0.0%
Asian	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0/178.5 = 0.0%	0/178.5 = 0.0%	0/178.5 = 0.0%
Asian	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	4	0/53.5 = 0.0%	0/53.5 = 0.0%	0/53.5 = 0.0%
Asian	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	4	3.7/53.5 = 7.0%	38.9/53.5 = 72.8%	27.3/53.5 = 51.1%
Asian	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	4	0/53.5 = 0.0%	38.9/53.5 = 72.8%	27.3/53.5 = 51.1%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	124	291/4407.9 = 6.6% (3.1%, 13.4%)	1009.3/4407.9 = 22.9% (16.0%, 31.6%)	653/4407.9 = 14.8% (9.3%, 22.7%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	124	2084.3/4407.9 = 47.3% (38.2%, 56.5%)	3580.3/4407.9 = 81.2% (72.3%, 87.8%)	2927.2/4407.9 = 66.4% (56.8%, 74.8%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	124	1676.6/4407.9 = 38.0% (29.8%, 47.0%)	3758.6/4407.9 = 85.3% (76.7%, 91.0%)	3165/4407.9 = 71.8% (62.3%, 79.7%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	31	75.9/474.2 = 16.0% (6.1%, 35.8%)	107.8/474.2 = 22.7% (10.8%, 41.7%)	94.2/474.2 = 19.9% (8.8%, 38.9%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	31	282.1/474.2 = 59.5% (39.9%, 76.4%)	413.8/474.2 = 87.3% (69.3%, 95.4%)	357.4/474.2 = 75.4% (55.9%, 88.1%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	31	291/474.2 = 61.4% (42.7%, 77.2%)	440/474.2 = 92.8% (74.2%, 98.3%)	344.3/474.2 = 72.6% (52.4%, 86.5%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	18	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	18	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	18	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)	0/5035.5 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	35	36.7/473.4 = 7.7% (2.7%, 20.0%)	116.2/473.4 = 24.6% (12.5%, 42.6%)	48.3/473.4 = 10.2% (4.2%, 22.9%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	35	209.6/473.4 = 44.3% (27.9%, 62.0%)	314.1/473.4 = 66.4% (46.3%, 81.9%)	265.9/473.4 = 56.2% (37.4%, 73.3%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	35	131.4/473.4 = 27.8% (15.2%, 45.1%)	387.2/473.4 = 81.8% (61.0%, 92.8%)	253.2/473.4 = 53.5% (34.8%, 71.2%)
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	2	0/66.4 = 0.0%	14/66.4 = 21.1%	0/66.4 = 0.0%
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	2	14/66.4 = 21.1%	66.4/66.4 = 100.0%	66.4/66.4 = 100.0%
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	2	14/66.4 = 21.1%	66.4/66.4 = 100.0%	14/66.4 = 21.1%
Multiracial	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	29	94.2/631.2 = 14.9% (5.4%, 35.0%)	196.1/631.2 = 31.1% (15.7%, 52.1%)	154.5/631.2 = 24.5% (11.6%, 44.6%)
Multiracial	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	29	432.9/631.2 = 68.6% (46.7%, 84.5%)	546.6/631.2 = 86.6% (63.3%, 96.0%)	484/631.2 = 76.7% (54.3%, 90.1%)
Multiracial	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	29	364.6/631.2 = 57.8% (36.7%, 76.3%)	556.4/631.2 = 88.2% (66.4%, 96.6%)	476.4/631.2 = 75.5% (53.0%, 89.4%)
Multiracial	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	6	2.9/53 = 5.4%	36.5/53 = 68.9%	36.5/53 = 68.9%
Multiracial	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	17.4/53 = 32.8%	45.3/53 = 85.6%	45.3/53 = 85.6%
Multiracial	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	23.1/53 = 43.5%	53/53 = 100.0%	53/53 = 100.0%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Multiracial	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	6	0/1244.5 = 0.0%	0/1244.5 = 0.0%	0/1244.5 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0/1244.5 = 0.0%	0/1244.5 = 0.0%	0/1244.5 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	6	0/1244.5 = 0.0%	0/1244.5 = 0.0%	0/1244.5 = 0.0%
Multiracial	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	5	0/35.9 = 0.0%	11.6/35.9 = 32.4%	0/35.9 = 0.0%
Multiracial	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	16.2/35.9 = 45.1%	35.9/35.9 = 100.0%	16.2/35.9 = 45.1%
Multiracial	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	4.5/35.9 = 12.6%	22.9/35.9 = 63.8%	16.2/35.9 = 45.1%
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	15	42.3/348 = 12.2% (2.4%, 44.1%)	128.5/348 = 36.9% (10.6%, 74.4%)	76.1/348 = 21.9% (5.9%, 55.7%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	15	284.5/348 = 81.7% (47.5%, 95.7%)	314.2/348 = 90.3% (55.0%, 98.6%)	303.5/348 = 87.2% (54.0%, 97.5%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	15	157.6/348 = 45.3% (15.4%, 79.0%)	348/348 = 100.0% (100.0%, 100.0%)	286.8/348 = 82.4% (45.5%, 96.3%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	5	0/39.6 = 0.0%	17.1/39.6 = 43.1%	17.1/39.6 = 43.1%
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	30.7/39.6 = 77.4%	39.6/39.6 = 100.0%	39.6/39.6 = 100.0%
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	5.4/39.6 = 13.5%	39.6/39.6 = 100.0%	39.6/39.6 = 100.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/164.1 = 0.0%	0/164.1 = 0.0%	0/164.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/164.1 = 0.0%	0/164.1 = 0.0%	0/164.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/164.1 = 0.0%	0/164.1 = 0.0%	0/164.1 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	3	0/30.4 = 0.0%	0/30.4 = 0.0%	0/30.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	3	23.2/30.4 = 76.5%	30.4/30.4 = 100.0%	23.2/30.4 = 76.5%
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	3	11.6/30.4 = 38.2%	30.4/30.4 = 100.0%	30.4/30.4 = 100.0%

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Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
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Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

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Table 6i. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by Underrepresented Minority Status in the U.S.

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Underrepresented Minority Status in the U.S.								
URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	630	934.3/13921 = 6.7% (4.8%, 9.3%)	3725.3/13921 = 26.8% (23.1%, 30.7%)	2275/13921 = 16.3% (13.5%, 19.7%)
URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	630	7582.7/13921 = 54.5% (50.0%, 58.8%)	11661.2/13921 = 83.8% (80.0%, 86.9%)	10117.8/13921 = 72.7% (68.4%, 76.6%)
URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	630	6352/13921 = 45.6% (41.5%, 49.9%)	12254.5/13921 = 88.0% (84.6%, 90.8%)	10528.3/13921 = 75.6% (71.5%, 79.3%)
URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	165	177/1553.9 = 11.4% (6.8%, 18.5%)	550.7/1553.9 = 35.4%	366.2/1553.9 = 23.6%
URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	165	997.6/1553.9 = 64.2% (55.3%, 72.2%)	1393.4/1553.9 = 89.7%	1290.5/1553.9 = 83.0%
URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	165	920.9/1553.9 = 59.3% (51.1%, 66.9%)	1474.4/1553.9 = 94.9%	1333.4/1553.9 = 85.8%
URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	77	0/13950.5 = 0.0% (0.0%, 0.0%)	0/13950.5 = 0.0%	0/13950.5 = 0.0%
URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	77	0/13950.5 = 0.0% (0.0%, 0.0%)	0/13950.5 = 0.0%	0/13950.5 = 0.0%
URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	77	0/13950.5 = 0.0% (0.0%, 0.0%)	0/13950.5 = 0.0%	0/13950.5 = 0.0%
URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	168	65.6/1482.9 = 4.4% (2.2%, 8.5%)	255.2/1482.9 = 17.2%	142.4/1482.9 = 9.6%
URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	168	707.8/1482.9 = 47.7% (39.6%, 55.9%)	1134.1/1482.9 = 76.5%	945.7/1482.9 = 63.8%
URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	168	438.2/1482.9 = 29.5% (22.8%, 37.3%)	1211.7/1482.9 = 81.7%	881.4/1482.9 = 59.4%
Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	248	421/4932 = 8.5% (5.6%, 12.8%)	1380.3/4932 = 28.0%	791.1/4932 = 16.0%
Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	248	2771.4/4932 = 56.2% (49.5%, 62.6%)	4188.4/4932 = 84.9%	3580.8/4932 = 72.6%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	248	2179.9/4932 = 44.2% (38.1%, 50.5%)	4447.9/4932 = 90.2% (85.0%, 93.7%)	3616.9/4932 = 73.3% (66.9%, 78.9%)
Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	89.6/555.1 = 16.1% (8.8%, 27.8%)	229.9/555.1 = 41.4% (29.4%, 54.6%)	188.3/555.1 = 33.9% (22.9%, 47.0%)
Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	451.3/555.1 = 81.3% (68.6%, 89.6%)	538.2/555.1 = 96.9% (86.3%, 99.4%)	511.6/555.1 = 92.2% (81.6%, 96.9%)
Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	336.6/555.1 = 60.6% (47.0%, 72.8%)	542.6/555.1 = 97.7% (84.9%, 99.7%)	465.9/555.1 = 83.9% (71.2%, 91.7%)
Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	30	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	30	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	30	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)	0/4871.5 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	0/510.1 = 0.0% (0.0%, 0.0%)	100.6/510.1 = 19.7% (10.6%, 33.7%)	24.1/510.1 = 4.7% (1.8%, 12.1%)
Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	243.2/510.1 = 47.7% (34.2%, 61.4%)	398.8/510.1 = 78.2% (63.6%, 88.0%)	290.6/510.1 = 57.0% (42.6%, 70.2%)
Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	214.9/510.1 = 42.1% (29.1%, 56.4%)	448.4/510.1 = 87.9% (74.2%, 94.8%)	386.4/510.1 = 75.7% (61.1%, 86.1%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 6j. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by Age, Underrepresented Minority Status in the U.S.

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age, Underrepresented Minority Status in the U.S.								
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	309	341.7/9086.2 = 3.8% (1.9%, 7.5%)	1753.3/9086.2 = 19.3% (14.8%, 24.7%)	905.9/9086.2 = 10.0% (6.8%, 14.3%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	309	3942.4/9086.2 = 43.4% (37.4%, 49.6%)	7102.1/9086.2 = 78.2% (72.7%, 82.8%)	5851.4/9086.2 = 64.4% (58.3%, 70.1%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	309	2910.5/9086.2 = 32.0% (26.6%, 38.0%)	7494.5/9086.2 = 82.5% (77.3%, 86.7%)	6020.3/9086.2 = 66.3% (60.2%, 71.8%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	87	77.5/1019.8 = 7.6% (2.9%, 18.5%)	282.1/1019.8 = 27.7% (18.2%, 39.6%)	162.8/1019.8 = 16.0% (8.7%, 27.4%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	87	517.2/1019.8 = 50.7% (38.7%, 62.7%)	871.4/1019.8 = 85.4% (76.5%, 91.4%)	768.4/1019.8 = 75.3% (64.7%, 83.6%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	87	430/1019.8 = 42.2% (31.1%, 54.1%)	940.3/1019.8 = 92.2% (84.0%, 96.4%)	799.3/1019.8 = 78.4% (66.9%, 86.7%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	39	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)	0/9106.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	85	7.2/972.5 = 0.7% (0.1%, 5.2%)	75.5/972.5 = 7.8% (3.3%, 17.4%)	26/972.5 = 2.7% (1.0%, 7.0%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	85	318.7/972.5 = 32.8% (22.5%, 44.9%)	645.6/972.5 = 66.4% (53.5%, 77.2%)	517.6/972.5 = 53.2% (40.8%, 65.2%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	85	161.2/972.5 = 16.6% (9.4%, 27.6%)	711.6/972.5 = 73.2% (61.7%, 82.2%)	472.8/972.5 = 48.6% (36.5%, 60.8%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	126	211.1/3225.8 = 6.5% (3.4%, 12.4%)	686.8/3225.8 = 21.3% (14.8%, 29.6%)	355.9/3225.8 = 11.0% (6.7%, 17.6%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	126	1469.9/3225.8 = 45.6% (36.7%, 54.7%)	2595.8/3225.8 = 80.5% (72.2%, 86.7%)	2071.2/3225.8 = 64.2% (55.1%, 72.4%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	126	962.5/3225.8 = 29.8% (22.1%, 38.9%)	2797/3225.8 = 86.7% (78.9%, 91.9%)	2053.1/3225.8 = 63.6% (54.5%, 71.9%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	34	60.4/365.2 = 16.5% (7.1%, 33.9%)	128.1/365.2 = 35.1% (20.0%, 53.9%)	106.8/365.2 = 29.2% (15.5%, 48.1%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	34	275.1/365.2 = 75.3% (56.8%, 87.6%)	352.7/365.2 = 96.6% (77.2%, 99.6%)	326.1/365.2 = 89.3% (73.2%, 96.2%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	34	176.2/365.2 = 48.3% (30.7%, 66.2%)	352.7/365.2 = 96.6% (77.2%, 99.6%)	280.4/365.2 = 76.8% (58.1%, 88.7%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	13	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	13	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	13	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)	0/3065.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	28	0/331.5 = 0.0% (0.0%, 0.0%)	52.4/331.5 = 15.8% (5.5%, 37.7%)	0/331.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	28	124.8/331.5 = 37.7% (20.8%, 58.1%)	225.7/331.5 = 68.1% (47.1%, 83.6%)	148.2/331.5 = 44.7% (26.1%, 64.9%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	28	124.8/331.5 = 37.7% (20.8%, 58.1%)	275.3/331.5 = 83.0% (62.5%, 93.5%)	230.7/331.5 = 69.6% (48.6%, 84.7%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	321	592.6/4834.8 = 12.3% (8.8%, 16.8%)	1972/4834.8 = 40.8% (35.0%, 46.9%)	1369.1/4834.8 = 28.3% (23.1%, 34.2%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	321	3640.3/4834.8 = 75.3% (69.6%, 80.3%)	4559.2/4834.8 = 94.3% (90.7%, 96.6%)	4266.4/4834.8 = 88.2% (83.5%, 91.7%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	321	3441.5/4834.8 = 71.2% (65.4%, 76.3%)	4760/4834.8 = 98.5% (96.4%, 99.3%)	4508/4834.8 = 93.2% (89.8%, 95.6%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	78	99.6/534 = 18.6% (10.7%, 30.5%)	268.5/534 = 50.3% (37.4%, 63.1%)	203.4/534 = 38.1% (26.6%, 51.1%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	78	480.4/534 = 90.0% (78.3%, 95.7%)	522/534 = 97.8% (89.6%, 99.5%)	522/534 = 97.8% (89.6%, 99.5%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	78	490.9/534 = 91.9% (84.3%, 96.0%)	534/534 = 100.0% (100.0%, 100.0%)	534/534 = 100.0% (100.0%, 100.0%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	38	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)	0/4844 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	83	58.4/510.5 = 11.4% (5.5%, 22.5%)	179.7/510.5 = 35.2% (24.4%, 47.8%)	116.5/510.5 = 22.8% (13.9%, 35.0%)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	83	389.2/510.5 = 76.2% (64.8%, 84.8%)	488.5/510.5 = 95.7% (89.3%, 98.3%)	428.1/510.5 = 83.9% (72.4%, 91.2%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age \geq 60 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	83	277/510.5 = 54.3% (41.9%, 66.1%)	500/510.5 = 98.0% (91.5%, 99.5%)	408.6/510.5 = 80.0% (67.9%, 88.4%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	122	209.9/1706.2 = 12.3% (7.2%, 20.3%)	693.5/1706.2 = 40.6% (31.9%, 50.0%)	435.2/1706.2 = 25.5% (18.2%, 34.5%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	122	1301.4/1706.2 = 76.3% (67.8%, 83.1%)	1592.5/1706.2 = 93.3% (87.4%, 96.6%)	1509.7/1706.2 = 88.5% (81.4%, 93.1%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	122	1217.4/1706.2 = 71.4% (62.4%, 78.9%)	1650.9/1706.2 = 96.8% (91.4%, 98.8%)	1563.7/1706.2 = 91.7% (84.9%, 95.5%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	29.2/190 = 15.4% (6.7%, 31.5%)	101.8/190 = 53.6% (36.5%, 69.9%)	81.5/190 = 42.9% (27.2%, 60.2%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	176.2/190 = 92.8% (78.2%, 97.9%)	185.5/190 = 97.7% (83.9%, 99.7%)	185.5/190 = 97.7% (83.9%, 99.7%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	160.4/190 = 84.4% (67.9%, 93.3%)	190/190 = 100.0% (100.0%, 100.0%)	185.5/190 = 97.7% (83.9%, 99.7%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	17	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	17	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	17	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)	0/1806 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	31	0/178.5 = 0.0% (0.0%, 0.0%)	48.2/178.5 = 27.0% (13.4%, 47.0%)	24.1/178.5 = 13.5% (4.8%, 32.8%)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	31	118.3/178.5 = 66.3% (46.4%, 81.7%)	173.1/178.5 = 97.0% (79.6%, 99.6%)	142.4/178.5 = 79.8% (60.0%, 91.2%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	31	90.1/178.5 = 50.5% (32.2%, 68.6%)	173.1/178.5 = 97.0% (79.6%, 99.6%)	155.7/178.5 = 87.2% (69.0%, 95.4%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 6k. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by Country

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Country								
United States	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	436	539.3/8267 = 6.5% (4.6%, 9.3%)	2301.7/8267 = 27.8% (23.8%, 32.3%)	1331.6/8267 = 16.1% (13.0%, 19.8%)
United States	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	436	4606.8/8267 = 55.7% (50.8%, 60.6%)	6917.8/8267 = 83.7% (79.4%, 87.2%)	6032.5/8267 = 73.0% (68.2%, 77.3%)
United States	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	436	3733.4/8267 = 45.2% (40.5%, 49.9%)	7297.9/8267 = 88.3% (84.3%, 91.3%)	6048.3/8267 = 73.2% (68.4%, 77.5%)
United States	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	125	141.9/910 = 15.6% (10.2%, 23.2%)	390.5/910 = 42.9% (33.8%, 52.5%)	284.6/910 = 31.3% (23.3%, 40.5%)
United States	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	125	665.9/910 = 73.2% (64.2%, 80.6%)	817.3/910 = 89.8% (82.4%, 94.3%)	763/910 = 83.9% (75.7%, 89.6%)
United States	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	125	505.2/910 = 55.5% (46.3%, 64.3%)	857.5/910 = 94.2% (87.2%, 97.5%)	773.7/910 = 85.0% (76.1%, 91.0%)
United States	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)	0/8311 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	108	28.9/872 = 3.3% (1.4%, 7.7%)	168.4/872 = 19.3% (12.9%, 28.0%)	68.7/872 = 7.9% (4.6%, 13.3%)
United States	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	108	396.7/872 = 45.5% (35.7%, 55.6%)	677.4/872 = 77.7% (67.4%, 85.4%)	513.3/872 = 58.9% (48.3%, 68.6%)
United States	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	108	322.5/872 = 37.0% (27.8%, 47.2%)	725.6/872 = 83.2% (73.7%, 89.8%)	632.8/872 = 72.6% (62.1%, 81.0%)
Argentina	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	43	210/1485.3 = 14.1% (6.1%, 29.3%)	494.9/1485.3 = 33.3% (20.1%, 49.7%)	307.3/1485.3 = 20.7% (10.6%, 36.5%)
Argentina	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	43	898.9/1485.3 = 60.5% (43.9%, 75.0%)	1244.8/1485.3 = 83.8% (67.2%, 92.9%)	1137.6/1485.3 = 76.6% (60.3%, 87.6%)
Argentina	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	43	919.2/1485.3 = 61.9% (45.2%, 76.2%)	1380.6/1485.3 = 93.0% (75.3%, 98.3%)	1293.7/1485.3 = 87.1% (70.8%, 94.9%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Argentina	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	9	36.5/129.5 = 28.2% (5.7%, 71.8%)	59.4/129.5 = 45.9% (13.1%, 82.6%)	50.2/129.5 = 38.8% (10.1%, 78.2%)
Argentina	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	9	129.5/129.5 = 100.0% (100.0%, 100.0%)	129.5/129.5 = 100.0% (100.0%, 100.0%)	129.5/129.5 = 100.0% (100.0%, 100.0%)
Argentina	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	9	95.3/129.5 = 73.6% (27.6%, 95.3%)	129.5/129.5 = 100.0% (100.0%, 100.0%)	129.5/129.5 = 100.0% (100.0%, 100.0%)
Argentina	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	5	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	5	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	5	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)	0/1734.9 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	9	0/125.7 = 0.0% (0.0%, 0.0%)	30/125.7 = 23.8% (5.0%, 64.9%)	11.6/125.7 = 9.2% (0.7%, 58.8%)
Argentina	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	9	90.5/125.7 = 72.0% (22.6%, 95.8%)	102.2/125.7 = 81.3% (22.7%, 98.5%)	90.5/125.7 = 72.0% (22.6%, 95.8%)
Argentina	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	9	48.6/125.7 = 38.7% (8.6%, 80.9%)	125.7/125.7 = 100.0% (100.0%, 100.0%)	67/125.7 = 53.3% (14.7%, 88.2%)
Brazil	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	91	255/3212.1 = 7.9% (3.9%, 15.4%)	793.1/3212.1 = 24.7% (16.7%, 34.8%)	549.8/3212.1 = 17.1% (10.8%, 26.1%)
Brazil	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	91	1671.7/3212.1 = 52.0% (41.2%, 62.7%)	2596.2/3212.1 = 80.8% (70.0%, 88.4%)	2255.6/3212.1 = 70.2% (58.9%, 79.5%)
Brazil	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	91	1085.2/3212.1 = 33.8% (25.2%, 43.5%)	2763.5/3212.1 = 86.0% (75.6%, 92.4%)	2218.9/3212.1 = 69.1% (57.7%, 78.5%)
Brazil	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	23	9.1/337.6 = 2.7% (0.3%, 19.3%)	129.5/337.6 = 38.4% (19.6%, 61.4%)	76.5/337.6 = 22.7% (10.1%, 43.2%)
Brazil	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	23	166/337.6 = 49.2% (28.0%, 70.6%)	294.4/337.6 = 87.2% (64.2%, 96.3%)	277.3/337.6 = 82.1% (59.4%, 93.5%)
Brazil	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	23	220.9/337.6 = 65.4% (43.2%, 82.5%)	303.5/337.6 = 89.9% (65.8%, 97.6%)	286.4/337.6 = 84.8% (61.8%, 95.1%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Brazil	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	9	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	9	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	9	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)	0/2552.5 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	27	23.2/373.4 = 6.2% (1.5%, 22.8%)	89.8/373.4 = 24.0% (10.7%, 45.6%)	41.6/373.4 = 11.1% (4.0%, 27.2%)
Brazil	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	27	146.2/373.4 = 39.2% (22.2%, 59.2%)	280.5/373.4 = 75.1% (51.4%, 89.6%)	255.9/373.4 = 68.5% (45.5%, 85.0%)
Brazil	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	27	48.3/373.4 = 12.9% (5.2%, 28.9%)	304.1/373.4 = 81.4% (58.9%, 93.1%)	205.3/373.4 = 55.0% (34.2%, 74.2%)
Chile	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	16	38.5/606.5 = 6.4% (0.7%, 39.5%)	38.5/606.5 = 6.4% (0.7%, 39.5%)	38.5/606.5 = 6.4% (0.7%, 39.5%)
Chile	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	16	308.5/606.5 = 50.9% (25.0%, 76.3%)	463.3/606.5 = 76.4% (44.0%, 93.0%)	424.8/606.5 = 70.0% (39.3%, 89.4%)
Chile	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	16	256.1/606.5 = 42.2% (19.0%, 69.5%)	496.7/606.5 = 81.9% (50.5%, 95.2%)	444.3/606.5 = 73.3% (42.3%, 91.1%)
Chile	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	4	0/57 = 0.0%	13.7/57 = 24.0%	0/57 = 0.0%
Chile	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	4	57/57 = 100.0%	57/57 = 100.0%	57/57 = 100.0%
Chile	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	4	39.9/57 = 70.0%	57/57 = 100.0%	57/57 = 100.0%
Chile	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	3	0/1006.7 = 0.0%	0/1006.7 = 0.0%	0/1006.7 = 0.0%
Chile	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	3	0/1006.7 = 0.0%	0/1006.7 = 0.0%	0/1006.7 = 0.0%
Chile	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	3	0/1006.7 = 0.0%	0/1006.7 = 0.0%	0/1006.7 = 0.0%
Chile	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0/26 = 0.0%	0/26 = 0.0%	0/26 = 0.0%
Chile	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	0/26 = 0.0%	13/26 = 50.0%	0/26 = 0.0%
Chile	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0/26 = 0.0%	0/26 = 0.0%	0/26 = 0.0%
Columbia	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	45	100.7/1533.3 = 6.6% (1.9%, 20.7%)	565.6/1533.3 = 36.9% (23.0%, 53.4%)	293.5/1533.3 = 19.1% (9.9%, 33.9%)
Columbia	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	45	1006.3/1533.3 = 65.6% (48.6%, 79.4%)	1374.5/1533.3 = 89.6% (74.4%, 96.3%)	1178.9/1533.3 = 76.9% (59.6%, 88.2%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Columbia	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	45	886.1/1533.3 = 57.8% (41.4%, 72.7%)	1403.9/1533.3 = 91.6% (76.0%, 97.4%)	1208.3/1533.3 = 78.8% (61.4%, 89.7%)
Columbia	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	12	61.6/213.4 = 28.9% (7.5%, 66.9%)	93/213.4 = 43.6% (15.5%, 76.5%)	93/213.4 = 43.6% (15.5%, 76.5%)
Columbia	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	151.8/213.4 = 71.1% (33.1%, 92.5%)	213.4/213.4 = 100.0% (100.0%, 100.0%)	196.3/213.4 = 92.0% (51.0%, 99.2%)
Columbia	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	146.6/213.4 = 68.7% (31.5%, 91.3%)	213.4/213.4 = 100.0% (100.0%, 100.0%)	213.4/213.4 = 100.0% (100.0%, 100.0%)
Columbia	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	8	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)	0/1965.1 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	16	13.4/222.4 = 6.0% (1.3%, 24.2%)	26.4/222.4 = 11.9% (3.0%, 37.0%)	13.4/222.4 = 6.0% (1.3%, 24.2%)
Columbia	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	16	76.1/222.4 = 34.2% (15.0%, 60.5%)	149.2/222.4 = 67.1% (34.5%, 88.8%)	112.7/222.4 = 50.7% (23.7%, 77.2%)
Columbia	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	16	64.5/222.4 = 29.0% (11.9%, 55.3%)	172.8/222.4 = 77.7% (43.4%, 94.1%)	101.1/222.4 = 45.4% (20.2%, 73.2%)
Mexico	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	5	0/156.1 = 0.0% (0.0%, 0.0%)	58.8/156.1 = 37.7% (3.1%, 91.9%)	29.4/156.1 = 18.8% (0.6%, 89.4%)
Mexico	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	5	117.6/156.1 = 75.3% (8.1%, 99.1%)	156.1/156.1 = 100.0% (100.0%, 100.0%)	117.6/156.1 = 75.3% (8.1%, 99.1%)
Mexico	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	5	97.3/156.1 = 62.3% (8.1%, 96.9%)	156.1/156.1 = 100.0% (100.0%, 100.0%)	156.1/156.1 = 100.0% (100.0%, 100.0%)
Mexico	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	2	0/44.5 = 0.0%	0/44.5 = 0.0%	0/44.5 = 0.0%
Mexico	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	2	22.3/44.5 = 50.0%	44.5/44.5 = 100.0%	22.3/44.5 = 50.0%
Mexico	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	2	22.3/44.5 = 50.0%	44.5/44.5 = 100.0%	22.3/44.5 = 50.0%
Mexico	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/278.4 = 0.0%	0/278.4 = 0.0%	0/278.4 = 0.0%
Mexico	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/278.4 = 0.0%	0/278.4 = 0.0%	0/278.4 = 0.0%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Mexico	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/278.4 = 0.0%	0/278.4 = 0.0%	0/278.4 = 0.0%
Peru	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	22	29.4/721.7 = 4.1% (0.5%, 26.9%)	88.2/721.7 = 12.2% (3.6%, 33.9%)	29.4/721.7 = 4.1% (0.5%, 26.9%)
Peru	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	22	262/721.7 = 36.3% (18.2%, 59.4%)	702.7/721.7 = 97.4% (81.1%, 99.7%)	549.6/721.7 = 76.2% (50.1%, 91.0%)
Peru	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	22	324.2/721.7 = 44.9% (24.2%, 67.6%)	683.1/721.7 = 94.7% (67.1%, 99.4%)	664.1/721.7 = 92.0% (68.9%, 98.4%)
Peru	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	6	0/97 = 0.0% (0.0%, 0.0%)	0/97 = 0.0% (0.0%, 0.0%)	0/97 = 0.0% (0.0%, 0.0%)
Peru	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	40.6/97 = 41.8% (4.4%, 91.9%)	79.9/97 = 82.4% (11.8%, 99.4%)	79.9/97 = 82.4% (11.8%, 99.4%)
Peru	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	18.3/97 = 18.9% (1.6%, 77.0%)	97/97 = 100.0% (100.0%, 100.0%)	40.6/97 = 41.8% (4.4%, 91.9%)
Peru	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/164.4 = 0.0%	0/164.4 = 0.0%	0/164.4 = 0.0%
Peru	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/164.4 = 0.0%	0/164.4 = 0.0%	0/164.4 = 0.0%
Peru	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/164.4 = 0.0%	0/164.4 = 0.0%	0/164.4 = 0.0%
Peru	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	7	0/83.5 = 0.0% (0.0%, 0.0%)	0/83.5 = 0.0% (0.0%, 0.0%)	0/83.5 = 0.0% (0.0%, 0.0%)
Peru	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	7	65.2/83.5 = 78.0% (22.7%, 97.7%)	83.5/83.5 = 100.0% (100.0%, 100.0%)	71.9/83.5 = 86.1% (21.7%, 99.3%)
Peru	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	7	71.9/83.5 = 86.1% (21.7%, 99.3%)	83.5/83.5 = 100.0% (100.0%, 100.0%)	71.9/83.5 = 86.1% (21.7%, 99.3%)
South Africa	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	220	182.4/2871 = 6.4% (3.9%, 10.1%)	764.7/2871 = 26.6% (21.1%, 33.1%)	486.6/2871 = 16.9% (12.5%, 22.5%)
South Africa	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	220	1482.2/2871 = 51.6% (44.8%, 58.4%)	2394.2/2871 = 83.4% (77.3%, 88.1%)	2002/2871 = 69.7% (62.8%, 75.9%)
South Africa	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	220	1230.5/2871 = 42.9% (36.4%, 49.6%)	2520.7/2871 = 87.8% (82.1%, 91.9%)	2111.4/2871 = 73.5% (66.7%, 79.4%)
South Africa	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	55	17.4/320 = 5.4% (1.6%, 17.2%)	94.5/320 = 29.5% (18.6%, 43.4%)	50.2/320 = 15.7% (8.2%, 27.9%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
South Africa	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	55	215.9/320 = 67.5% (53.4%, 78.9%)	295.7/320 = 92.4% (80.8%, 97.2%)	276.8/320 = 86.5% (74.0%, 93.5%)
South Africa	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	55	209/320 = 65.3% (51.7%, 76.8%)	314.6/320 = 98.3% (88.4%, 99.8%)	276.5/320 = 86.4% (72.7%, 93.8%)
South Africa	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)	0/2809 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	58	0/290 = 0.0% (0.0%, 0.0%)	41.2/290 = 14.2% (7.1%, 26.4%)	31.2/290 = 10.7% (4.7%, 22.8%)
South Africa	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	58	176.3/290 = 60.8% (47.0%, 73.1%)	227.1/290 = 78.3% (64.2%, 87.9%)	192/290 = 66.2% (52.3%, 77.8%)
South Africa	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	58	97.4/290 = 33.6% (22.8%, 46.4%)	248.3/290 = 85.6% (72.5%, 93.1%)	189.8/290 = 65.4% (51.5%, 77.2%)

Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

1.7 Geometric mean titers (GMTs) and geometric mean concentrations (GMCs)

Table 7a. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by All participants

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
All participants						
	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	878	0.05 (0.05, 0.05)
	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	878	0.80 (0.80, 0.80)
	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	878	0.15 (0.15, 0.15)
	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	236	0.05 (0.05, 0.05)
	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	236	0.80 (0.79, 0.81)
	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	236	0.15 (0.15, 0.15)
	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	107	0.05 (0.05, 0.05)
	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	107	0.80 (0.80, 0.80)
	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	107	0.15 (0.15, 0.15)
	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	227	0.05 (0.05, 0.05)
	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	227	0.80 (0.80, 0.80)
	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	227	0.15 (0.15, 0.15)
	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	878	1.55 (1.36, 1.76)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	878	17.08 (15.21, 19.18)	
	Vaccine	Negative	Anti Spike IgG (IU/ml)	878	9.20 (8.36, 10.13)	
	Vaccine	Positive	Anti N IgG (IU/ml)	236	2.84 (2.20, 3.67)	
	Vaccine	Positive	Anti RBD IgG (IU/ml)	236	28.27 (23.24, 34.38)	
	Vaccine	Positive	Anti Spike IgG (IU/ml)	236	15.36 (12.91, 18.28)	
	Placebo	Negative	Anti N IgG (IU/ml)	107	0.05 (0.05, 0.05)	
	Placebo	Negative	Anti RBD IgG (IU/ml)	107	0.80 (0.80, 0.80)	
	Placebo	Negative	Anti Spike IgG (IU/ml)	107	0.15 (0.15, 0.16)	
	Placebo	Positive	Anti N IgG (IU/ml)	227	1.01 (0.82, 1.24)	
	Placebo	Positive	Anti RBD IgG (IU/ml)	227	11.44 (9.24, 14.15)	
	Placebo	Positive	Anti Spike IgG (IU/ml)	227	5.92 (4.92, 7.12)	

Table 7b. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by Age

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age						
Age 18 - 59	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	435	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	0.80 (0.80, 0.80)
Age 18 - 59	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	0.15 (0.15, 0.15)
Age 18 - 59	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	121	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	121	0.80 (0.79, 0.81)
Age 18 - 59	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	121	0.15 (0.15, 0.15)
Age 18 - 59	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	52	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0.80 (0.80, 0.80)
Age 18 - 59	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0.15 (0.15, 0.15)
Age 18 - 59	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	113	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	113	0.80 (0.80, 0.80)
Age 18 - 59	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	113	0.15 (0.15, 0.15)
Age 18 - 59	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	435	1.11 (0.93, 1.32)
Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	11.49 (9.80, 13.47)
Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	5.88 (5.15, 6.71)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	121	1.98 (1.40, 2.81)
Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	121	17.72 (13.70, 22.92)
Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	121	9.84 (7.72, 12.54)
Age 18 - 59	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	52	0.05 (0.05, 0.05)
Age 18 - 59	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0.80 (0.80, 0.80)
Age 18 - 59	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0.15 (0.15, 0.15)
Age 18 - 59	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	113	0.63 (0.48, 0.82)
Age 18 - 59	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	113	6.83 (5.12, 9.10)
Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	113	3.96 (3.10, 5.05)
Age ≥ 60	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	443	0.05 (0.05, 0.05)
Age ≥ 60	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	0.80 (0.80, 0.80)
Age ≥ 60	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	0.15 (0.15, 0.15)
Age ≥ 60	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	115	0.05 (0.05, 0.05)
Age ≥ 60	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	115	0.80 (0.79, 0.81)
Age ≥ 60	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	115	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)
Age \geq 60	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)
Age \geq 60	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)
Age \geq 60	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	114	0.05 (0.05, 0.05)
Age \geq 60	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	114	0.80 (0.80, 0.80)
Age \geq 60	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	114	0.15 (0.15, 0.15)
Age \geq 60	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	443	2.91 (2.44, 3.47)
Age \geq 60	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	36.03 (31.07, 41.78)
Age \geq 60	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	21.39 (18.95, 24.15)
Age \geq 60	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	115	5.65 (4.06, 7.88)
Age \geq 60	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	115	69.05 (52.33, 91.11)
Age \geq 60	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	115	35.99 (29.78, 43.51)
Age \geq 60	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)
Age \geq 60	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)
Age \geq 60	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0.16 (0.15, 0.16)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	114	2.45 (1.79, 3.37)
Age \geq 60	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	114	30.34 (23.03, 39.97)
Age \geq 60	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	114	12.68 (9.76, 16.49)

Table 7c. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by Risk for Severe Covid-19

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Risk for Severe Covid-19						
At-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	435	0.05 (0.05, 0.05)
At-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	0.80 (0.80, 0.80)
At-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	0.15 (0.15, 0.15)
At-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	116	0.05 (0.05, 0.05)
At-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	116	0.80 (0.79, 0.81)
At-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	116	0.15 (0.15, 0.15)
At-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)
At-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)
At-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)
At-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	113	0.05 (0.05, 0.05)
At-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	113	0.80 (0.80, 0.80)
At-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	113	0.15 (0.15, 0.15)
At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	435	1.49 (1.24, 1.79)
At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	17.89 (15.18, 21.07)
At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	9.92 (8.66, 11.37)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	116	2.43 (1.65, 3.58)
At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	116	26.28 (19.53, 35.36)
At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	116	14.11 (11.05, 18.01)
At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)
At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)
At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0.16 (0.15, 0.16)
At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	113	0.95 (0.68, 1.33)
At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	113	12.07 (8.77, 16.62)
At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	113	5.62 (4.29, 7.37)
Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	443	0.05 (0.05, 0.05)
Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	0.80 (0.80, 0.80)
Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	0.15 (0.15, 0.15)
Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	120	0.05 (0.05, 0.05)
Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	120	0.80 (0.79, 0.81)
Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	120	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Not at-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	52	0.05 (0.05, 0.05)
Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0.80 (0.80, 0.80)
Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0.15 (0.15, 0.15)
Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	114	0.05 (0.05, 0.05)
Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	114	0.80 (0.80, 0.80)
Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	114	0.15 (0.15, 0.15)
Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	443	1.59 (1.33, 1.89)
Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	16.56 (14.11, 19.42)
Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	8.75 (7.67, 9.98)
Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	120	3.16 (2.25, 4.44)
Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	120	29.71 (22.91, 38.51)
Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	120	16.27 (12.80, 20.69)
Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	52	0.05 (0.05, 0.05)
Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0.80 (0.80, 0.80)
Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	114	1.05 (0.81, 1.37)
Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	114	11.03 (8.31, 14.66)
Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	114	6.12 (4.77, 7.86)

Table 7d. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by Age, Risk for Severe Covid-19

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age, Risk for Severe Covid-19						
Age 18 - 59 At-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	213	0.05 (0.05, 0.05)
Age 18 - 59 At-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	213	0.80 (0.80, 0.80)
Age 18 - 59 At-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	213	0.15 (0.15, 0.15)
Age 18 - 59 At-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)
Age 18 - 59 At-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)
Age 18 - 59 At-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)
Age 18 - 59 At-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Age 18 - 59 At-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Age 18 - 59 At-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
Age 18 - 59 At-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	54	0.05 (0.05, 0.05)
Age 18 - 59 At-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	54	0.80 (0.80, 0.80)
Age 18 - 59 At-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	54	0.15 (0.15, 0.15)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	213	1.12 (0.87, 1.43)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	213	12.53 (10.04, 15.63)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	213	6.58 (5.48, 7.90)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	59	1.63 (0.96, 2.77)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	59	15.22 (10.46, 22.14)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	59	9.39 (6.77, 13.02)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	54	0.66 (0.43, 1.03)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	54	7.88 (5.10, 12.20)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	54	3.96 (2.75, 5.69)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	222	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	222	0.80 (0.80, 0.80)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	222	0.15 (0.15, 0.15)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	62	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	62	0.81 (0.79, 0.82)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	62	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59 Not at-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	25	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	25	0.80 (0.80, 0.80)
Age 18 - 59 Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	25	0.15 (0.15, 0.15)
Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)
Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	222	1.10 (0.87, 1.40)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	222	10.84 (8.70, 13.51)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	222	5.45 (4.54, 6.54)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	62	2.27 (1.43, 3.60)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	62	19.70 (13.89, 27.94)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	62	10.17 (7.22, 14.32)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	25	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	25	0.80 (0.80, 0.80)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	25	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	0.61 (0.44, 0.85)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	6.20 (4.23, 9.07)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	3.96 (2.86, 5.48)
Age \geq 60 At-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	222	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	222	0.80 (0.80, 0.80)
Age \geq 60 At-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	222	0.15 (0.15, 0.15)
Age \geq 60 At-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	57	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	57	0.81 (0.79, 0.83)
Age \geq 60 At-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	57	0.15 (0.15, 0.15)
Age \geq 60 At-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	28	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	28	0.80 (0.80, 0.80)
Age \geq 60 At-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	28	0.15 (0.15, 0.15)
Age \geq 60 At-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)
Age \geq 60 At-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	222	2.56 (1.97, 3.33)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	222	34.78 (27.84, 43.45)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	222	21.36 (17.67, 25.83)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	57	5.39 (3.39, 8.56)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	57	78.05 (49.49, 123.10)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	57	31.74 (23.24, 43.36)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	28	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	28	0.80 (0.80, 0.80)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	28	0.16 (0.15, 0.17)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	1.93 (1.20, 3.08)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	28.14 (19.25, 41.13)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	11.30 (8.01, 15.94)
Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	221	0.05 (0.05, 0.05)
Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	0.80 (0.80, 0.80)
Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age ≥ 60 Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	58	0.05 (0.05, 0.05)
Age ≥ 60 Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	58	0.80 (0.80, 0.80)
Age ≥ 60 Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	58	0.15 (0.15, 0.15)
Age ≥ 60 Not at-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Age ≥ 60 Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Age ≥ 60 Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.06)
Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)
Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	221	3.18 (2.51, 4.02)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	36.90 (30.29, 44.95)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	21.41 (18.28, 25.06)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	58	5.83 (3.69, 9.21)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	58	63.77 (45.01, 90.34)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	58	39.06 (30.78, 49.55)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	55	2.86 (1.87, 4.36)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	31.80 (21.75, 46.51)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	55	13.63 (9.44, 19.69)

Table 7e. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by Sex

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Sex						
Male	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	878	0.05 (0.05, 0.05)
Male	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	878	0.80 (0.80, 0.80)
Male	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	878	0.15 (0.15, 0.15)
Male	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	236	0.05 (0.05, 0.05)
Male	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	236	0.80 (0.79, 0.81)
Male	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	236	0.15 (0.15, 0.15)
Male	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	67	0.05 (0.05, 0.05)
Male	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	67	0.80 (0.80, 0.80)
Male	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	67	0.15 (0.15, 0.15)
Male	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	103	0.05 (0.05, 0.05)
Male	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	103	0.80 (0.80, 0.80)
Male	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	103	0.15 (0.15, 0.15)
Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	878	1.55 (1.36, 1.76)
Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	878	17.08 (15.21, 19.18)
Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	878	9.20 (8.36, 10.13)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	236	2.84 (2.20, 3.67)
Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	236	28.27 (23.24, 34.38)
Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	236	15.36 (12.91, 18.28)
Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	67	0.05 (0.05, 0.05)
Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	67	0.80 (0.80, 0.80)
Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	67	0.15 (0.15, 0.15)
Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	103	1.04 (0.74, 1.45)
Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	103	12.32 (8.76, 17.31)
Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	103	6.99 (5.33, 9.17)
Female	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)
Female	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)
Female	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)
Female	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	124	0.05 (0.05, 0.05)
Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	124	0.80 (0.80, 0.80)
Female	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	124	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)
Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)
Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.16 (0.15, 0.16)
Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	124	0.98 (0.73, 1.32)
Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	124	10.76 (8.04, 14.40)
Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	124	5.17 (3.97, 6.73)

Table 7f. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by Age, sex

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age, sex						
Age 18 - 59 Female	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	21	0.05 (0.05, 0.05)
Age 18 - 59 Female	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0.80 (0.80, 0.80)
Age 18 - 59 Female	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)
Age 18 - 59 Female	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	65	0.05 (0.05, 0.05)
Age 18 - 59 Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	65	0.80 (0.80, 0.80)
Age 18 - 59 Female	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	65	0.15 (0.15, 0.15)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	21	0.05 (0.05, 0.05)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0.80 (0.80, 0.80)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	65	0.71 (0.49, 1.02)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	65	6.75 (4.66, 9.78)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	65	3.74 (2.64, 5.30)
Age 18 - 59 Male	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	435	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	0.80 (0.80, 0.80)
Age 18 - 59 Male	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59 Male	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	121	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	121	0.80 (0.79, 0.81)
Age 18 - 59 Male	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	121	0.15 (0.15, 0.15)
Age 18 - 59 Male	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	31	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	31	0.80 (0.80, 0.80)
Age 18 - 59 Male	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	31	0.15 (0.15, 0.15)
Age 18 - 59 Male	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	48	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	48	0.80 (0.80, 0.80)
Age 18 - 59 Male	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	48	0.15 (0.15, 0.15)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	435	1.11 (0.93, 1.32)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	11.49 (9.80, 13.47)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	5.88 (5.15, 6.71)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	121	1.98 (1.40, 2.81)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	121	17.72 (13.70, 22.92)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	121	9.84 (7.72, 12.54)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	31	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	31	0.80 (0.80, 0.80)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	31	0.15 (0.15, 0.15)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	48	0.54 (0.36, 0.80)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	48	6.94 (4.44, 10.82)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	48	4.28 (3.09, 5.91)
Age ≥ 60 Female	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	19	0.05 (0.05, 0.05)
Age ≥ 60 Female	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	19	0.80 (0.80, 0.80)
Age ≥ 60 Female	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	19	0.15 (0.15, 0.15)
Age ≥ 60 Female	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)
Age ≥ 60 Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)
Age ≥ 60 Female	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	19	0.05 (0.05, 0.05)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	19	0.80 (0.80, 0.80)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	19	0.16 (0.15, 0.17)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	2.00 (1.30, 3.05)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	29.42 (20.40, 42.43)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	10.39 (7.47, 14.43)
Age ≥ 60 Male	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	443	0.05 (0.05, 0.05)
Age ≥ 60 Male	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	0.80 (0.80, 0.80)
Age ≥ 60 Male	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	0.15 (0.15, 0.15)
Age ≥ 60 Male	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	115	0.05 (0.05, 0.05)
Age ≥ 60 Male	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	115	0.80 (0.79, 0.81)
Age ≥ 60 Male	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	115	0.15 (0.15, 0.15)
Age ≥ 60 Male	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	36	0.05 (0.05, 0.05)
Age ≥ 60 Male	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	36	0.80 (0.80, 0.80)
Age ≥ 60 Male	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	36	0.15 (0.15, 0.15)
Age ≥ 60 Male	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.06)
Age ≥ 60 Male	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)
Age ≥ 60 Male	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	443	2.91 (2.44, 3.47)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	36.03 (31.07, 41.78)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	21.39 (18.95, 24.15)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	115	5.65 (4.06, 7.88)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	115	69.05 (52.33, 91.11)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	115	35.99 (29.78, 43.51)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	36	0.05 (0.05, 0.05)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	36	0.80 (0.80, 0.80)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	36	0.15 (0.15, 0.15)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	55	3.03 (1.88, 4.89)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	31.30 (20.70, 47.33)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	55	15.53 (10.62, 22.71)

Table 7g. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by Hispanic or Latino ethnicity

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Hispanic or Latino ethnicity						
Hispanic or Latino	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	348	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	348	0.80 (0.80, 0.80)
Hispanic or Latino	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	348	0.15 (0.15, 0.15)
Hispanic or Latino	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	100	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	100	0.80 (0.79, 0.80)
Hispanic or Latino	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	100	0.15 (0.15, 0.15)
Hispanic or Latino	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	39	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0.80 (0.80, 0.80)
Hispanic or Latino	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0.15 (0.15, 0.15)
Hispanic or Latino	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	97	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	97	0.80 (0.80, 0.80)
Hispanic or Latino	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	97	0.15 (0.15, 0.15)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	348	1.52 (1.24, 1.86)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	348	16.23 (13.48, 19.55)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	348	8.92 (7.64, 10.42)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	100	2.81 (1.87, 4.22)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	100	27.10 (20.19, 36.38)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	100	15.54 (11.98, 20.15)
Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	39	0.05 (0.05, 0.05)
Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0.80 (0.80, 0.80)
Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0.15 (0.15, 0.15)
Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	97	0.97 (0.73, 1.30)
Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	97	11.72 (8.46, 16.24)
Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	97	5.45 (4.09, 7.26)
Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	471	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	471	0.80 (0.80, 0.80)
Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	471	0.15 (0.15, 0.15)
Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	124	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	124	0.80 (0.80, 0.80)
Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	124	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Not Hispanic or Latino	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	60	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	60	0.80 (0.80, 0.80)
Not Hispanic or Latino	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	60	0.15 (0.15, 0.15)
Not Hispanic or Latino	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	120	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	120	0.80 (0.80, 0.80)
Not Hispanic or Latino	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	120	0.15 (0.15, 0.15)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	471	1.53 (1.30, 1.80)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	471	17.34 (15.00, 20.05)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	471	9.49 (8.43, 10.69)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	124	2.96 (2.16, 4.06)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	124	29.44 (22.21, 39.02)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	124	15.68 (12.11, 20.30)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	60	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	60	0.80 (0.80, 0.80)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	60	0.16 (0.15, 0.16)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	120	0.94 (0.70, 1.26)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	120	10.66 (7.92, 14.36)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	120	5.91 (4.63, 7.55)
Not reported and unknown	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	12	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	0.87 (0.74, 1.02)
Not reported and unknown	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	8	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	10	0.05 (0.04, 0.07)
Not reported and unknown	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	10	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	10	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	59	2.04 (1.24, 3.36)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	59	23.61 (14.76, 37.77)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	59	9.66 (6.23, 14.95)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	12	2.29 (0.95, 5.52)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	31.81 (16.74, 60.44)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	11.56 (7.70, 17.35)
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	8	0.05 (0.05, 0.05)
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0.80 (0.80, 0.80)
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0.15 (0.15, 0.15)
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	10	2.40 (0.82, 7.02)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	10	15.03 (7.19, 31.42)
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	10	13.00 (7.06, 23.94)

Table 7h. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by Race

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Race						
White Non-Hispanic	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	180	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	180	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	180	0.15 (0.15, 0.15)
White Non-Hispanic	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	54	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	54	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	54	0.15 (0.15, 0.15)
White Non-Hispanic	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	22	0.15 (0.15, 0.15)
White Non-Hispanic	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	49	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	49	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	49	0.15 (0.15, 0.15)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	180	1.47 (1.14, 1.91)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	180	17.32 (13.79, 21.76)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	180	9.05 (7.57, 10.82)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
White Non-Hispanic	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	54	4.50 (2.78, 7.28)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	54	42.71 (29.57, 61.68)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	54	16.34 (10.98, 24.30)
White Non-Hispanic	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)
White Non-Hispanic	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)
White Non-Hispanic	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	22	0.16 (0.15, 0.16)
White Non-Hispanic	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	49	0.97 (0.62, 1.51)
White Non-Hispanic	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	49	10.79 (7.10, 16.39)
White Non-Hispanic	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	49	6.63 (4.68, 9.39)
Black or African American	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	306	0.05 (0.05, 0.05)
Black or African American	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	306	0.80 (0.80, 0.80)
Black or African American	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	306	0.15 (0.15, 0.15)
Black or African American	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	73	0.05 (0.05, 0.05)
Black or African American	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	73	0.80 (0.80, 0.80)
Black or African American	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	73	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Black or African American	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)
Black or African American	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)
Black or African American	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)
Black or African American	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	88	0.05 (0.05, 0.05)
Black or African American	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	88	0.80 (0.80, 0.80)
Black or African American	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	88	0.15 (0.15, 0.15)
Black or African American	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	306	1.55 (1.26, 1.91)
Black or African American	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	306	18.13 (14.99, 21.92)
Black or African American	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	306	9.59 (8.14, 11.30)
Black or African American	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	73	2.28 (1.55, 3.36)
Black or African American	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	73	24.66 (16.62, 36.58)
Black or African American	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	73	16.39 (11.87, 22.64)
Black or African American	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)
Black or African American	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)
Black or African American	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Black or African American	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	88	1.04 (0.74, 1.47)
Black or African American	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	88	11.46 (8.07, 16.27)
Black or African American	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	88	5.52 (4.04, 7.56)
Asian	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)
Asian	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)
Asian	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	22	0.15 (0.15, 0.15)
Asian	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)
Asian	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)
Asian	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)
Asian	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)
Asian	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)
Asian	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)
Asian	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Asian	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Asian	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Asian	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	22	1.02 (0.51, 2.05)
Asian	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	22	10.14 (6.36, 16.19)
Asian	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	22	5.08 (2.68, 9.66)
Asian	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	5	0.91 (0.23, 3.54)
Asian	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	7.80 (3.44, 17.69)
Asian	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	6.65 (2.42, 18.32)
Asian	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)
Asian	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)
Asian	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)
Asian	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	4	0.41 (0.26, 0.64)
Asian	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	4	5.02 (1.41, 17.93)
Asian	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	4	4.18 (1.40, 12.46)
American Indian or Alaska Native	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	124	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	124	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	124	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
American Indian or Alaska Native	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	31	0.05 (0.05, 0.06)
American Indian or Alaska Native	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	31	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	31	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	18	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	18	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	18	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	35	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	35	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	35	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	124	1.34 (0.97, 1.86)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	124	12.84 (9.67, 17.04)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	124	7.55 (5.96, 9.56)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	31	1.92 (0.87, 4.21)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	31	20.82 (12.03, 36.03)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	31	14.03 (8.12, 24.24)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	18	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	18	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	18	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	35	0.97 (0.52, 1.80)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	35	11.40 (6.20, 20.95)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	35	5.20 (3.11, 8.70)
Native Hawaiian or Other Pacific Islander	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)
Native Hawaiian or Other Pacific Islander	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)
Native Hawaiian or Other Pacific Islander	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	2	0.41 (0.07, 2.35)
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	2	19.85 (4.76, 82.79)
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	2	4.75 (1.26, 17.87)
Multiracial	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	29	0.05 (0.05, 0.05)
Multiracial	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	29	0.80 (0.80, 0.80)
Multiracial	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	29	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Multiracial	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)
Multiracial	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)
Multiracial	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)
Multiracial	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)
Multiracial	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)
Multiracial	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)
Multiracial	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)
Multiracial	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)
Multiracial	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)
Multiracial	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	29	2.05 (0.94, 4.49)
Multiracial	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	29	27.48 (13.66, 55.26)
Multiracial	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	29	13.18 (7.06, 24.60)
Multiracial	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	6	6.46 (2.04, 20.43)
Multiracial	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	11.20 (5.38, 23.33)
Multiracial	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	13.48 (7.60, 23.90)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Multiracial	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)
Multiracial	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)
Multiracial	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)
Multiracial	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	5	1.22 (0.35, 4.31)
Multiracial	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	11.66 (6.06, 22.44)
Multiracial	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	2.58 (0.92, 7.26)
Not reported and unknown	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	15	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	15	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	15	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Not reported and unknown	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	3	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	3	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	3	0.15 (0.15, 0.15)
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	15	2.53 (1.05, 6.11)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	15	21.07 (11.74, 37.84)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	15	11.41 (7.06, 18.44)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	5	4.16 (1.65, 10.52)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	32.72 (17.34, 61.71)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	8.52 (6.18, 11.73)
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	3	2.31 (0.99, 5.37)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	3	21.31 (8.76, 51.85)
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	3	10.42 (2.96, 36.65)

Table 7i. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by Underrepresented Minority Status in the U.S.

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Underrepresented Minority Status in the U.S.						
URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	630	0.05 (0.05, 0.05)
URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	630	0.80 (0.80, 0.80)
URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	630	0.15 (0.15, 0.15)
URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	165	0.05 (0.05, 0.05)
URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	165	0.80 (0.80, 0.80)
URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	165	0.15 (0.15, 0.15)
URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	77	0.05 (0.05, 0.05)
URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	77	0.80 (0.80, 0.80)
URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	77	0.15 (0.15, 0.15)
URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	168	0.05 (0.05, 0.05)
URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	168	0.80 (0.80, 0.80)
URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	168	0.15 (0.15, 0.15)
URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	630	1.54 (1.32, 1.80)
URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	630	16.76 (14.57, 19.28)
URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	630	9.28 (8.26, 10.44)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	165	2.59 (1.89, 3.54)
URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	165	26.00 (20.50, 32.98)
URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	165	15.53 (12.61, 19.11)
URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	77	0.05 (0.05, 0.05)
URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	77	0.80 (0.80, 0.80)
URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	77	0.15 (0.15, 0.15)
URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	168	0.99 (0.78, 1.27)
URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	168	11.70 (9.10, 15.03)
URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	168	5.58 (4.47, 6.96)
Non-URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	248	0.05 (0.05, 0.05)
Non-URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	248	0.80 (0.80, 0.80)
Non-URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	248	0.15 (0.15, 0.15)
Non-URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	71	0.05 (0.05, 0.05)
Non-URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	0.81 (0.78, 0.84)
Non-URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Non-URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	30	0.05 (0.05, 0.05)
Non-URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	30	0.80 (0.80, 0.80)
Non-URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	30	0.15 (0.15, 0.15)
Non-URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)
Non-URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)
Non-URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)
Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	248	1.57 (1.25, 1.97)
Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	248	18.02 (14.69, 22.11)
Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	248	8.98 (7.63, 10.56)
Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	3.68 (2.40, 5.63)
Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	35.72 (25.52, 49.98)
Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	14.91 (10.85, 20.49)
Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	30	0.05 (0.05, 0.05)
Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	30	0.80 (0.80, 0.80)
Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	30	0.16 (0.15, 0.16)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	1.06 (0.71, 1.59)
Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	10.71 (7.16, 16.01)
Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	7.04 (5.05, 9.81)

Table 7j. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by Age, Underrepresented Minority Status in the U.S.

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age, Underrepresented Minority Status in the U.S.						
Age 18 - 59 URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	309	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	309	0.80 (0.80, 0.80)
Age 18 - 59 URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	309	0.15 (0.15, 0.15)
Age 18 - 59 URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	87	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	87	0.80 (0.80, 0.80)
Age 18 - 59 URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	87	0.15 (0.15, 0.15)
Age 18 - 59 URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	39	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0.80 (0.80, 0.80)
Age 18 - 59 URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0.15 (0.15, 0.15)
Age 18 - 59 URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	85	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	85	0.80 (0.80, 0.80)
Age 18 - 59 URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	85	0.15 (0.15, 0.15)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	309	1.10 (0.89, 1.36)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	309	11.10 (9.16, 13.44)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	309	5.88 (5.00, 6.92)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	87	1.73 (1.13, 2.64)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	87	14.71 (10.84, 19.98)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	87	9.60 (7.20, 12.80)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	39	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0.80 (0.80, 0.80)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0.15 (0.15, 0.15)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	85	0.57 (0.42, 0.77)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	85	6.78 (4.86, 9.46)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	85	3.54 (2.66, 4.71)
Age 18 - 59 Non-URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	126	0.05 (0.05, 0.05)
Age 18 - 59 Non-URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	126	0.80 (0.80, 0.80)
Age 18 - 59 Non-URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	126	0.15 (0.15, 0.15)
Age 18 - 59 Non-URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	34	0.05 (0.05, 0.05)
Age 18 - 59 Non-URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	34	0.82 (0.78, 0.86)
Age 18 - 59 Non-URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	34	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59 Non-URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	13	0.05 (0.05, 0.05)
Age 18 - 59 Non-URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	13	0.80 (0.80, 0.80)
Age 18 - 59 Non-URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	13	0.15 (0.15, 0.15)
Age 18 - 59 Non-URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	28	0.05 (0.05, 0.05)
Age 18 - 59 Non-URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	28	0.80 (0.80, 0.80)
Age 18 - 59 Non-URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	28	0.15 (0.15, 0.15)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	126	1.12 (0.83, 1.52)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	126	12.68 (9.63, 16.69)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	126	5.87 (4.77, 7.21)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	34	2.90 (1.60, 5.25)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	34	29.81 (18.64, 47.68)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	34	10.56 (6.77, 16.47)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	13	0.05 (0.05, 0.05)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	13	0.80 (0.80, 0.80)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	13	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	28	0.86 (0.50, 1.48)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	28	6.98 (3.96, 12.30)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	28	5.49 (3.45, 8.73)
Age \geq 60 URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	321	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	321	0.80 (0.80, 0.80)
Age \geq 60 URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	321	0.15 (0.15, 0.15)
Age \geq 60 URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	78	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	78	0.80 (0.79, 0.81)
Age \geq 60 URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	78	0.15 (0.15, 0.15)
Age \geq 60 URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	38	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0.80 (0.80, 0.80)
Age \geq 60 URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0.15 (0.15, 0.15)
Age \geq 60 URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	83	0.05 (0.05, 0.06)
Age \geq 60 URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	83	0.80 (0.80, 0.80)
Age \geq 60 URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	83	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	321	2.89 (2.34, 3.56)
Age \geq 60 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	321	36.38 (30.45, 43.46)
Age \geq 60 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	321	21.88 (19.02, 25.17)
Age \geq 60 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	78	5.60 (3.68, 8.51)
Age \geq 60 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	78	77.14 (54.46, 109.27)
Age \geq 60 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	78	38.89 (30.87, 49.01)
Age \geq 60 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	38	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0.80 (0.80, 0.80)
Age \geq 60 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0.15 (0.15, 0.15)
Age \geq 60 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	83	2.88 (1.97, 4.20)
Age \geq 60 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	83	33.07 (23.53, 46.49)
Age \geq 60 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	83	13.27 (9.56, 18.42)
Age \geq 60 Non-URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	122	0.05 (0.05, 0.05)
Age \geq 60 Non-URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	122	0.80 (0.80, 0.80)
Age \geq 60 Non-URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	122	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60 Non-URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	37	0.05 (0.05, 0.05)
Age \geq 60 Non-URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)
Age \geq 60 Non-URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	0.15 (0.15, 0.15)
Age \geq 60 Non-URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	17	0.05 (0.05, 0.05)
Age \geq 60 Non-URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	17	0.80 (0.80, 0.80)
Age \geq 60 Non-URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	17	0.15 (0.15, 0.15)
Age \geq 60 Non-URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	31	0.05 (0.05, 0.05)
Age \geq 60 Non-URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	31	0.80 (0.80, 0.80)
Age \geq 60 Non-URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	31	0.15 (0.15, 0.15)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	122	2.99 (2.19, 4.08)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	122	35.04 (27.00, 45.48)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	122	20.06 (15.74, 25.56)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	5.81 (3.69, 9.15)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	50.56 (34.70, 73.68)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	28.94 (21.12, 39.67)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	17	0.05 (0.05, 0.05)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	17	0.80 (0.80, 0.80)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	17	0.16 (0.15, 0.17)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	31	1.55 (0.88, 2.75)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	31	23.71 (15.46, 36.37)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	31	11.15 (7.62, 16.30)

Table 7k. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by Country

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Country						
United States	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	436	0.05 (0.05, 0.05)
United States	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	436	0.80 (0.80, 0.80)
United States	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	436	0.15 (0.15, 0.15)
United States	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	125	0.05 (0.05, 0.05)
United States	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	125	0.81 (0.79, 0.83)
United States	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	125	0.15 (0.15, 0.15)
United States	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	53	0.05 (0.05, 0.05)
United States	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)
United States	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)
United States	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	108	0.05 (0.05, 0.05)
United States	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	108	0.80 (0.80, 0.80)
United States	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	108	0.15 (0.15, 0.15)
United States	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	436	1.49 (1.25, 1.77)
United States	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	436	17.00 (14.63, 19.76)
United States	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	436	8.76 (7.73, 9.94)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
United States	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	125	3.25 (2.34, 4.51)
United States	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	125	30.03 (22.69, 39.74)
United States	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	125	14.68 (11.50, 18.74)
United States	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0.05 (0.05, 0.05)
United States	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)
United States	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.16 (0.15, 0.16)
United States	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	108	1.01 (0.74, 1.36)
United States	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	108	10.11 (7.54, 13.55)
United States	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	108	6.45 (4.98, 8.34)
Argentina	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	43	0.05 (0.05, 0.05)
Argentina	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	43	0.80 (0.80, 0.80)
Argentina	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	43	0.15 (0.15, 0.15)
Argentina	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	9	0.05 (0.05, 0.05)
Argentina	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	9	0.80 (0.80, 0.80)
Argentina	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	9	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Argentina	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)
Argentina	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)
Argentina	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)
Argentina	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	9	0.05 (0.04, 0.05)
Argentina	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	9	0.80 (0.80, 0.80)
Argentina	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	9	0.15 (0.15, 0.15)
Argentina	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	43	2.38 (1.39, 4.07)
Argentina	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	43	19.53 (11.92, 32.02)
Argentina	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	43	13.08 (8.84, 19.35)
Argentina	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	9	6.93 (2.39, 20.08)
Argentina	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	9	68.44 (31.99, 146.40)
Argentina	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	9	22.14 (12.09, 40.57)
Argentina	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)
Argentina	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)
Argentina	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Argentina	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	9	0.75 (0.20, 2.76)
Argentina	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	9	20.37 (8.53, 48.64)
Argentina	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	9	6.85 (3.15, 14.93)
Brazil	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	91	0.05 (0.05, 0.05)
Brazil	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	91	0.80 (0.80, 0.80)
Brazil	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	91	0.15 (0.15, 0.15)
Brazil	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	23	0.05 (0.05, 0.05)
Brazil	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	23	0.80 (0.80, 0.80)
Brazil	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	23	0.15 (0.15, 0.15)
Brazil	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	9	0.05 (0.05, 0.05)
Brazil	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	9	0.80 (0.80, 0.80)
Brazil	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	9	0.15 (0.15, 0.15)
Brazil	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Brazil	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Brazil	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Brazil	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	91	1.40 (0.95, 2.08)
Brazil	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	91	15.62 (10.70, 22.81)
Brazil	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	91	7.95 (5.94, 10.64)
Brazil	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	23	1.76 (0.82, 3.80)
Brazil	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	23	23.08 (12.48, 42.70)
Brazil	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	23	14.68 (8.82, 24.43)
Brazil	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	9	0.05 (0.05, 0.05)
Brazil	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	9	0.80 (0.80, 0.80)
Brazil	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	9	0.15 (0.15, 0.15)
Brazil	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	27	1.02 (0.55, 1.92)
Brazil	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	27	11.63 (6.37, 21.25)
Brazil	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	27	4.80 (3.01, 7.64)
Chile	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	16	0.05 (0.05, 0.05)
Chile	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	16	0.80 (0.80, 0.80)
Chile	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	16	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Chile	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Chile	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Chile	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)
Chile	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	3	0.05 (0.05, 0.05)
Chile	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	3	0.80 (0.80, 0.80)
Chile	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	3	0.15 (0.15, 0.15)
Chile	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)
Chile	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)
Chile	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)
Chile	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	16	0.75 (0.35, 1.59)
Chile	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	16	12.27 (6.39, 23.58)
Chile	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	16	7.18 (3.14, 16.41)
Chile	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	4	1.82 (1.00, 3.30)
Chile	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	4	26.24 (19.99, 34.46)
Chile	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	4	20.42 (8.85, 47.12)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Chile	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	3	0.05 (0.05, 0.05)
Chile	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	3	0.80 (0.80, 0.80)
Chile	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	3	0.15 (0.15, 0.15)
Chile	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0.18 (0.03, 1.25)
Chile	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	1.97 (0.54, 7.17)
Chile	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0.33 (0.11, 0.96)
Columbia	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	45	0.05 (0.05, 0.05)
Columbia	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	45	0.80 (0.80, 0.80)
Columbia	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	45	0.15 (0.15, 0.15)
Columbia	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	12	0.05 (0.05, 0.05)
Columbia	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	0.80 (0.80, 0.80)
Columbia	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	0.15 (0.15, 0.15)
Columbia	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	8	0.05 (0.05, 0.05)
Columbia	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0.80 (0.80, 0.80)
Columbia	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Columbia	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	16	0.05 (0.04, 0.06)
Columbia	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	16	0.80 (0.80, 0.80)
Columbia	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	16	0.15 (0.15, 0.15)
Columbia	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	45	2.14 (1.25, 3.68)
Columbia	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	45	24.89 (14.86, 41.68)
Columbia	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	45	12.45 (7.78, 19.92)
Columbia	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	12	6.29 (1.91, 20.78)
Columbia	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	35.44 (16.74, 75.05)
Columbia	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	23.16 (10.44, 51.38)
Columbia	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	8	0.05 (0.05, 0.05)
Columbia	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0.80 (0.80, 0.80)
Columbia	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0.15 (0.15, 0.15)
Columbia	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	16	0.93 (0.48, 1.79)
Columbia	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	16	8.24 (3.94, 17.21)
Columbia	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	16	4.71 (2.32, 9.58)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Mexico	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)
Mexico	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)
Mexico	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)
Mexico	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	2	0.08 (0.04, 0.19)
Mexico	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)
Mexico	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)
Mexico	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Mexico	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Mexico	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Mexico	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	5	2.96 (1.33, 6.61)
Mexico	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	5	19.52 (9.65, 39.47)
Mexico	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	5	15.97 (10.12, 25.22)
Mexico	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	2	1.76 (0.48, 6.41)
Mexico	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	2	8.52 (2.77, 26.23)
Mexico	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	2	8.88 (1.25, 63.02)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Mexico	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Mexico	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Mexico	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Peru	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)
Peru	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)
Peru	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	22	0.15 (0.15, 0.15)
Peru	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)
Peru	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)
Peru	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)
Peru	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Peru	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Peru	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Peru	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	7	0.05 (0.04, 0.07)
Peru	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	7	0.80 (0.80, 0.80)
Peru	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	7	0.15 (0.15, 0.15)

(continued)

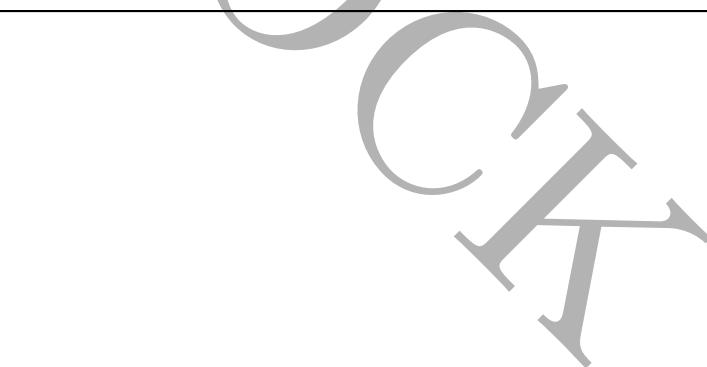
Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Peru	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	22	1.25 (0.79, 1.98)
Peru	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	22	13.46 (8.84, 20.52)
Peru	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	22	10.14 (6.35, 16.18)
Peru	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	6	0.79 (0.22, 2.92)
Peru	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	10.94 (3.51, 34.08)
Peru	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	5.67 (3.22, 10.01)
Peru	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Peru	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Peru	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Peru	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	7	1.88 (1.33, 2.65)
Peru	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	7	39.67 (18.14, 86.75)
Peru	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	7	17.03 (8.81, 32.92)
South Africa	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	220	0.05 (0.05, 0.05)
South Africa	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	220	0.80 (0.80, 0.80)
South Africa	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	220	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
South Africa	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)
South Africa	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)
South Africa	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)
South Africa	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
South Africa	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
South Africa	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
South Africa	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	58	0.05 (0.05, 0.05)
South Africa	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	58	0.80 (0.80, 0.80)
South Africa	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	58	0.15 (0.15, 0.15)
South Africa	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	220	1.55 (1.22, 1.98)
South Africa	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	220	16.49 (13.14, 20.69)
South Africa	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	220	8.84 (7.42, 10.52)
South Africa	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	55	2.24 (1.56, 3.22)
South Africa	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	55	28.31 (19.27, 41.60)
South Africa	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	55	16.67 (12.07, 23.04)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
South Africa	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
South Africa	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
South Africa	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
South Africa	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	58	1.19 (0.82, 1.73)
South Africa	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	58	13.29 (8.89, 19.85)
South Africa	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	58	6.42 (4.76, 8.67)



1.8 Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination

Table 8a. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by All participants

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
All participants								
	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	878	0.05 (0.05, 0.05)	1.55 (1.36, 1.76)	1.64 (1.54, 1.75)
	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	878	0.80 (0.80, 0.80)	17.08 (15.21, 19.18)	10.32 (9.24, 11.52)
	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	878	0.15 (0.15, 0.15)	9.20 (8.36, 10.13)	10.35 (9.44, 11.34)
	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	236	0.05 (0.05, 0.05)	2.84 (2.20, 3.67)	2.14 (1.80, 2.55)
	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	236	0.80 (0.79, 0.81)	28.27 (23.24, 34.38)	16.56 (13.65, 20.10)
	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	236	0.15 (0.15, 0.15)	15.36 (12.91, 18.28)	17.04 (14.33, 20.28)
	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	107	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	107	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	107	0.15 (0.15, 0.15)	0.15 (0.15, 0.16)	1.00 (1.00, 1.00)
	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	227	0.05 (0.05, 0.05)	1.01 (0.82, 1.24)	1.34 (1.23, 1.47)
	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	227	0.80 (0.80, 0.80)	11.44 (9.24, 14.15)	6.99 (5.72, 8.55)
	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	227	0.15 (0.15, 0.15)	5.92 (4.92, 7.12)	6.82 (5.73, 8.11)

Table 8b. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age								
Age 18 - 59	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	435	0.05 (0.05, 0.05)	1.11 (0.93, 1.32)	1.40 (1.29, 1.51)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	0.80 (0.80, 0.80)	11.49 (9.80, 13.47)	7.06 (6.09, 8.19)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	0.15 (0.15, 0.15)	5.88 (5.15, 6.71)	6.65 (5.87, 7.53)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	121	0.05 (0.05, 0.05)	1.98 (1.40, 2.81)	1.78 (1.42, 2.23)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	121	0.80 (0.79, 0.81)	17.72 (13.70, 22.92)	10.42 (8.09, 13.41)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	121	0.15 (0.15, 0.15)	9.84 (7.72, 12.54)	10.90 (8.56, 13.89)
Age 18 - 59	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	52	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	113	0.05 (0.05, 0.05)	0.63 (0.48, 0.82)	1.12 (1.05, 1.20)
Age 18 - 59	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	113	0.80 (0.80, 0.80)	6.83 (5.12, 9.10)	4.28 (3.28, 5.59)
Age 18 - 59	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	113	0.15 (0.15, 0.15)	3.96 (3.10, 5.05)	4.63 (3.70, 5.79)
Age ≥ 60	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	443	0.05 (0.05, 0.05)	2.91 (2.44, 3.47)	2.21 (1.98, 2.47)
Age ≥ 60	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	0.80 (0.80, 0.80)	36.03 (31.07, 41.78)	21.06 (18.15, 24.43)
Age ≥ 60	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	0.15 (0.15, 0.15)	21.39 (18.95, 24.15)	23.79 (21.07, 26.86)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age \geq 60	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	115	0.05 (0.05, 0.05)	5.65 (4.06, 7.88)	3.04 (2.31, 4.01)
Age \geq 60	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	115	0.80 (0.79, 0.81)	69.05 (52.33, 91.11)	40.19 (30.43, 53.09)
Age \geq 60	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	115	0.15 (0.15, 0.15)	35.99 (29.78, 43.51)	40.06 (33.14, 48.43)
Age \geq 60	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age \geq 60	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age \geq 60	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)	0.16 (0.15, 0.16)	1.00 (1.00, 1.00)
Age \geq 60	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	114	0.05 (0.05, 0.05)	2.45 (1.79, 3.37)	1.88 (1.51, 2.34)
Age \geq 60	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	114	0.80 (0.80, 0.80)	30.34 (23.03, 39.97)	17.70 (13.46, 23.28)
Age \geq 60	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	114	0.15 (0.15, 0.15)	12.68 (9.76, 16.49)	14.16 (10.92, 18.36)

Table 8c. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Risk for Severe Covid-19

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Risk for Severe Covid-19								
At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	435	0.05 (0.05, 0.05)	1.49 (1.24, 1.79)	1.62 (1.48, 1.78)
At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	0.80 (0.80, 0.80)	17.89 (15.18, 21.07)	10.78 (9.23, 12.59)
At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	0.15 (0.15, 0.15)	9.92 (8.66, 11.37)	11.08 (9.73, 12.63)
At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	116	0.05 (0.05, 0.05)	2.43 (1.65, 3.58)	2.14 (1.72, 2.66)
At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	116	0.80 (0.79, 0.81)	26.28 (19.53, 35.36)	15.43 (11.55, 20.62)
At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	116	0.15 (0.15, 0.15)	14.11 (11.05, 18.01)	15.64 (12.26, 19.97)
At-risk	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
At-risk	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
At-risk	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)	0.16 (0.15, 0.16)	1.00 (1.00, 1.00)
At-risk	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	113	0.05 (0.05, 0.05)	0.95 (0.68, 1.33)	1.34 (1.18, 1.52)
At-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	113	0.80 (0.80, 0.80)	12.07 (8.77, 16.62)	7.50 (5.58, 10.08)
At-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	113	0.15 (0.15, 0.15)	5.62 (4.29, 7.37)	6.54 (5.10, 8.39)
Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	443	0.05 (0.05, 0.05)	1.59 (1.33, 1.89)	1.65 (1.51, 1.80)
Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	0.80 (0.80, 0.80)	16.56 (14.11, 19.42)	10.01 (8.60, 11.66)
Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	0.15 (0.15, 0.15)	8.75 (7.67, 9.98)	9.88 (8.70, 11.21)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	120	0.05 (0.05, 0.05)	3.16 (2.25, 4.44)	2.14 (1.66, 2.77)
Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	120	0.80 (0.79, 0.81)	29.71 (22.91, 38.51)	17.37 (13.42, 22.50)
Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	120	0.15 (0.15, 0.15)	16.27 (12.80, 20.69)	18.07 (14.21, 22.97)
Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	52	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	114	0.05 (0.05, 0.05)	1.05 (0.81, 1.37)	1.35 (1.19, 1.52)
Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	114	0.80 (0.80, 0.80)	11.03 (8.31, 14.66)	6.68 (5.10, 8.75)
Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	114	0.15 (0.15, 0.15)	6.12 (4.77, 7.86)	7.00 (5.53, 8.87)

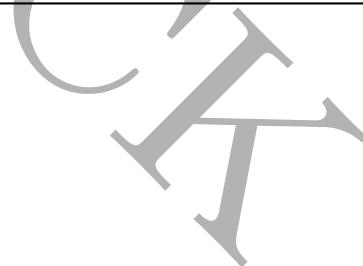


Table 8d. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age, Risk for Severe Covid-19

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age, Risk for Severe Covid-19								
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	213	0.05 (0.05, 0.05)	1.12 (0.87, 1.43)	1.40 (1.26, 1.57)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	213	0.80 (0.80, 0.80)	12.53 (10.04, 15.63)	7.62 (6.20, 9.38)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	213	0.15 (0.15, 0.15)	6.58 (5.48, 7.90)	7.38 (6.22, 8.76)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)	1.63 (0.96, 2.77)	1.78 (1.37, 2.32)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)	15.22 (10.46, 22.14)	9.00 (6.27, 12.90)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)	9.39 (6.77, 13.02)	10.40 (7.50, 14.41)
Age 18 - 59 At-risk	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	54	0.05 (0.05, 0.05)	0.66 (0.43, 1.03)	1.17 (1.03, 1.33)
Age 18 - 59 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	54	0.80 (0.80, 0.80)	7.88 (5.10, 12.20)	5.04 (3.38, 7.53)
Age 18 - 59 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	54	0.15 (0.15, 0.15)	3.96 (2.75, 5.69)	4.69 (3.36, 6.54)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	222	0.05 (0.05, 0.05)	1.10 (0.87, 1.40)	1.40 (1.25, 1.56)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	222	0.80 (0.80, 0.80)	10.84 (8.70, 13.51)	6.71 (5.46, 8.24)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	222	0.15 (0.15, 0.15)	5.45 (4.54, 6.54)	6.20 (5.21, 7.37)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	62	0.05 (0.05, 0.05)	2.27 (1.43, 3.60)	1.78 (1.28, 2.49)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	62	0.81 (0.79, 0.82)	19.70 (13.89, 27.94)	11.54 (8.15, 16.33)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	62	0.15 (0.15, 0.15)	10.17 (7.22, 14.32)	11.27 (8.01, 15.86)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	25	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	25	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	25	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)	0.61 (0.44, 0.85)	1.09 (1.01, 1.18)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)	6.20 (4.23, 9.07)	3.83 (2.69, 5.47)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)	3.96 (2.86, 5.48)	4.59 (3.40, 6.20)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	222	0.05 (0.05, 0.05)	2.56 (1.97, 3.33)	2.13 (1.82, 2.49)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	222	0.80 (0.80, 0.80)	34.78 (27.84, 43.45)	20.59 (16.58, 25.57)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	222	0.15 (0.15, 0.15)	21.36 (17.67, 25.83)	23.68 (19.56, 28.66)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	57	0.05 (0.05, 0.05)	5.39 (3.39, 8.56)	3.09 (2.12, 4.49)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	57	0.81 (0.79, 0.83)	78.05 (49.49, 123.10)	45.24 (28.57, 71.64)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	57	0.15 (0.15, 0.15)	31.74 (23.24, 43.36)	35.33 (25.86, 48.26)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age ≥ 60 At-risk	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	28	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age ≥ 60 At-risk	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	28	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age ≥ 60 At-risk	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	28	0.15 (0.15, 0.15)	0.16 (0.15, 0.17)	1.00 (1.00, 1.00)
Age ≥ 60 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)	1.93 (1.20, 3.08)	1.74 (1.31, 2.31)
Age ≥ 60 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)	28.14 (19.25, 41.13)	16.49 (11.42, 23.81)
Age ≥ 60 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)	11.30 (8.01, 15.94)	12.67 (9.10, 17.64)
Age ≥ 60 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	221	0.05 (0.05, 0.05)	3.18 (2.51, 4.02)	2.27 (1.94, 2.64)
Age ≥ 60 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	0.80 (0.80, 0.80)	36.90 (30.29, 44.95)	21.38 (17.48, 26.14)
Age ≥ 60 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	0.15 (0.15, 0.15)	21.41 (18.28, 25.06)	23.86 (20.39, 27.93)
Age ≥ 60 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	58	0.05 (0.05, 0.05)	5.83 (3.69, 9.21)	3.02 (2.05, 4.43)
Age ≥ 60 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	58	0.80 (0.80, 0.80)	63.77 (45.01, 90.34)	37.22 (26.27, 52.74)
Age ≥ 60 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	58	0.15 (0.15, 0.15)	39.06 (30.78, 49.55)	43.47 (34.27, 55.15)
Age ≥ 60 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age ≥ 60 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age ≥ 60 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.06)	2.86 (1.87, 4.36)	1.97 (1.44, 2.68)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)	31.80 (21.75, 46.51)	18.50 (12.63, 27.09)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)	13.63 (9.44, 19.69)	15.18 (10.51, 21.92)

Table 8e. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Sex

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Sex								
Male	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	878	0.05 (0.05, 0.05)	1.55 (1.36, 1.76)	1.64 (1.54, 1.75)
Male	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	878	0.80 (0.80, 0.80)	17.08 (15.21, 19.18)	10.32 (9.24, 11.52)
Male	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	878	0.15 (0.15, 0.15)	9.20 (8.36, 10.13)	10.35 (9.44, 11.34)
Male	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	236	0.05 (0.05, 0.05)	2.84 (2.20, 3.67)	2.14 (1.80, 2.55)
Male	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	236	0.80 (0.79, 0.81)	28.27 (23.24, 34.38)	16.56 (13.65, 20.10)
Male	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	236	0.15 (0.15, 0.15)	15.36 (12.91, 18.28)	17.04 (14.33, 20.28)
Male	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	67	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Male	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	67	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Male	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	67	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Male	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	103	0.05 (0.05, 0.05)	1.04 (0.74, 1.45)	1.42 (1.21, 1.66)
Male	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	103	0.80 (0.80, 0.80)	12.32 (8.76, 17.31)	7.45 (5.40, 10.27)
Male	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	103	0.15 (0.15, 0.15)	6.99 (5.33, 9.17)	7.75 (5.90, 10.16)
Female	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Female	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Female	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)	0.16 (0.15, 0.16)	1.00 (1.00, 1.00)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Female	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	124	0.05 (0.05, 0.05)	0.98 (0.73, 1.32)	1.28 (1.15, 1.43)
Female	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	124	0.80 (0.80, 0.80)	10.76 (8.04, 14.40)	6.64 (5.05, 8.74)
Female	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	124	0.15 (0.15, 0.15)	5.17 (3.97, 6.73)	6.14 (4.85, 7.76)

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Table 8f. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age, sex

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age, sex								
Age 18 - 59 Female	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	21	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 Female	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 Female	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 Female	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	65	0.05 (0.05, 0.05)	0.71 (0.49, 1.02)	1.14 (1.03, 1.26)
Age 18 - 59 Female	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	65	0.80 (0.80, 0.80)	6.75 (4.66, 9.78)	4.26 (3.02, 6.01)
Age 18 - 59 Female	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	65	0.15 (0.15, 0.15)	3.74 (2.64, 5.30)	4.55 (3.36, 6.16)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	435	0.05 (0.05, 0.05)	1.11 (0.93, 1.32)	1.40 (1.29, 1.51)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	435	0.80 (0.80, 0.80)	11.49 (9.80, 13.47)	7.06 (6.09, 8.19)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	435	0.15 (0.15, 0.15)	5.88 (5.15, 6.71)	6.65 (5.87, 7.53)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	121	0.05 (0.05, 0.05)	1.98 (1.40, 2.81)	1.78 (1.42, 2.23)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	121	0.80 (0.79, 0.81)	17.72 (13.70, 22.92)	10.42 (8.09, 13.41)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	121	0.15 (0.15, 0.15)	9.84 (7.72, 12.54)	10.90 (8.56, 13.89)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	31	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	31	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	31	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	48	0.05 (0.05, 0.05)	0.54 (0.36, 0.80)	1.10 (1.00, 1.21)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	48	0.80 (0.80, 0.80)	6.94 (4.44, 10.82)	4.32 (2.87, 6.49)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	48	0.15 (0.15, 0.15)	4.28 (3.09, 5.91)	4.75 (3.44, 6.56)
Age \geq 60 Female	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	19	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age \geq 60 Female	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	19	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age \geq 60 Female	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	19	0.15 (0.15, 0.15)	0.16 (0.15, 0.17)	1.00 (1.00, 1.00)
Age \geq 60 Female	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)	2.00 (1.30, 3.05)	1.65 (1.27, 2.13)
Age \geq 60 Female	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)	29.42 (20.40, 42.43)	17.35 (12.14, 24.82)
Age \geq 60 Female	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)	10.39 (7.47, 14.43)	11.71 (8.51, 16.11)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	443	0.05 (0.05, 0.05)	2.91 (2.44, 3.47)	2.21 (1.98, 2.47)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	443	0.80 (0.80, 0.80)	36.03 (31.07, 41.78)	21.06 (18.15, 24.43)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	443	0.15 (0.15, 0.15)	21.39 (18.95, 24.15)	23.79 (21.07, 26.86)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	115	0.05 (0.05, 0.05)	5.65 (4.06, 7.88)	3.04 (2.31, 4.01)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	115	0.80 (0.79, 0.81)	69.05 (52.33, 91.11)	40.19 (30.43, 53.09)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	115	0.15 (0.15, 0.15)	35.99 (29.78, 43.51)	40.06 (33.14, 48.43)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	36	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	36	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	36	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.06)	3.03 (1.88, 4.89)	2.14 (1.50, 3.05)
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)	31.30 (20.70, 47.33)	18.05 (11.89, 27.40)
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)	15.53 (10.62, 22.71)	17.16 (11.70, 25.17)

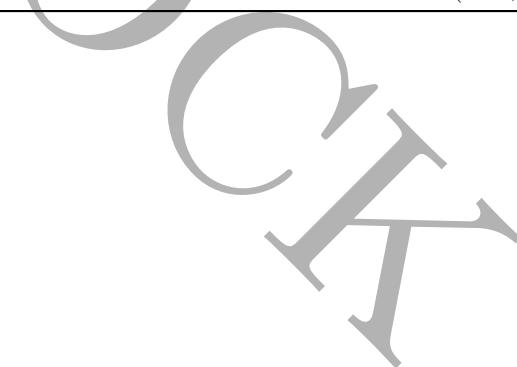


Table 8g. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Hispanic or Latino ethnicity

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Hispanic or Latino ethnicity								
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	348	0.05 (0.05, 0.05)	1.52 (1.24, 1.86)	1.62 (1.47, 1.80)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	348	0.80 (0.80, 0.80)	16.23 (13.48, 19.55)	9.92 (8.33, 11.82)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	348	0.15 (0.15, 0.15)	8.92 (7.64, 10.42)	10.19 (8.80, 11.79)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	100	0.05 (0.05, 0.05)	2.81 (1.87, 4.22)	2.22 (1.68, 2.95)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	100	0.80 (0.79, 0.80)	27.10 (20.19, 36.38)	15.84 (11.83, 21.21)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	100	0.15 (0.15, 0.15)	15.54 (11.98, 20.15)	17.20 (13.24, 22.33)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	39	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	97	0.05 (0.05, 0.05)	0.97 (0.73, 1.30)	1.36 (1.19, 1.56)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	97	0.80 (0.80, 0.80)	11.72 (8.46, 16.24)	7.12 (5.23, 9.70)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	97	0.15 (0.15, 0.15)	5.45 (4.09, 7.26)	6.36 (4.87, 8.32)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	471	0.05 (0.05, 0.05)	1.53 (1.30, 1.80)	1.63 (1.51, 1.77)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	471	0.80 (0.80, 0.80)	17.34 (15.00, 20.05)	10.30 (8.95, 11.85)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	471	0.15 (0.15, 0.15)	9.49 (8.43, 10.69)	10.50 (9.33, 11.81)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	124	0.05 (0.05, 0.05)	2.96 (2.16, 4.06)	2.10 (1.72, 2.57)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	124	0.80 (0.80, 0.80)	29.44 (22.21, 39.02)	17.31 (13.13, 22.82)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	124	0.15 (0.15, 0.15)	15.68 (12.11, 20.30)	17.45 (13.51, 22.55)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	60	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	60	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	60	0.15 (0.15, 0.15)	0.16 (0.15, 0.16)	1.00 (1.00, 1.00)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	120	0.05 (0.05, 0.05)	0.94 (0.70, 1.26)	1.26 (1.13, 1.41)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	120	0.80 (0.80, 0.80)	10.66 (7.92, 14.36)	6.65 (5.06, 8.74)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	120	0.15 (0.15, 0.15)	5.91 (4.63, 7.55)	6.71 (5.33, 8.45)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)	2.04 (1.24, 3.36)	1.82 (1.39, 2.38)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)	23.61 (14.76, 37.77)	14.59 (9.38, 22.69)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)	9.66 (6.23, 14.95)	10.62 (6.86, 16.44)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	12	0.05 (0.05, 0.05)	2.29 (0.95, 5.52)	1.69 (0.93, 3.08)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	0.87 (0.74, 1.02)	31.81 (16.74, 60.44)	18.57 (9.77, 35.28)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	0.15 (0.15, 0.15)	11.56 (7.70, 17.35)	12.86 (8.57, 19.31)
Not reported and unknown	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	8	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	10	0.05 (0.04, 0.07)	2.40 (0.82, 7.02)	1.78 (1.12, 2.82)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	10	0.80 (0.80, 0.80)	15.03 (7.19, 31.42)	8.52 (3.96, 18.34)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	10	0.15 (0.15, 0.15)	13.00 (7.06, 23.94)	14.47 (7.86, 26.65)



Table 8h. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Race

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Race								
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	180	0.05 (0.05, 0.05)	1.47 (1.14, 1.91)	1.59 (1.40, 1.81)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	180	0.80 (0.80, 0.80)	17.32 (13.79, 21.76)	10.09 (8.05, 12.64)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	180	0.15 (0.15, 0.15)	9.05 (7.57, 10.82)	9.98 (8.33, 11.95)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	54	0.05 (0.05, 0.05)	4.50 (2.78, 7.28)	2.74 (1.92, 3.91)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	54	0.80 (0.80, 0.80)	42.71 (29.57, 61.68)	24.93 (17.26, 36.01)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	54	0.15 (0.15, 0.15)	16.34 (10.98, 24.30)	18.27 (12.33, 27.08)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	22	0.15 (0.15, 0.15)	0.16 (0.15, 0.16)	1.00 (1.00, 1.00)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	49	0.05 (0.05, 0.05)	0.97 (0.62, 1.51)	1.29 (1.10, 1.51)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	49	0.80 (0.80, 0.80)	10.79 (7.10, 16.39)	6.48 (4.30, 9.77)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	49	0.15 (0.15, 0.15)	6.63 (4.68, 9.39)	7.60 (5.54, 10.42)
Black or African American	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	306	0.05 (0.05, 0.05)	1.55 (1.26, 1.91)	1.64 (1.49, 1.82)
Black or African American	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	306	0.80 (0.80, 0.80)	18.13 (14.99, 21.92)	10.90 (9.08, 13.08)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Black or African American	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	306	0.15 (0.15, 0.15)	9.59 (8.14, 11.30)	10.61 (9.04, 12.45)
Black or African American	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	73	0.05 (0.05, 0.05)	2.28 (1.55, 3.36)	1.76 (1.42, 2.17)
Black or African American	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	73	0.80 (0.80, 0.80)	24.66 (16.62, 36.58)	14.63 (10.01, 21.39)
Black or African American	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	73	0.15 (0.15, 0.15)	16.39 (11.87, 22.64)	17.99 (12.97, 24.95)
Black or African American	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Black or African American	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Black or African American	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Black or African American	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	88	0.05 (0.05, 0.05)	1.04 (0.74, 1.47)	1.36 (1.16, 1.58)
Black or African American	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	88	0.80 (0.80, 0.80)	11.46 (8.07, 16.27)	7.42 (5.46, 10.09)
Black or African American	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	88	0.15 (0.15, 0.15)	5.52 (4.04, 7.56)	6.39 (4.77, 8.58)
Asian	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)	1.02 (0.51, 2.05)	1.37 (1.06, 1.78)
Asian	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)	10.14 (6.36, 16.19)	6.02 (3.89, 9.33)
Asian	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	22	0.15 (0.15, 0.15)	5.08 (2.68, 9.66)	6.20 (3.56, 10.79)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Asian	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)	0.91 (0.23, 3.54)	1.10 (0.90, 1.35)
Asian	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)	7.80 (3.44, 17.69)	4.48 (1.93, 10.38)
Asian	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)	6.65 (2.42, 18.32)	7.41 (2.69, 20.39)
Asian	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Asian	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Asian	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Asian	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)	0.41 (0.26, 0.64)	1.00 (1.00, 1.00)
Asian	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)	5.02 (1.41, 17.93)	3.61 (1.42, 9.21)
Asian	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)	4.18 (1.40, 12.46)	4.47 (1.41, 14.19)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	124	0.05 (0.05, 0.05)	1.34 (0.97, 1.86)	1.53 (1.31, 1.79)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	124	0.80 (0.80, 0.80)	12.84 (9.67, 17.04)	7.81 (5.99, 10.19)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	124	0.15 (0.15, 0.15)	7.55 (5.96, 9.56)	8.41 (6.66, 10.62)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	31	0.05 (0.05, 0.06)	1.92 (0.87, 4.21)	1.98 (1.14, 3.47)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	31	0.80 (0.80, 0.80)	20.82 (12.03, 36.03)	12.29 (7.17, 21.08)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	31	0.15 (0.15, 0.15)	14.03 (8.12, 24.24)	15.58 (9.02, 26.88)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	18	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	18	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	18	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	35	0.05 (0.05, 0.05)	0.97 (0.52, 1.80)	1.52 (1.17, 1.97)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	35	0.80 (0.80, 0.80)	11.40 (6.20, 20.95)	6.87 (3.86, 12.23)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	35	0.15 (0.15, 0.15)	5.20 (3.11, 8.70)	6.33 (3.98, 10.08)
Native Hawaiian or Other Pacific Islander	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)	0.41 (0.07, 2.35)	1.31 (0.73, 2.36)
Native Hawaiian or Other Pacific Islander	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)	19.85 (4.76, 82.79)	11.58 (2.78, 48.32)
Native Hawaiian or Other Pacific Islander	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)	4.75 (1.26, 17.87)	5.28 (1.40, 19.89)
Multiracial	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	29	0.05 (0.05, 0.05)	2.05 (0.94, 4.49)	1.99 (1.30, 3.04)
Multiracial	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	29	0.80 (0.80, 0.80)	27.48 (13.66, 55.26)	16.47 (8.44, 32.13)
Multiracial	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	29	0.15 (0.15, 0.15)	13.18 (7.06, 24.60)	14.57 (7.81, 27.19)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Multiracial	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)	6.46 (2.04, 20.43)	3.67 (1.80, 7.51)
Multiracial	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)	11.20 (5.38, 23.33)	6.13 (2.78, 13.51)
Multiracial	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)	13.48 (7.60, 23.90)	15.00 (8.46, 26.60)
Multiracial	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Multiracial	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Multiracial	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Multiracial	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)	1.22 (0.35, 4.31)	1.35 (0.84, 2.17)
Multiracial	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)	11.66 (6.06, 22.44)	6.81 (3.54, 13.10)
Multiracial	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)	2.58 (0.92, 7.26)	3.09 (1.21, 7.92)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	15	0.05 (0.05, 0.05)	2.53 (1.05, 6.11)	2.05 (1.21, 3.50)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	15	0.80 (0.80, 0.80)	21.07 (11.74, 37.84)	13.25 (8.01, 21.93)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	15	0.15 (0.15, 0.15)	11.41 (7.06, 18.44)	12.70 (7.86, 20.52)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)	4.16 (1.65, 10.52)	1.97 (0.83, 4.67)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)	32.72 (17.34, 61.71)	19.10 (10.12, 36.02)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)	8.52 (6.18, 11.73)	9.48 (6.88, 13.06)
Not reported and unknown	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	3	0.05 (0.05, 0.05)	2.31 (0.99, 5.37)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	3	0.80 (0.80, 0.80)	21.31 (8.76, 51.85)	12.44 (5.11, 30.26)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	3	0.15 (0.15, 0.15)	10.42 (2.96, 36.65)	11.60 (3.30, 40.79)



Table 8i. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Underrepresented Minority Status in the U.S.

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Underrepresented Minority Status in the U.S.								
URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	630	0.05 (0.05, 0.05)	1.54 (1.32, 1.80)	1.63 (1.51, 1.76)
URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	630	0.80 (0.80, 0.80)	16.76 (14.57, 19.28)	10.20 (8.94, 11.64)
URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	630	0.15 (0.15, 0.15)	9.28 (8.26, 10.44)	10.48 (9.37, 11.72)
URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	165	0.05 (0.05, 0.05)	2.59 (1.89, 3.54)	2.05 (1.66, 2.54)
URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	165	0.80 (0.80, 0.80)	26.00 (20.50, 32.98)	15.26 (12.08, 19.28)
URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	165	0.15 (0.15, 0.15)	15.53 (12.61, 19.11)	17.19 (13.96, 21.16)
URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	77	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
URM	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	77	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
URM	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	77	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
URM	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	168	0.05 (0.05, 0.05)	0.99 (0.78, 1.27)	1.36 (1.22, 1.52)
URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	168	0.80 (0.80, 0.80)	11.70 (9.10, 15.03)	7.16 (5.65, 9.07)
URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	168	0.15 (0.15, 0.15)	5.58 (4.47, 6.96)	6.45 (5.25, 7.94)
Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	248	0.05 (0.05, 0.05)	1.57 (1.25, 1.97)	1.67 (1.49, 1.88)
Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	248	0.80 (0.80, 0.80)	18.02 (14.69, 22.11)	10.66 (8.73, 13.00)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	248	0.15 (0.15, 0.15)	8.98 (7.63, 10.56)	9.98 (8.50, 11.72)
Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	71	0.05 (0.05, 0.05)	3.68 (2.40, 5.63)	2.42 (1.79, 3.28)
Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	0.81 (0.78, 0.84)	35.72 (25.52, 49.98)	20.82 (14.86, 29.17)
Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	0.15 (0.15, 0.15)	14.91 (10.85, 20.49)	16.65 (12.14, 22.83)
Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	30	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	30	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	30	0.15 (0.15, 0.15)	0.16 (0.15, 0.16)	1.00 (1.00, 1.00)
Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)	1.06 (0.71, 1.59)	1.29 (1.12, 1.49)
Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)	10.71 (7.16, 16.01)	6.54 (4.48, 9.55)
Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)	7.04 (5.05, 9.81)	7.99 (5.84, 10.92)



Table 8j. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age, Underrepresented Minority Status in the U.S.

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age, Underrepresented Minority Status in the U.S.								
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	309	0.05 (0.05, 0.05)	1.10 (0.89, 1.36)	1.38 (1.26, 1.52)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	309	0.80 (0.80, 0.80)	11.10 (9.16, 13.44)	6.91 (5.78, 8.25)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	309	0.15 (0.15, 0.15)	5.88 (5.00, 6.92)	6.68 (5.74, 7.79)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	87	0.05 (0.05, 0.05)	1.73 (1.13, 2.64)	1.66 (1.27, 2.17)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	87	0.80 (0.80, 0.80)	14.71 (10.84, 19.98)	8.68 (6.44, 11.70)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	87	0.15 (0.15, 0.15)	9.60 (7.20, 12.80)	10.60 (7.94, 14.14)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	39	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	85	0.05 (0.05, 0.05)	0.57 (0.42, 0.77)	1.11 (1.03, 1.20)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	85	0.80 (0.80, 0.80)	6.78 (4.86, 9.46)	4.25 (3.12, 5.78)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	85	0.15 (0.15, 0.15)	3.54 (2.66, 4.71)	4.16 (3.20, 5.41)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	126	0.05 (0.05, 0.05)	1.12 (0.83, 1.52)	1.45 (1.26, 1.67)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	126	0.80 (0.80, 0.80)	12.68 (9.63, 16.69)	7.52 (5.76, 9.82)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	126	0.15 (0.15, 0.15)	5.87 (4.77, 7.21)	6.55 (5.34, 8.03)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	34	0.05 (0.05, 0.05)	2.90 (1.60, 5.25)	2.19 (1.45, 3.31)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	34	0.82 (0.78, 0.86)	29.81 (18.64, 47.68)	17.36 (10.83, 27.82)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	34	0.15 (0.15, 0.15)	10.56 (6.77, 16.47)	11.81 (7.60, 18.35)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	13	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	13	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	13	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	28	0.05 (0.05, 0.05)	0.86 (0.50, 1.48)	1.17 (1.01, 1.36)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	28	0.80 (0.80, 0.80)	6.98 (3.96, 12.30)	4.39 (2.59, 7.43)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	28	0.15 (0.15, 0.15)	5.49 (3.45, 8.73)	6.34 (4.13, 9.74)
Age ≥ 60 URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	321	0.05 (0.05, 0.05)	2.89 (2.34, 3.56)	2.22 (1.94, 2.53)
Age ≥ 60 URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	321	0.80 (0.80, 0.80)	36.38 (30.45, 43.46)	21.22 (17.75, 25.38)
Age ≥ 60 URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	321	0.15 (0.15, 0.15)	21.88 (19.02, 25.17)	24.40 (21.21, 28.06)
Age ≥ 60 URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	78	0.05 (0.05, 0.05)	5.60 (3.68, 8.51)	3.08 (2.18, 4.36)
Age ≥ 60 URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	78	0.80 (0.79, 0.81)	77.14 (54.46, 109.27)	44.85 (31.62, 63.64)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age ≥ 60 URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	78	0.15 (0.15, 0.15)	38.89 (30.87, 49.01)	43.29 (34.36, 54.55)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	38	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	83	0.05 (0.05, 0.06)	2.88 (1.97, 4.20)	2.01 (1.52, 2.65)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	83	0.80 (0.80, 0.80)	33.07 (23.53, 46.49)	19.35 (13.82, 27.10)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	83	0.15 (0.15, 0.15)	13.27 (9.56, 18.42)	14.90 (10.79, 20.58)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	122	0.05 (0.05, 0.05)	2.99 (2.19, 4.08)	2.19 (1.77, 2.70)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	122	0.80 (0.80, 0.80)	35.04 (27.00, 45.48)	20.59 (15.93, 26.63)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	122	0.15 (0.15, 0.15)	20.06 (15.74, 25.56)	22.14 (17.32, 28.29)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	37	0.05 (0.05, 0.05)	5.81 (3.69, 9.15)	2.94 (1.99, 4.35)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)	50.56 (34.70, 73.68)	29.53 (20.27, 43.01)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	0.15 (0.15, 0.15)	28.94 (21.12, 39.67)	32.22 (23.51, 44.15)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	17	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	17	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age \geq 60 Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	17	0.15 (0.15, 0.15)	0.16 (0.15, 0.17)	1.00 (1.00, 1.00)
Age \geq 60 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	31	0.05 (0.05, 0.05)	1.55 (0.88, 2.75)	1.54 (1.15, 2.06)
Age \geq 60 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	31	0.80 (0.80, 0.80)	23.71 (15.46, 36.37)	13.71 (8.88, 21.17)
Age \geq 60 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	31	0.15 (0.15, 0.15)	11.15 (7.62, 16.30)	12.25 (8.30, 18.07)

Table 8k. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Country

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Country								
United States	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	436	0.05 (0.05, 0.05)	1.49 (1.25, 1.77)	1.64 (1.51, 1.79)
United States	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	436	0.80 (0.80, 0.80)	17.00 (14.63, 19.76)	10.21 (8.84, 11.78)
United States	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	436	0.15 (0.15, 0.15)	8.76 (7.73, 9.94)	9.86 (8.74, 11.13)
United States	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	125	0.05 (0.05, 0.05)	3.25 (2.34, 4.51)	2.43 (1.95, 3.01)
United States	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	125	0.81 (0.79, 0.83)	30.03 (22.69, 39.74)	17.59 (13.32, 23.21)
United States	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	125	0.15 (0.15, 0.15)	14.68 (11.50, 18.74)	16.28 (12.76, 20.78)
United States	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	53	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
United States	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
United States	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)	0.16 (0.15, 0.16)	1.00 (1.00, 1.00)
United States	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	108	0.05 (0.05, 0.05)	1.01 (0.74, 1.36)	1.35 (1.20, 1.52)
United States	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	108	0.80 (0.80, 0.80)	10.11 (7.54, 13.55)	6.34 (4.85, 8.28)
United States	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	108	0.15 (0.15, 0.15)	6.45 (4.98, 8.34)	7.33 (5.74, 9.36)
Argentina	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	43	0.05 (0.05, 0.05)	2.38 (1.39, 4.07)	1.96 (1.38, 2.79)
Argentina	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	43	0.80 (0.80, 0.80)	19.53 (11.92, 32.02)	11.54 (7.17, 18.56)
Argentina	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	43	0.15 (0.15, 0.15)	13.08 (8.84, 19.35)	14.84 (10.22, 21.55)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Argentina	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	9	0.05 (0.05, 0.05)	6.93 (2.39, 20.08)	3.39 (1.26, 9.12)
Argentina	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	9	0.80 (0.80, 0.80)	68.44 (31.99, 146.40)	39.95 (18.67, 85.46)
Argentina	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	9	0.15 (0.15, 0.15)	22.14 (12.09, 40.57)	24.65 (13.45, 45.16)
Argentina	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Argentina	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Argentina	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Argentina	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	9	0.05 (0.04, 0.05)	0.75 (0.20, 2.76)	1.41 (0.91, 2.18)
Argentina	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	9	0.80 (0.80, 0.80)	20.37 (8.53, 48.64)	10.55 (3.67, 30.36)
Argentina	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	9	0.15 (0.15, 0.15)	6.85 (3.15, 14.93)	7.63 (3.50, 16.62)
Brazil	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	91	0.05 (0.05, 0.05)	1.40 (0.95, 2.08)	1.59 (1.33, 1.91)
Brazil	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	91	0.80 (0.80, 0.80)	15.62 (10.70, 22.81)	9.99 (7.09, 14.07)
Brazil	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	91	0.15 (0.15, 0.15)	7.95 (5.94, 10.64)	8.85 (6.67, 11.74)
Brazil	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	23	0.05 (0.05, 0.05)	1.76 (0.82, 3.80)	1.85 (1.31, 2.61)
Brazil	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	23	0.80 (0.80, 0.80)	23.08 (12.48, 42.70)	13.16 (7.02, 24.70)
Brazil	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	23	0.15 (0.15, 0.15)	14.68 (8.82, 24.43)	16.28 (9.80, 27.05)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Brazil	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	9	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Brazil	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	9	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Brazil	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	9	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Brazil	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)	1.02 (0.55, 1.92)	1.48 (1.10, 1.99)
Brazil	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)	11.63 (6.37, 21.25)	6.95 (3.91, 12.34)
Brazil	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)	4.80 (3.01, 7.64)	5.53 (3.51, 8.71)
Chile	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	16	0.05 (0.05, 0.05)	0.75 (0.35, 1.59)	1.19 (0.85, 1.67)
Chile	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	16	0.80 (0.80, 0.80)	12.27 (6.39, 23.58)	6.86 (3.46, 13.60)
Chile	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	16	0.15 (0.15, 0.15)	7.18 (3.14, 16.41)	8.77 (4.19, 18.34)
Chile	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)	1.82 (1.00, 3.30)	1.19 (0.88, 1.60)
Chile	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)	26.24 (19.99, 34.46)	15.32 (11.67, 20.11)
Chile	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)	20.42 (8.85, 47.12)	22.73 (9.85, 52.45)
Chile	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	3	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Chile	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	3	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Chile	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	3	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Chile	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)	0.18 (0.03, 1.25)	1.00 (1.00, 1.00)
Chile	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)	1.97 (0.54, 7.17)	1.69 (0.80, 3.56)
Chile	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)	0.33 (0.11, 0.96)	1.00 (1.00, 1.00)
Columbia	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	45	0.05 (0.05, 0.05)	2.14 (1.25, 3.68)	1.86 (1.42, 2.44)
Columbia	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	45	0.80 (0.80, 0.80)	24.89 (14.86, 41.68)	14.57 (8.73, 24.30)
Columbia	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	45	0.15 (0.15, 0.15)	12.45 (7.78, 19.92)	14.46 (9.31, 22.46)
Columbia	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	12	0.05 (0.05, 0.05)	6.29 (1.91, 20.78)	3.50 (1.23, 9.95)
Columbia	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	0.80 (0.80, 0.80)	35.44 (16.74, 75.05)	20.69 (9.77, 43.81)
Columbia	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	0.15 (0.15, 0.15)	23.16 (10.44, 51.38)	25.78 (11.62, 57.19)
Columbia	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	8	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Columbia	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Columbia	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Columbia	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	16	0.05 (0.04, 0.06)	0.93 (0.48, 1.79)	1.31 (0.97, 1.77)
Columbia	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	16	0.80 (0.80, 0.80)	8.24 (3.94, 17.21)	5.04 (2.57, 9.88)
Columbia	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	16	0.15 (0.15, 0.15)	4.71 (2.32, 9.58)	5.42 (2.81, 10.46)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Mexico	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)	2.96 (1.33, 6.61)	1.63 (0.92, 2.89)
Mexico	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)	19.52 (9.65, 39.47)	11.39 (5.63, 23.04)
Mexico	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)	15.97 (10.12, 25.22)	17.78 (11.26, 28.08)
Mexico	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	2	0.08 (0.04, 0.19)	1.76 (0.48, 6.41)	1.00 (1.00, 1.00)
Mexico	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)	8.52 (2.77, 26.23)	4.97 (1.61, 15.31)
Mexico	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)	8.88 (1.25, 63.02)	9.89 (1.39, 70.15)
Mexico	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Mexico	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Mexico	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Peru	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)	1.25 (0.79, 1.98)	1.22 (0.96, 1.55)
Peru	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)	13.46 (8.84, 20.52)	8.02 (5.32, 12.08)
Peru	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	22	0.15 (0.15, 0.15)	10.14 (6.35, 16.18)	11.38 (7.19, 18.00)
Peru	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)	0.79 (0.22, 2.92)	1.00 (1.00, 1.00)
Peru	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)	10.94 (3.51, 34.08)	7.31 (2.86, 18.63)
Peru	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)	5.67 (3.22, 10.01)	6.31 (3.58, 11.14)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Peru	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Peru	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Peru	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Peru	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	7	0.05 (0.04, 0.07)	1.88 (1.33, 2.65)	1.00 (1.00, 1.00)
Peru	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	7	0.80 (0.80, 0.80)	39.67 (18.14, 86.75)	23.15 (10.59, 50.64)
Peru	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	7	0.15 (0.15, 0.15)	17.03 (8.81, 32.92)	18.96 (9.80, 36.65)
South Africa	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	220	0.05 (0.05, 0.05)	1.55 (1.22, 1.98)	1.65 (1.46, 1.87)
South Africa	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	220	0.80 (0.80, 0.80)	16.49 (13.14, 20.69)	10.00 (8.06, 12.41)
South Africa	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	220	0.15 (0.15, 0.15)	8.84 (7.42, 10.52)	9.63 (8.08, 11.49)
South Africa	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)	2.24 (1.56, 3.22)	1.63 (1.32, 2.02)
South Africa	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)	28.31 (19.27, 41.60)	16.49 (11.31, 24.05)
South Africa	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)	16.67 (12.07, 23.04)	18.45 (13.31, 25.56)
South Africa	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
South Africa	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
South Africa	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
South Africa	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	58	0.05 (0.05, 0.05)	1.19 (0.82, 1.73)	1.28 (1.08, 1.52)
South Africa	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	58	0.80 (0.80, 0.80)	13.29 (8.89, 19.85)	8.21 (5.67, 11.91)
South Africa	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	58	0.15 (0.15, 0.15)	6.42 (4.76, 8.67)	7.21 (5.38, 9.65)

1.9 The ratios of GMTs/GMCs between groups

Table 9a. The ratios of GMTs/GMCs between groups by Age

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age							
Age ≥ 60 vs Age 18 - 59	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (0.95, 1.06)
Age ≥ 60 vs Age 18 - 59	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.79, 0.81)	0.80 (0.79, 0.81)	1.00 (0.98, 1.01)
Age ≥ 60 vs Age 18 - 59	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.07 (1.00, 1.15)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age ≥ 60 vs Age 18 - 59	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	2.91 (2.44, 3.47)	1.11 (0.93, 1.32)	2.63 (2.06, 3.37)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	36.03 (31.07, 41.78)	11.49 (9.80, 13.47)	3.14 (2.52, 3.90)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	21.39 (18.95, 24.15)	5.88 (5.15, 6.71)	3.64 (3.04, 4.35)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	5.65 (4.06, 7.88)	1.98 (1.40, 2.81)	2.85 (1.76, 4.61)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	69.05 (52.33, 91.11)	17.72 (13.70, 22.92)	3.90 (2.67, 5.69)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	35.99 (29.78, 43.51)	9.84 (7.72, 12.54)	3.66 (2.69, 4.97)
Age ≥ 60 vs Age 18 - 59	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	0.16 (0.15, 0.16)	0.15 (0.15, 0.15)	1.01 (0.99, 1.03)
Age ≥ 60 vs Age 18 - 59	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2.45 (1.79, 3.37)	0.63 (0.48, 0.82)	3.89 (2.57, 5.89)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age ≥ 60 vs Age 18 - 59	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	30.34 (23.03, 39.97)	6.83 (5.12, 9.10)	4.44 (2.98, 6.62)
Age ≥ 60 vs Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	12.68 (9.76, 16.49)	3.96 (3.10, 5.05)	3.20 (2.24, 4.58)

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Table 9b. The ratios of GMTs/GMCs between groups by Risk for Severe Covid-19

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Risk for Severe Covid-19							
At-risk vs Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	0.99 (0.94, 1.05)
At-risk vs Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.79, 0.81)	0.80 (0.79, 0.81)	1.00 (0.98, 1.01)
At-risk vs Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	0.98 (0.93, 1.02)
At-risk vs Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1.49 (1.24, 1.79)	1.59 (1.33, 1.89)	0.94 (0.73, 1.21)
At-risk vs Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	17.89 (15.18, 21.07)	16.56 (14.11, 19.42)	1.08 (0.86, 1.36)
At-risk vs Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	9.92 (8.66, 11.37)	8.75 (7.67, 9.98)	1.13 (0.94, 1.37)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
At-risk vs Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	2.43 (1.65, 3.58)	3.16 (2.25, 4.44)	0.77 (0.46, 1.29)
At-risk vs Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	26.28 (19.53, 35.36)	29.71 (22.91, 38.51)	0.88 (0.60, 1.31)
At-risk vs Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	14.11 (11.05, 18.01)	16.27 (12.80, 20.69)	0.87 (0.62, 1.22)
At-risk vs Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	0.16 (0.15, 0.16)	0.15 (0.15, 0.15)	1.01 (0.99, 1.03)
At-risk vs Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	0.95 (0.68, 1.33)	1.05 (0.81, 1.37)	0.90 (0.59, 1.38)
At-risk vs Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	12.07 (8.77, 16.62)	11.03 (8.31, 14.66)	1.09 (0.71, 1.68)
At-risk vs Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5.62 (4.29, 7.37)	6.12 (4.77, 7.86)	0.92 (0.64, 1.33)

Table 9c. The ratios of GMTs/GMCs between groups by Age 18 - 59, Risk for Severe Covid-19

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age 18 - 59, Risk for Severe Covid-19							
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	0.95 (0.89, 1.02)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.81 (0.79, 0.82)	0.99 (0.97, 1.01)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.01 (0.99, 1.04)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1.12 (0.87, 1.43)	1.10 (0.87, 1.40)	1.01 (0.72, 1.43)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	12.53 (10.04, 15.63)	10.84 (8.70, 13.51)	1.16 (0.85, 1.58)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	6.58 (5.48, 7.90)	5.45 (4.54, 6.54)	1.21 (0.93, 1.56)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	1.63 (0.96, 2.77)	2.27 (1.43, 3.60)	0.72 (0.35, 1.45)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	15.22 (10.46, 22.14)	19.70 (13.89, 27.94)	0.77 (0.46, 1.29)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	9.39 (6.77, 13.02)	10.17 (7.22, 14.32)	0.92 (0.58, 1.48)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	0.66 (0.43, 1.03)	0.61 (0.44, 0.85)	1.09 (0.62, 1.89)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	7.88 (5.10, 12.20)	6.20 (4.23, 9.07)	1.27 (0.71, 2.27)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	3.96 (2.75, 5.69)	3.96 (2.86, 5.48)	1.00 (0.61, 1.63)

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Table 9d. The ratios of GMTs/GMCs between groups by Age \geq 60, Risk for Severe Covid-19

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age \geq 60, Risk for Severe Covid-19							
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.08 (0.99, 1.17)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.81 (0.79, 0.83)	0.80 (0.80, 0.80)	1.01 (0.99, 1.04)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.06)	0.92 (0.81, 1.03)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	2.56 (1.97, 3.33)	3.18 (2.51, 4.02)	0.81 (0.57, 1.15)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	34.78 (27.84, 43.45)	36.90 (30.29, 44.95)	0.94 (0.70, 1.27)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	21.36 (17.67, 25.83)	21.41 (18.28, 25.06)	1.00 (0.78, 1.28)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	5.39 (3.39, 8.56)	5.83 (3.69, 9.21)	0.92 (0.48, 1.77)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	78.05 (49.49, 123.10)	63.77 (45.01, 90.34)	1.22 (0.69, 2.17)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	31.74 (23.24, 43.36)	39.06 (30.78, 49.55)	0.81 (0.55, 1.20)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	0.16 (0.15, 0.17)	0.15 (0.15, 0.15)	1.03 (0.98, 1.08)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	1.93 (1.20, 3.08)	2.86 (1.87, 4.36)	0.67 (0.36, 1.27)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	28.14 (19.25, 41.13)	31.80 (21.75, 46.51)	0.88 (0.52, 1.51)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	11.30 (8.01, 15.94)	13.63 (9.44, 19.69)	0.83 (0.50, 1.37)

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Table 9e. The ratios of GMTs/GMCs between groups by Sex

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Sex							
Male vs Female	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Male vs Female	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Male vs Female	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Male vs Female	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.02 (0.97, 1.08)
Male vs Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Male vs Female	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Male vs Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Male vs Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Male vs Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.16 (0.15, 0.16)	0.99 (0.97, 1.01)
Male vs Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	1.04 (0.74, 1.45)	0.98 (0.73, 1.32)	1.06 (0.66, 1.69)
Male vs Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	12.32 (8.76, 17.31)	10.76 (8.04, 14.40)	1.14 (0.72, 1.82)
Male vs Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	6.99 (5.33, 9.17)	5.17 (3.97, 6.73)	1.35 (0.92, 2.00)

Table 9f. The ratios of GMTs/GMCs between groups by Hispanic or Latino ethnicity

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Hispanic or Latino ethnicity							
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.03 (0.97, 1.09)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.79, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.01)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.01 (0.97, 1.06)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1.52 (1.24, 1.86)	1.53 (1.30, 1.80)	0.99 (0.76, 1.29)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	16.23 (13.48, 19.55)	17.34 (15.00, 20.05)	0.94 (0.74, 1.19)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	8.92 (7.64, 10.42)	9.49 (8.43, 10.69)	0.94 (0.77, 1.14)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	2.81 (1.87, 4.22)	2.96 (2.16, 4.06)	0.95 (0.57, 1.59)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	27.10 (20.19, 36.38)	29.44 (22.21, 39.02)	0.92 (0.61, 1.39)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	15.54 (11.98, 20.15)	15.68 (12.11, 20.30)	0.99 (0.68, 1.44)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.16 (0.15, 0.16)	0.99 (0.98, 1.01)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	0.97 (0.73, 1.30)	0.94 (0.70, 1.26)	1.03 (0.68, 1.57)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	11.72 (8.46, 16.24)	10.66 (7.92, 14.36)	1.10 (0.70, 1.72)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5.45 (4.09, 7.26)	5.91 (4.63, 7.55)	0.92 (0.63, 1.35)

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Table 9g. The ratios of GMTs/GMCs between groups by Underrepresented Minority Status in the U.S.

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Underrepresented Minority Status in the U.S.							
URM vs Non-URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.03 (0.98, 1.07)
URM vs Non-URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.81 (0.78, 0.84)	0.99 (0.95, 1.02)
URM vs Non-URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.04 (1.01, 1.08)
URM vs Non-URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1.54 (1.32, 1.80)	1.57 (1.25, 1.97)	0.98 (0.74, 1.29)
URM vs Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	16.76 (14.57, 19.28)	18.02 (14.69, 22.11)	0.93 (0.72, 1.19)
URM vs Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	9.28 (8.26, 10.44)	8.98 (7.63, 10.56)	1.03 (0.85, 1.27)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
URM vs Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	2.59 (1.89, 3.54)	3.68 (2.40, 5.63)	0.70 (0.41, 1.19)
URM vs Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	26.00 (20.50, 32.98)	35.72 (25.52, 49.98)	0.73 (0.48, 1.10)
URM vs Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	15.53 (12.61, 19.11)	14.91 (10.85, 20.49)	1.04 (0.71, 1.52)
URM vs Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.16 (0.15, 0.16)	0.99 (0.96, 1.01)
URM vs Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	0.99 (0.78, 1.27)	1.06 (0.71, 1.59)	0.94 (0.58, 1.50)
URM vs Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	11.70 (9.10, 15.03)	10.71 (7.16, 16.01)	1.09 (0.68, 1.75)
URM vs Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5.58 (4.47, 6.96)	7.04 (5.05, 9.81)	0.79 (0.53, 1.18)

1.10 Differences in the responder rates, 2FRs, 4FRs between the groups

Table 10a. Differences in the responder rates, 2FRs, 4FRs between the groups by Arm

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Arm							
Vaccine vs Placebo	Negative	-	Day 29	Anti N IgG (IU/ml)	0.07 (0.06, 0.09)	0.27 (0.24, 0.3)	0.16 (0.14, 0.19)
Vaccine vs Placebo	Negative	-	Day 29	Anti RBD IgG (IU/ml)	0.55 (0.51, 0.59)	0.84 (0.81, 0.87)	0.73 (0.69, 0.76)
Vaccine vs Placebo	Negative	-	Day 29	Anti Spike IgG (IU/ml)	0.45 (0.42, 0.49)	0.89 (0.86, 0.91)	0.75 (0.72, 0.78)
Vaccine vs Placebo	Positive	-	Day 29	Anti N IgG (IU/ml)	0.09 (0.04, 0.15)	0.19 (0.1, 0.28)	0.18 (0.11, 0.25)
Vaccine vs Placebo	Positive	-	Day 29	Anti RBD IgG (IU/ml)	0.21 (0.11, 0.3)	0.15 (0.07, 0.23)	0.23 (0.14, 0.32)
Vaccine vs Placebo	Positive	-	Day 29	Anti Spike IgG (IU/ml)	0.27 (0.17, 0.36)	0.12 (0.06, 0.19)	0.22 (0.12, 0.31)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 10b. Differences in the responder rates, 2FRs, 4FRs between the groups by Baseline SARS-CoV-2

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Baseline SARS-CoV-2							
Positive vs Negative	-	Vaccine	Day 29	Anti N IgG (IU/ml)	0.05 (0.01, 0.11)	0.1 (0.02, 0.18)	0.1 (0.04, 0.17)
Positive vs Negative	-	Placebo	Day 29	Anti N IgG (IU/ml)	0.03 (0.02, 0.06)	0.18 (0.13, 0.24)	0.08 (0.06, 0.12)
Positive vs Negative	-	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.14 (0.06, 0.21)	0.08 (0.02, 0.12)	0.13 (0.06, 0.18)
Positive vs Negative	-	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.48 (0.41, 0.55)	0.77 (0.7, 0.83)	0.62 (0.54, 0.69)
Positive vs Negative	-	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.14 (0.07, 0.22)	0.07 (0.02, 0.11)	0.1 (0.03, 0.16)
Positive vs Negative	-	Placebo	Day 29	Anti Spike IgG (IU/ml)	0.33 (0.27, 0.4)	0.83 (0.77, 0.88)	0.64 (0.56, 0.71)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 10c. Differences in the responder rates, 2FRs, 4FRs between the groups by Age

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Age							
Age ≥ 60 vs Age 18 - 59	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	0.08 (0.04, 0.12)	0.21 (0.14, 0.27)	0.17 (0.12, 0.23)
Age ≥ 60 vs Age 18 - 59	Negative	Placebo	Day 29	Anti N IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Age ≥ 60 vs Age 18 - 59	Negative	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.32 (0.25, 0.38)	0.15 (0.1, 0.2)	0.24 (0.18, 0.3)
Age ≥ 60 vs Age 18 - 59	Negative	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Age ≥ 60 vs Age 18 - 59	Negative	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.4 (0.33, 0.46)	0.14 (0.11, 0.19)	0.27 (0.22, 0.33)
Age ≥ 60 vs Age 18 - 59	Negative	Placebo	Day 29	Anti Spike IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Age ≥ 60 vs Age 18 - 59	Positive	Vaccine	Day 29	Anti N IgG (IU/ml)	0.08 (-0.03, 0.18)	0.22 (0.07, 0.35)	0.2 (0.07, 0.32)
Age ≥ 60 vs Age 18 - 59	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0.08 (0.02, 0.16)	0.23 (0.11, 0.35)	0.18 (0.1, 0.28)
Age ≥ 60 vs Age 18 - 59	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.33 (0.21, 0.45)	0.09 (0.02, 0.16)	0.19 (0.1, 0.27)
Age ≥ 60 vs Age 18 - 59	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.4 (0.26, 0.52)	0.29 (0.19, 0.4)	0.32 (0.18, 0.44)
Age ≥ 60 vs Age 18 - 59	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.46 (0.34, 0.57)	0.07 (0.03, 0.13)	0.21 (0.13, 0.31)

(continued)

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Age ≥ 60 vs Age 18 - 59	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	0.31 (0.17, 0.44)	0.22 (0.13, 0.32)	0.28 (0.14, 0.4)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.



Table 10d. Differences in the responder rates, 2FRs, 4FRs between the groups by Risk for Severe Covid-19

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Risk for Severe Covid-19							
At-risk vs Not at-risk	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	-0.01 (-0.05, 0.03)	-0.01 (-0.07, 0.05)	0 (-0.05, 0.05)
At-risk vs Not at-risk	Negative	Placebo	Day 29	Anti N IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
At-risk vs Not at-risk	Negative	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.03 (-0.05, 0.1)	0 (-0.05, 0.06)	0.01 (-0.05, 0.08)
At-risk vs Not at-risk	Negative	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
At-risk vs Not at-risk	Negative	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0 (-0.07, 0.07)	0.04 (-0.01, 0.09)	0.04 (-0.03, 0.1)
At-risk vs Not at-risk	Negative	Placebo	Day 29	Anti Spike IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
At-risk vs Not at-risk	Positive	Vaccine	Day 29	Anti N IgG (IU/ml)	0.01 (-0.09, 0.11)	0.02 (-0.12, 0.15)	0.03 (-0.1, 0.15)
At-risk vs Not at-risk	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0 (-0.06, 0.05)	0.01 (-0.1, 0.12)	-0.02 (-0.08, 0.05)
At-risk vs Not at-risk	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.02 (-0.12, 0.15)	-0.07 (-0.17, 0.01)	-0.12 (-0.24, -0.02)
At-risk vs Not at-risk	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.03 (-0.11, 0.17)	0.02 (-0.11, 0.15)	0.03 (-0.12, 0.17)
At-risk vs Not at-risk	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.06 (-0.19, 0.08)	0 (-0.11, 0.06)	-0.03 (-0.15, 0.08)
At-risk vs Not at-risk	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	0.07 (-0.06, 0.2)	-0.05 (-0.17, 0.06)	-0.02 (-0.16, 0.12)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 10e. Differences in the responder rates, 2FRs, 4FRs between the groups by Age 18 - 59, Risk for Severe Covid-19

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Age 18 - 59, Risk for Severe Covid-19							
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	-0.01 (-0.06, 0.03)	-0.01 (-0.09, 0.07)	0.03 (-0.03, 0.1)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Negative	Placebo	Day 29	Anti N IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Negative	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.04 (-0.06, 0.14)	0.02 (-0.06, 0.1)	0.02 (-0.08, 0.12)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Negative	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Negative	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.02 (-0.08, 0.11)	0.07 (-0.01, 0.14)	0.07 (-0.03, 0.16)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Negative	Placebo	Day 29	Anti Spike IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Vaccine	Day 29	Anti N IgG (IU/ml)	0.01 (-0.13, 0.15)	0.04 (-0.14, 0.22)	0 (-0.16, 0.17)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0.01 (0, 0.1)	0.05 (-0.09, 0.21)	0.01 (-0.05, 0.08)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.04 (-0.16, 0.23)	-0.07 (-0.22, 0.04)	-0.15 (-0.31, 0.01)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.08 (-0.11, 0.27)	0.08 (-0.12, 0.27)	0.03 (-0.17, 0.24)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.05 (-0.24, 0.15)	-0.01 (-0.16, 0.09)	-0.04 (-0.21, 0.13)

(continued)

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	0.12 (-0.05, 0.29)	-0.04 (-0.22, 0.13)	-0.05 (-0.24, 0.15)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 10f. Differences in the responder rates, 2FRs, 4FRs between the groups by Age ≥ 60 , Risk for Severe Covid-19

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Age ≥ 60, Risk for Severe Covid-19							
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	-0.01 (-0.07, 0.06)	-0.02 (-0.12, 0.08)	-0.06 (-0.15, 0.03)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Negative	Placebo	Day 29	Anti N IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Negative	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-0.01 (-0.1, 0.08)	-0.03 (-0.08, 0.02)	0 (-0.06, 0.07)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Negative	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Negative	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.03 (-0.12, 0.06)	-0.02 (-0.06, 0.01)	-0.01 (-0.07, 0.04)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Negative	Placebo	Day 29	Anti Spike IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Vaccine	Day 29	Anti N IgG (IU/ml)	0.02 (-0.14, 0.18)	-0.02 (-0.22, 0.19)	0.07 (-0.13, 0.27)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	-0.03 (-0.17, 0.11)	-0.06 (-0.24, 0.13)	-0.05 (-0.22, 0.11)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-0.01 (-0.15, 0.14)	-0.06 (-0.19, -0.02)	-0.06 (-0.19, -0.02)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	-0.05 (-0.22, 0.13)	-0.07 (-0.19, 0.02)	0.03 (-0.12, 0.19)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.05 (-0.18, 0.06)	0 (0, 0)	-0.02 (-0.11, 0)

(continued)

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	-0.01 (-0.2, 0.19)	-0.06 (-0.18, -0.02)	0.03 (-0.12, 0.2)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 10g. Differences in the responder rates, 2FRs, 4FRs between the groups by Sex

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Sex							
Male vs Female	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	-	-	-
Male vs Female	Negative	Placebo	Day 29	Anti N IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Male vs Female	Negative	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-	-	-
Male vs Female	Negative	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Male vs Female	Negative	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-	-	-
Male vs Female	Negative	Placebo	Day 29	Anti Spike IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Male vs Female	Positive	Vaccine	Day 29	Anti N IgG (IU/ml)	-	-	-
Male vs Female	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0 (-0.05, 0.06)	0.03 (-0.08, 0.14)	0.05 (-0.02, 0.13)
Male vs Female	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-	-	-
Male vs Female	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.02 (-0.13, 0.17)	0.03 (-0.12, 0.16)	0.03 (-0.12, 0.17)
Male vs Female	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-	-	-
Male vs Female	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	0 (-0.13, 0.13)	0.07 (-0.05, 0.18)	0.05 (-0.1, 0.19)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

Table 10h. Differences in the responder rates, 2FRs, 4FRs between the groups by Hispanic or Latino ethnicity

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Hispanic or Latino ethnicity							
Hispanic or Latino vs Not Hispanic or Latino	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	0.01 (-0.02, 0.05)	-0.02 (-0.08, 0.05)	0 (-0.05, 0.06)
Hispanic or Latino vs Not Hispanic or Latino	Negative	Placebo	Day 29	Anti N IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Hispanic or Latino vs Not Hispanic or Latino	Negative	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-0.01 (-0.09, 0.06)	-0.02 (-0.09, 0.03)	-0.02 (-0.09, 0.05)
Hispanic or Latino vs Not Hispanic or Latino	Negative	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Hispanic or Latino vs Not Hispanic or Latino	Negative	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.01 (-0.08, 0.07)	-0.02 (-0.08, 0.03)	-0.01 (-0.08, 0.05)
Hispanic or Latino vs Not Hispanic or Latino	Negative	Placebo	Day 29	Anti Spike IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Vaccine	Day 29	Anti N IgG (IU/ml)	0.01 (-0.09, 0.12)	-0.01 (-0.15, 0.13)	-0.01 (-0.13, 0.12)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0.04 (-0.01, 0.1)	0.01 (-0.09, 0.11)	0.02 (-0.05, 0.09)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-0.08 (-0.22, 0.06)	0.01 (-0.08, 0.1)	-0.02 (-0.13, 0.08)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	-0.04 (-0.18, 0.1)	-0.01 (-0.15, 0.13)	0.02 (-0.13, 0.16)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.01 (-0.15, 0.12)	0 (-0.08, 0.07)	0.03 (-0.09, 0.14)

(continued)

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Hispanic or Latino vs Not Hispanic or Latino	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	-0.04 (-0.17, 0.09)	-0.03 (-0.15, 0.09)	-0.11 (-0.26, 0.03)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.



Table 10i. Differences in the responder rates, 2FRs, 4FRs between the groups by Underrepresented Minority Status in the U.S.

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Underrepresented Minority Status in the U.S.							
URM vs Non-URM	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	-0.02 (-0.07, 0.02)	-0.01 (-0.08, 0.06)	0 (-0.05, 0.06)
URM vs Non-URM	Negative	Placebo	Day 29	Anti N IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
URM vs Non-URM	Negative	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-0.02 (-0.1, 0.06)	-0.01 (-0.07, 0.05)	0 (-0.07, 0.08)
URM vs Non-URM	Negative	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
URM vs Non-URM	Negative	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.01 (-0.06, 0.09)	-0.02 (-0.07, 0.04)	0.02 (-0.05, 0.1)
URM vs Non-URM	Negative	Placebo	Day 29	Anti Spike IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
URM vs Non-URM	Positive	Vaccine	Day 29	Anti N IgG (IU/ml)	-0.05 (-0.17, 0.05)	-0.06 (-0.21, 0.09)	-0.1 (-0.25, 0.03)
URM vs Non-URM	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0.04 (0.02, 0.09)	-0.03 (-0.17, 0.09)	0.05 (-0.03, 0.11)
URM vs Non-URM	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-0.17 (-0.29, -0.02)	-0.07 (-0.14, 0.04)	-0.09 (-0.18, 0.03)
URM vs Non-URM	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (-0.16, 0.16)	-0.02 (-0.15, 0.14)	0.07 (-0.09, 0.23)
URM vs Non-URM	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.01 (-0.16, 0.14)	-0.03 (-0.09, 0.1)	0.02 (-0.09, 0.16)
URM vs Non-URM	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	-0.13 (-0.28, 0.03)	-0.06 (-0.17, 0.09)	-0.16 (-0.3, 0.01)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

1.11 Antibody levels in the baseline SARS-CoV-2 negative per-protocol cohort (vaccine vs. placebo)

Table 11. Antibody levels in the baseline SARS-CoV-2 negative per-protocol cohort (vaccine vs. placebo)

Visit	Marker	Baseline SARS-CoV-2 Negative							
		Vaccine				Placebo			
		N	Resp rate	GMT/GMC	N	Resp rate	GMT/GMC	Resp Rate Difference	GMTR/GMCR
Day 29	Anti N IgG (IU/ml)	878	1355.3/18853 = 7.2% (5.5%, 9.3%)	1.55 (1.36, 1.76)	107	0/18822 = 0.0% (0.0%, 0.0%)	0.05 (0.05, 0.05)	0.07 (0.06, 0.09)	33.03 (29.05, 37.57)
Day 29	Anti RBD IgG (IU/ml)	878	10354/18853 = 54.9% (51.2%, 58.6%)	17.08 (15.21, 19.18)	107	0/18822 = 0.0% (0.0%, 0.0%)	0.80 (0.80, 0.80)	0.55 (0.51, 0.59)	21.44 (19.09, 24.07)
Day 29	Anti Spike IgG (IU/ml)	878	8531.9/18853 = 45.3% (41.8%, 48.8%)	9.20 (8.36, 10.13)	107	0/18822 = 0.0% (0.0%, 0.0%)	0.15 (0.15, 0.16)	0.45 (0.42, 0.49)	59.62 (54.15, 65.65)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

1.12 Antibody levels in the baseline SARS-CoV-2 positive per-protocol cohort (vaccine vs. placebo)

Table 12. Antibody levels in the baseline SARS-CoV-2 positive per-protocol cohort (vaccine vs. placebo)

Visit	Marker	N	Resp rate	Baseline SARS-CoV-2 Positive				Comparison	
				Vaccine	Placebo	GMT/GMC	GMTR/GMCR	Resp Rate Difference	GMTR/GMCR
Day 29	Anti N IgG (IU/ml)	236	266.6/2109 = 12.6% (8.5%, 18.3%)	2.84 (2.20, 3.67)	227	65.6/1993 = 3.3% (1.7%, 6.4%)	1.01 (0.82, 1.24)	0.09 (0.04, 0.15)	2.81 (2.02, 3.92)
Day 29	Anti RBD IgG (IU/ml)	236	1448.9/2109 = 68.7% (61.5%, 75.1%)	28.27 (23.24, 34.38)	227	951/1993 = 47.7% (40.8%, 54.8%)	11.44 (9.24, 14.15)	0.21 (0.11, 0.3)	2.47 (1.85, 3.30)
Day 29	Anti Spike IgG (IU/ml)	236	1257.5/2109 = 59.6% (52.8%, 66.1%)	15.36 (12.91, 18.28)	227	653.1/1993 = 32.8% (26.7%, 39.5%)	5.92 (4.92, 7.12)	0.27 (0.17, 0.36)	2.59 (2.01, 3.34)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

1.13 Antibody levels in the per-protocol cohort (vaccine recipients)

Table 13. Antibody levels in the per-protocol cohort (vaccine recipients)

Visit	Marker	N	Vaccine Recipients				Comparison		
			Baseline SARS-CoV-2 Positive		Baseline SARS-CoV-2 Negative				
			Resp rate	GMT/GMC	N	Resp rate	GMT/GMC	Resp Rate Difference	GMTR/GMCR
Day 29	Anti N IgG (IU/ml)	236	266.6/2109 = 12.6% (8.5%, 18.3%)	2.84 (2.20, 3.67)	878	1355.3/18853 = 7.2% (5.5%, 9.3%)	1.55 (1.36, 1.76)	0.05 (0.01, 0.11)	1.83 (1.38, 2.44)
Day 29	Anti RBD IgG (IU/ml)	236	1448.9/2109 = 68.7% (61.5%, 75.1%)	28.27 (23.24, 34.38)	878	10354/18853 = 54.9% (51.2%, 58.6%)	17.08 (15.21, 19.18)	0.14 (0.06, 0.21)	1.66 (1.32, 2.08)
Day 29	Anti Spike IgG (IU/ml)	236	1257.5/2109 = 59.6% (52.8%, 66.1%)	15.36 (12.91, 18.28)	878	8531.9/18853 = 45.3% (41.8%, 48.8%)	9.20 (8.36, 10.13)	0.14 (0.07, 0.22)	1.67 (1.37, 2.04)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

1.14 Antibody levels in the per-protocol cohort (placebo recipients)

Table 14. Antibody levels in the per-protocol cohort (placebo recipients)

Visit	Marker	N	Placebo Recipients				Comparison		
			Baseline SARS-CoV-2 Positive		Baseline SARS-CoV-2 Negative				
			Resp rate	GMT/GMC	N	Resp rate	GMT/GMC	Resp Rate Difference	GMTR/GMCR
Day 29	Anti N IgG (IU/ml)	227	65.6/1993 = 3.3% (1.7%, 6.4%)	1.01 (0.82, 1.24)	107	0/18822 = 0.0% (0.0%, 0.0%)	0.05 (0.05, 0.05)	0.03 (0.02, 0.06)	21.53 (17.48, 26.53)
Day 29	Anti RBD IgG (IU/ml)	227	951/1993 = 47.7% (40.8%, 54.8%)	11.44 (9.24, 14.15)	107	0/18822 = 0.0% (0.0%, 0.0%)	0.80 (0.80, 0.80)	0.48 (0.41, 0.55)	14.35 (11.60, 17.76)
Day 29	Anti Spike IgG (IU/ml)	227	653.1/1993 = 32.8% (26.7%, 39.5%)	5.92 (4.92, 7.12)	107	0/18822 = 0.0% (0.0%, 0.0%)	0.15 (0.15, 0.16)	0.33 (0.27, 0.4)	38.36 (31.88, 46.15)

Percentages are calculated for the whole per-protocol group/subgroup, using inverse probability weighting.

MOCK

Chapter 2

Graphical Description of Immunogenicity Data

2.1 Pairs plots of antibody markers for overall per-protocol cohort

2.1.1 Baseline SARS-CoV-2 Negative

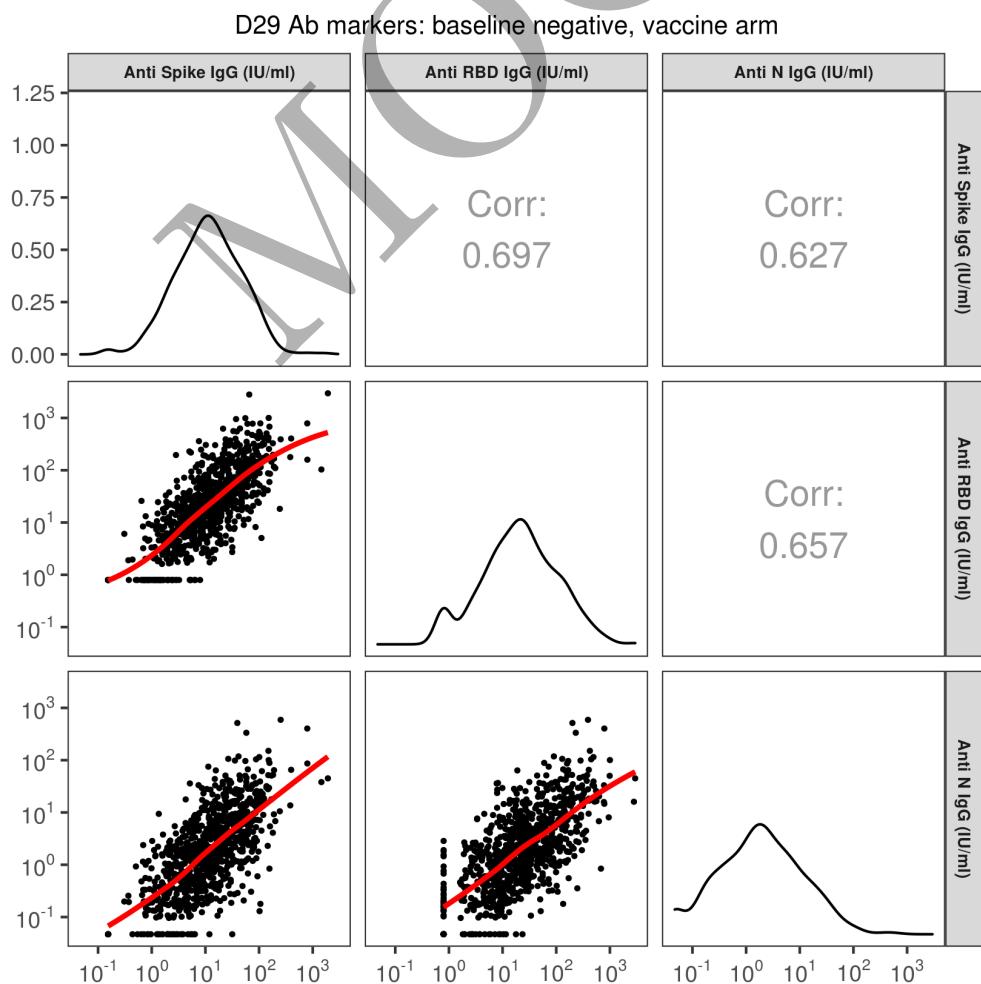


Figure 2.1: Pair plots of D29 Ab markers: baseline negative vaccine arm

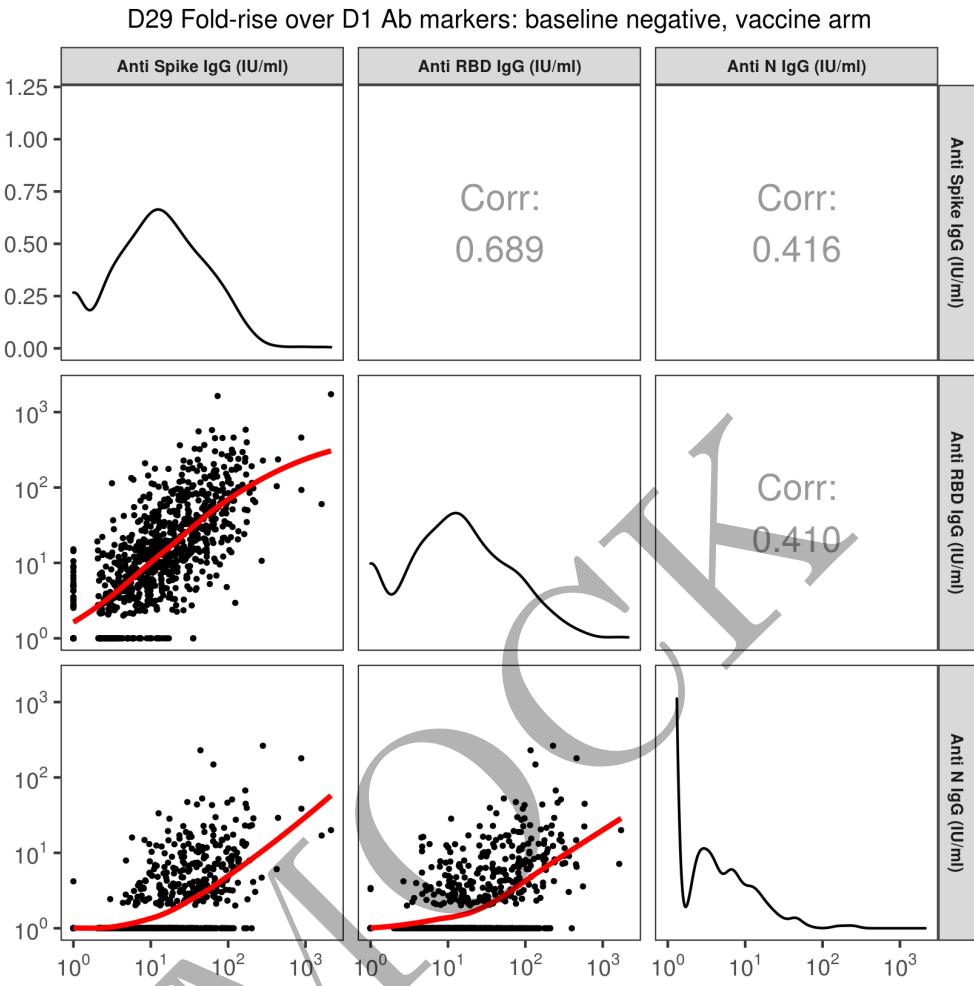


Figure 2.2: Pair plots of D29 fold-rise over D1 Ab markers: baseline negative vaccine arm

2.1.2 Baseline SARS-CoV-2 Positive

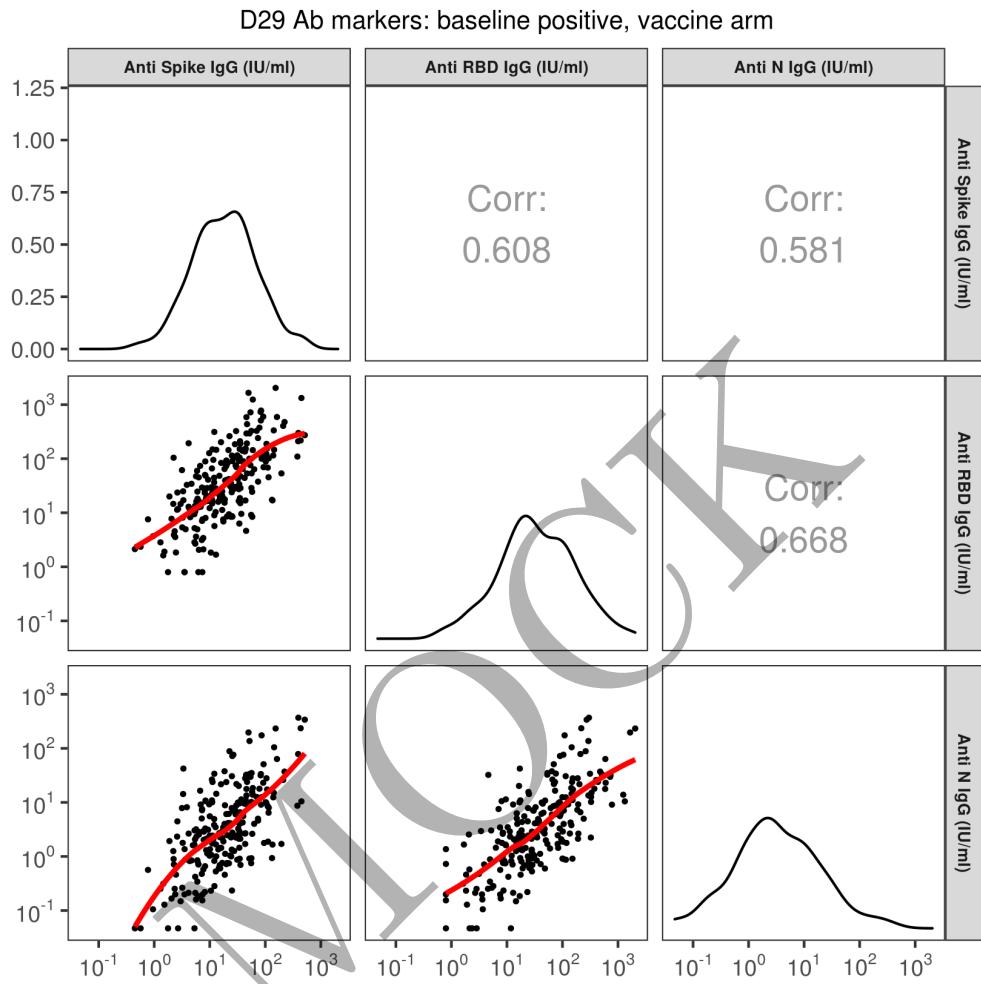


Figure 2.3: Pair plots of D29 Ab markers: baseline positive vaccine arm

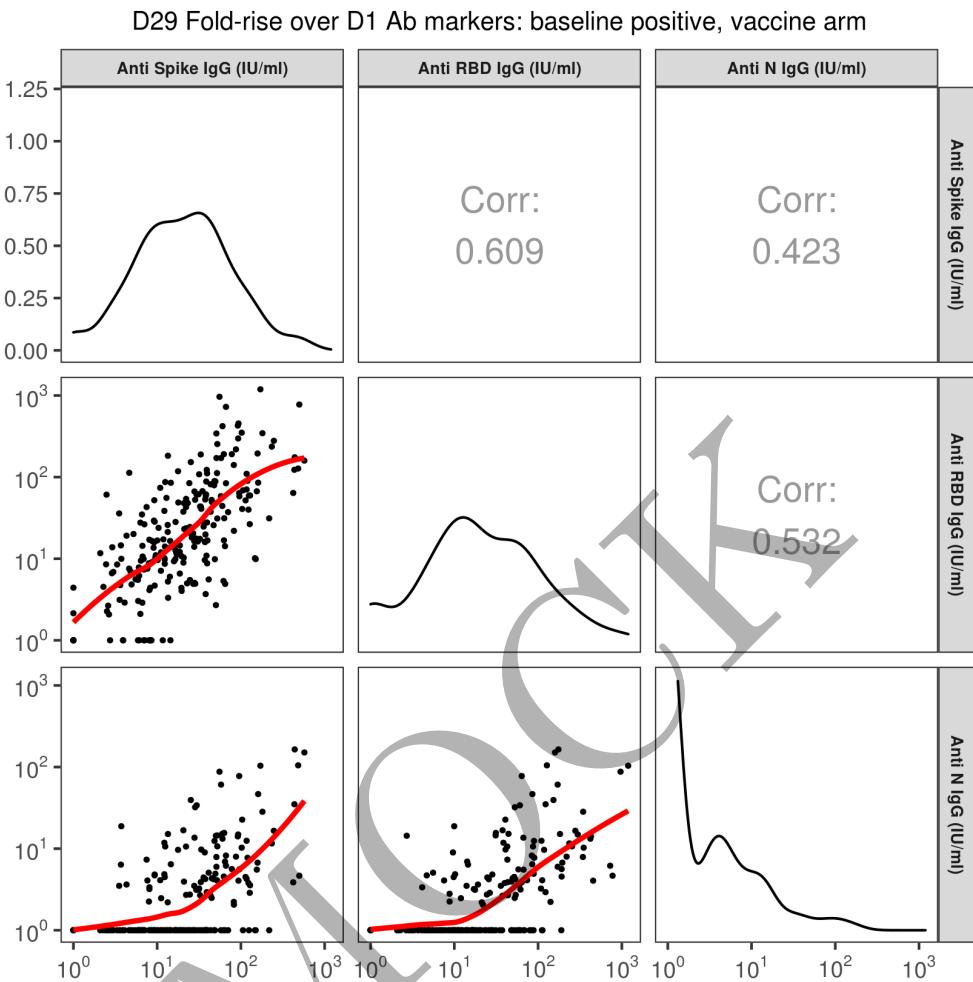


Figure 2.4: Pair plots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm

2.1.3 Baseline SARS-CoV-2 Positive Placebo Arm

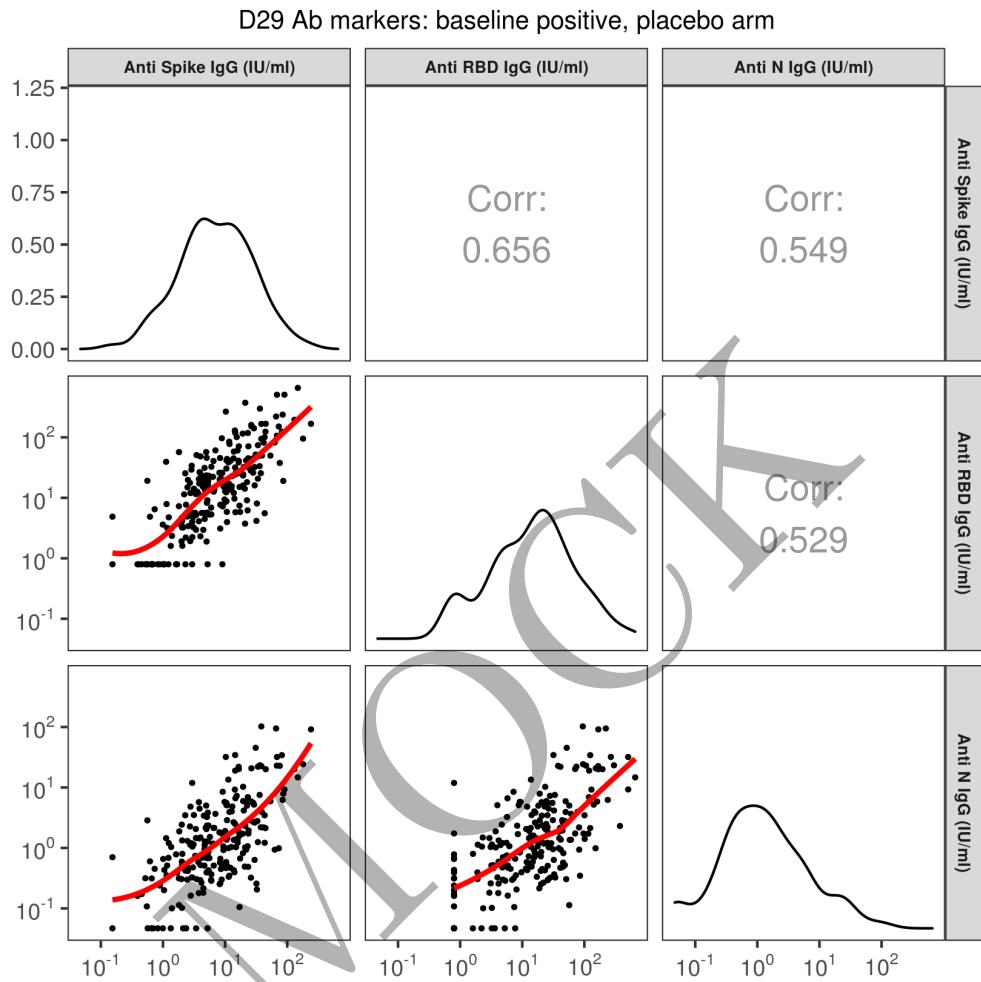


Figure 2.5: Pair plots of D29 Ab markers: baseline positive placebo arm

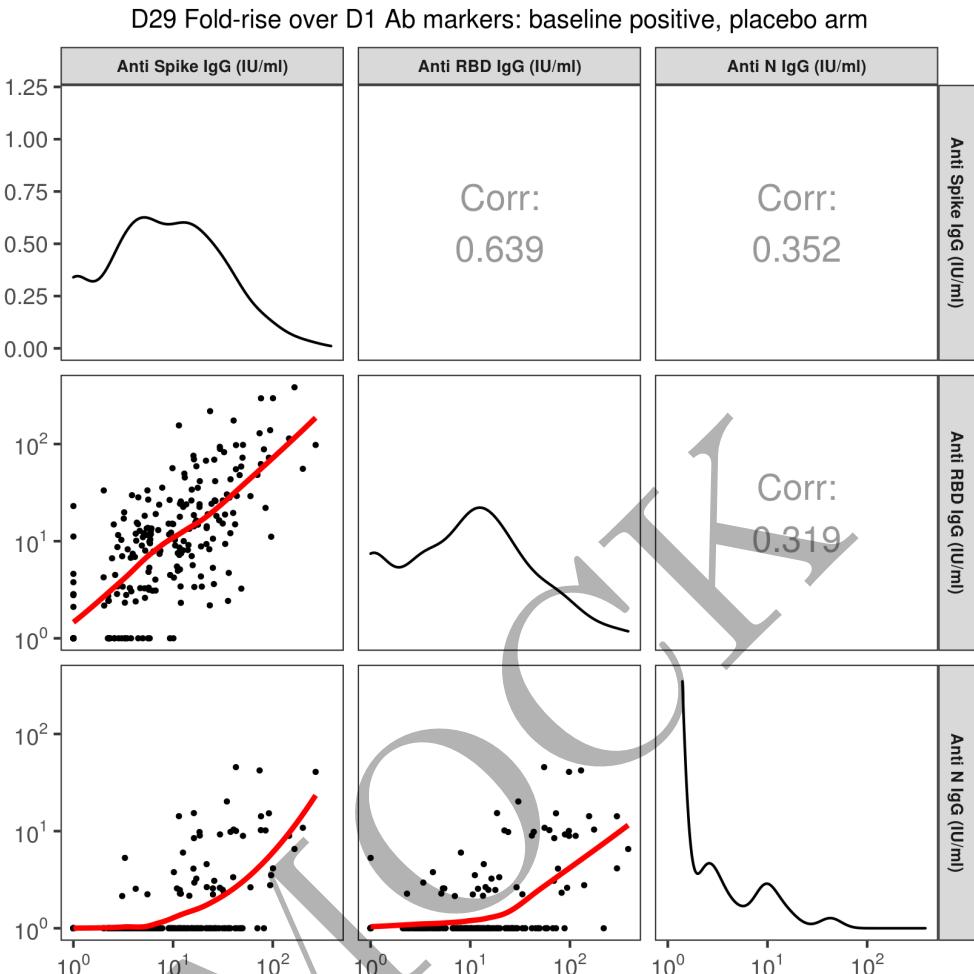


Figure 2.6: Pair plots of D29 fold-rise over D1 Ab markers: baseline positive placebo arm

2.2 RCDF plots of antibody markers for overall per-protocol cohort

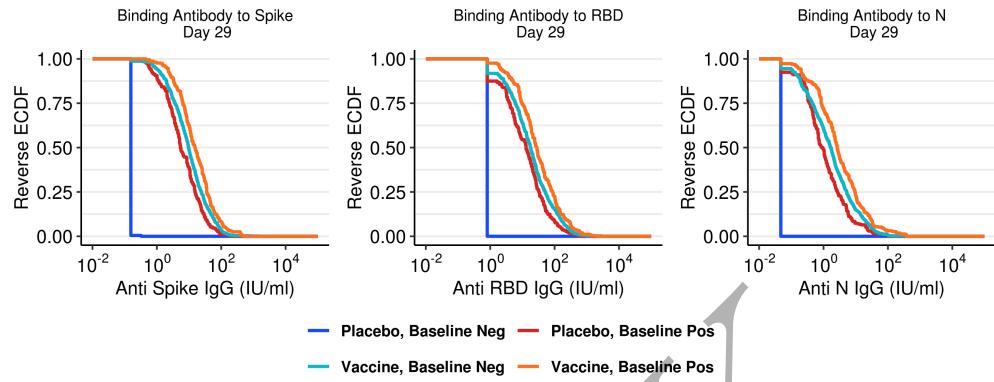


Figure 2.7: RCDF plots for D29 Ab markers: by baseline status x randomization arm

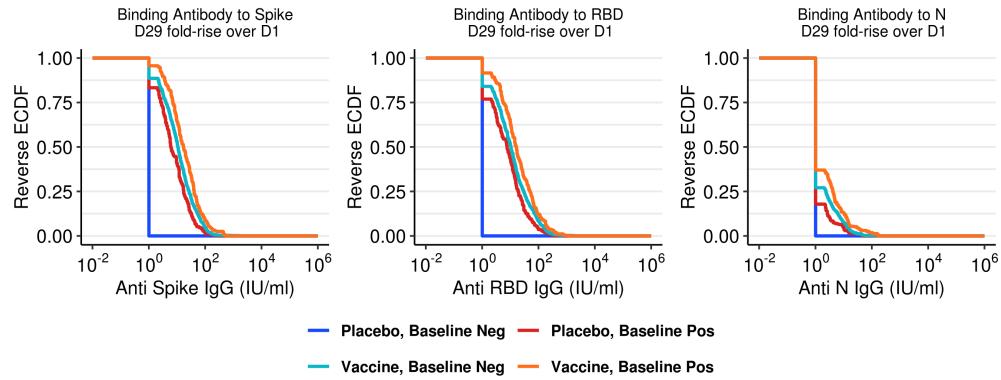


Figure 2.8: RCDF plots for D29 fold-rise over D1 Ab markers: by baseline status x randomization arm

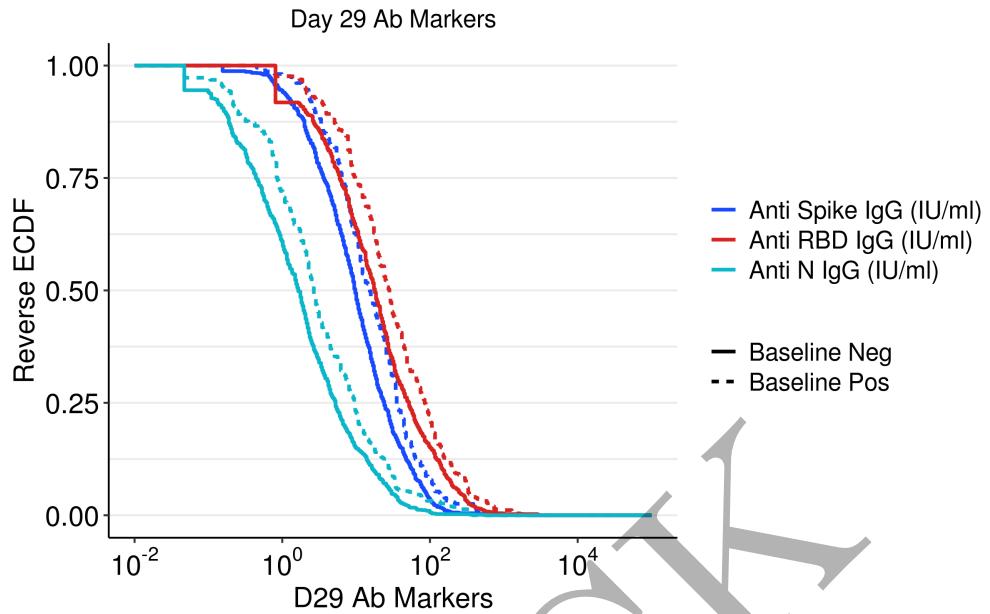


Figure 2.9: RCDF plots for D29 bAb markers: by baseline status for the vaccine arm

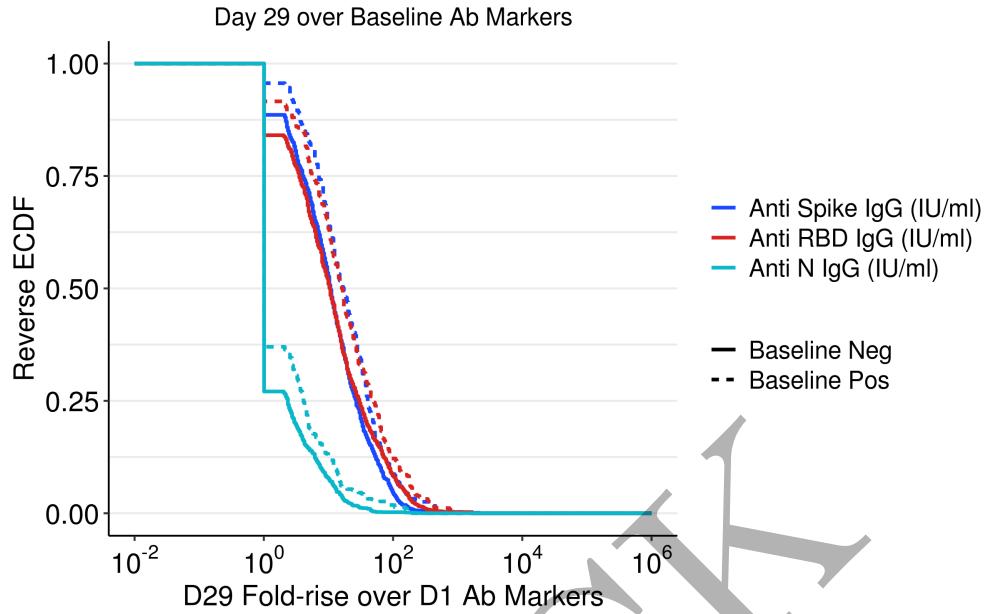


Figure 2.10: RCDF plots for D29 over D1 fold-rise bAb markers: by baseline status for the vaccine arm

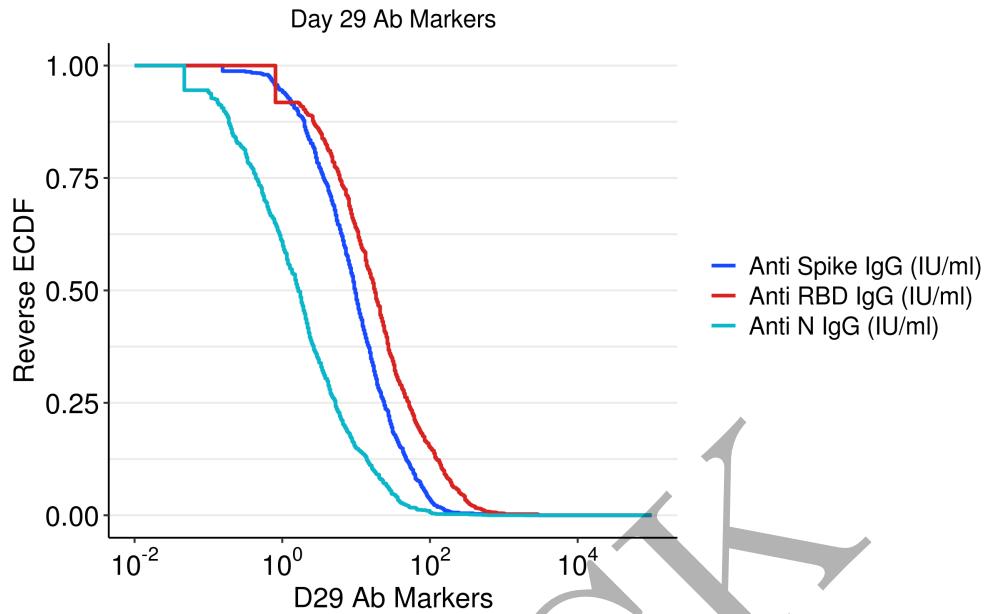


Figure 2.11: RCDF plots for D29 bAb markers: baseline negative vaccine arm

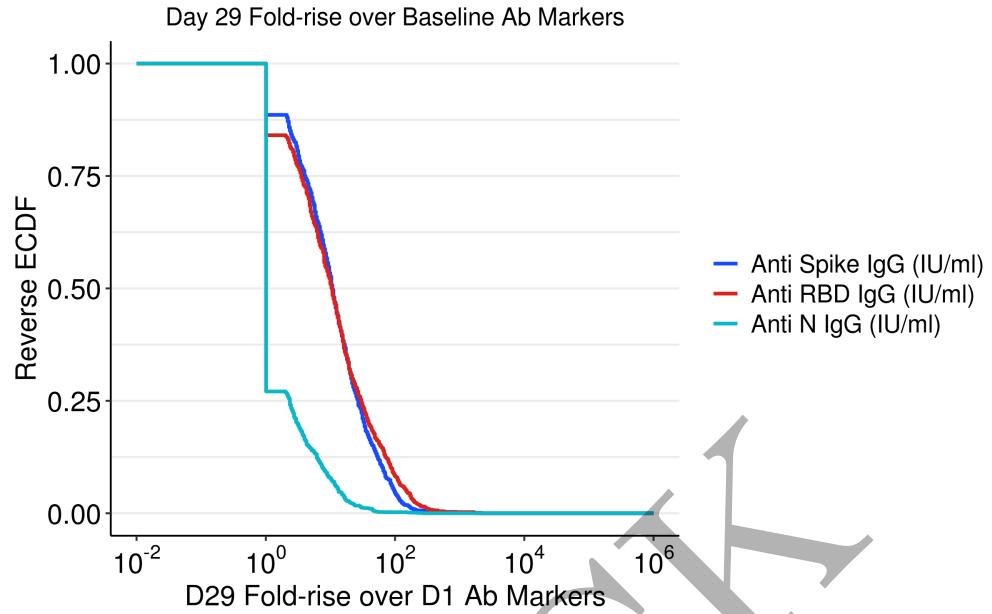


Figure 2.12: RCDF plots for D29 fold-rise over D1 bAb markers: baseline-negative vaccine arm

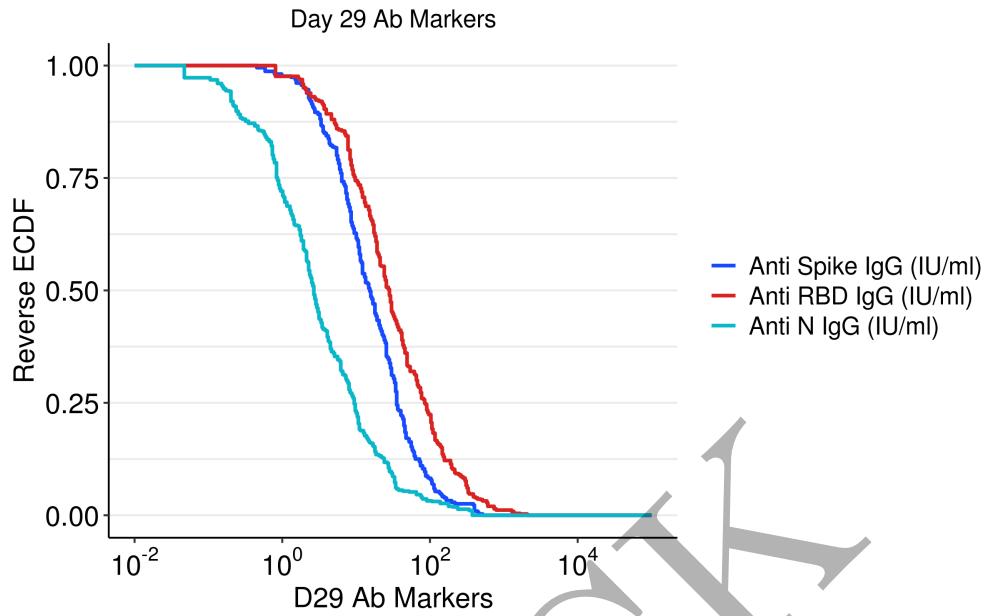


Figure 2.13: RCDF plots for D29 bAb markers: baseline positive vaccine arm

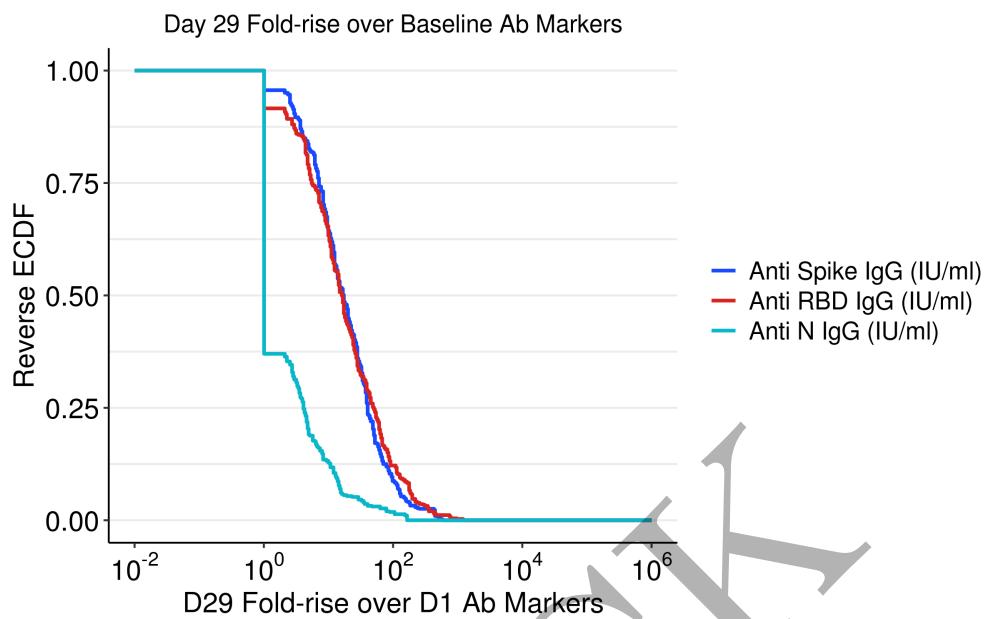


Figure 2.14: RCDF plots for D29 fold-rise over D1 bAb markers: baseline/positive vaccine arm

2.3 Scatter plots of antibody markers versus age for overall per-protocol cohort

2.3.1 Baseline SARS-CoV-2 Negative

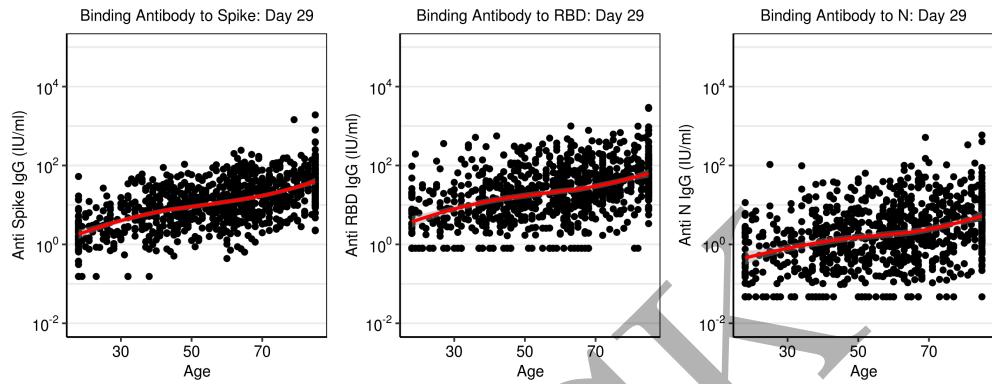


Figure 2.15: Scatter plots for D29 Ab markers vs. age: baseline negative vaccine arm

2.3.2 Baseline SARS-CoV-2 Positive

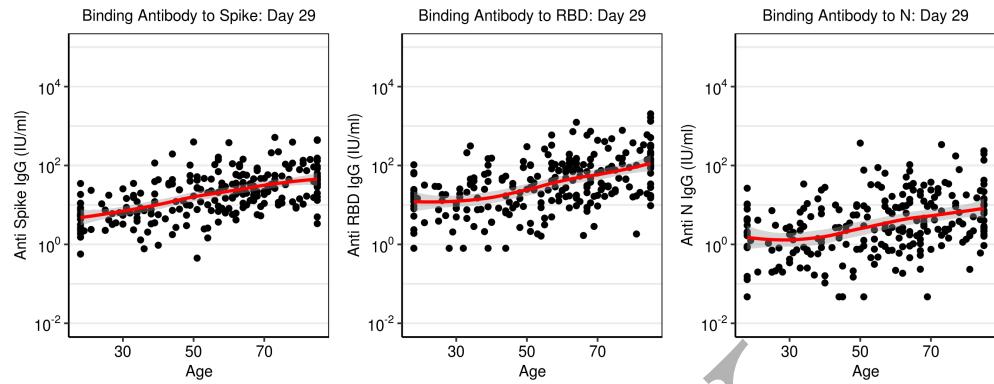


Figure 2.16: Scatter plots for D29 Ab markers vs. age: baseline positive vaccine arm

2.3.3 Baseline SARS-CoV-2 Positive Placebo Arm

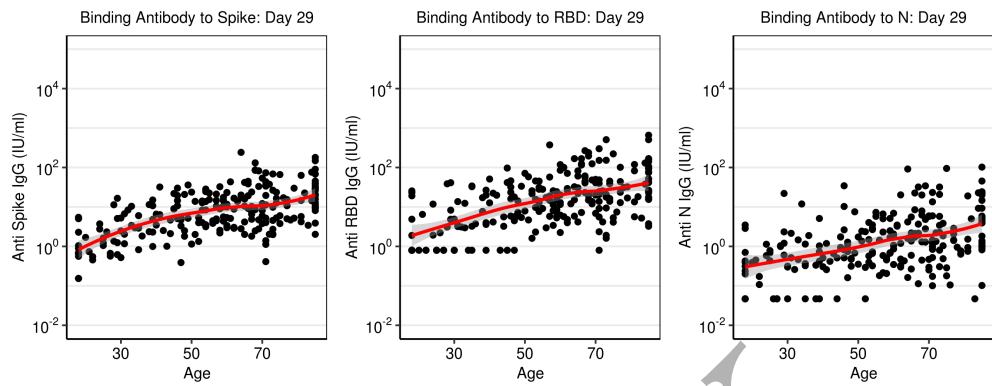


Figure 2.17: Scatter plots for D29 Ab markers vs. age: baseline positive placebo arm

2.4 Box plots of antibody markers for overall per-protocol cohort

2.4.1 Baseline SARS-CoV-2 Negative

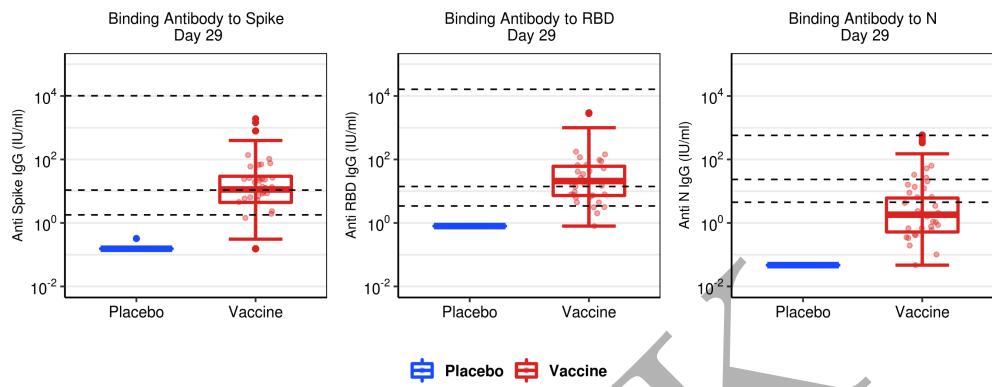


Figure 2.18: Boxplots of D29 Ab markers: baseline negative vaccine + placebo arms. The three dashed lines in each figure are ULOQ, LLOQ, and positivity cutoffs for binding antibody assays.

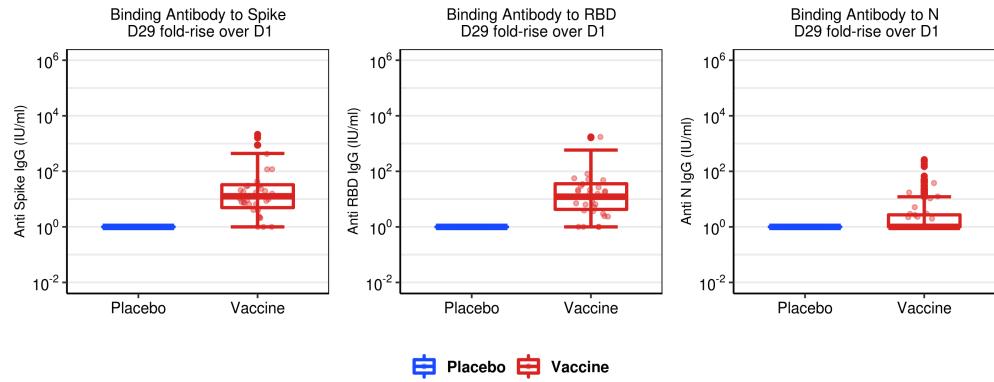


Figure 2.19: Boxplots of D29 fold-rise over D1 Ab markers: baseline negative vaccine + placebo arms

2.4.2 Baseline SARS-CoV-2 Positive

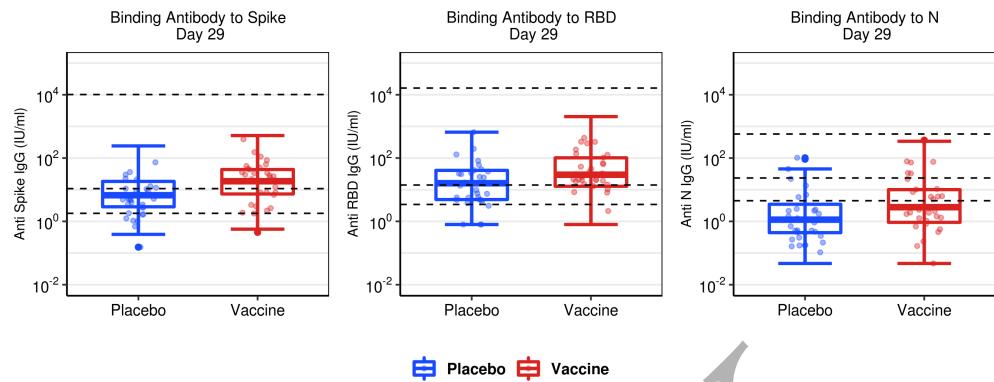


Figure 2.20: Boxplots of D29 Ab markers: baseline positive vaccine + placebo arms. The three dashed lines in each figure are ULOQ, LLOQ, and positivity cutoffs for binding antibody assays.

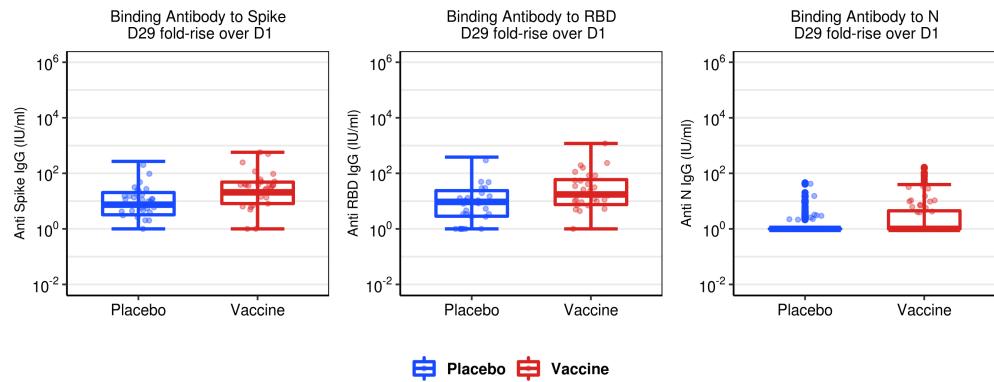


Figure 2.21: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine + placebo arms

2.4.3 Baseline negative vs. positive vaccine recipients

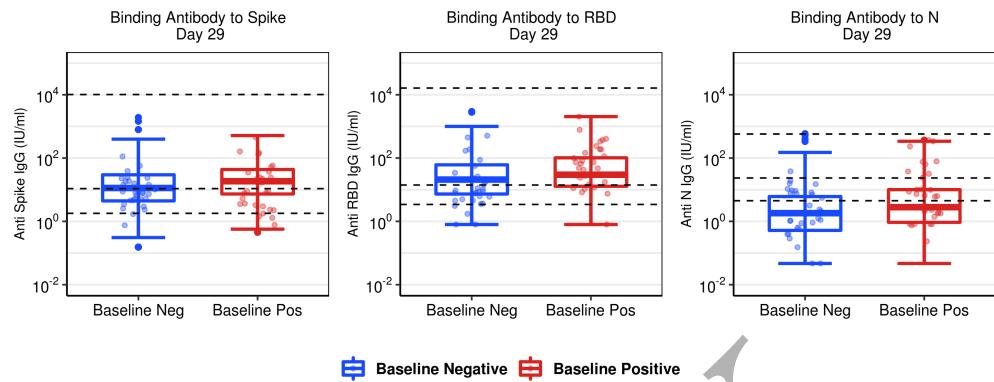


Figure 2.22: Boxplots of D29 Ab markers: baseline positive + negative vaccine arm. The three dashed lines in each figure are ULOQ, LLOQ, and positivity cutoffs for binding antibody assays.

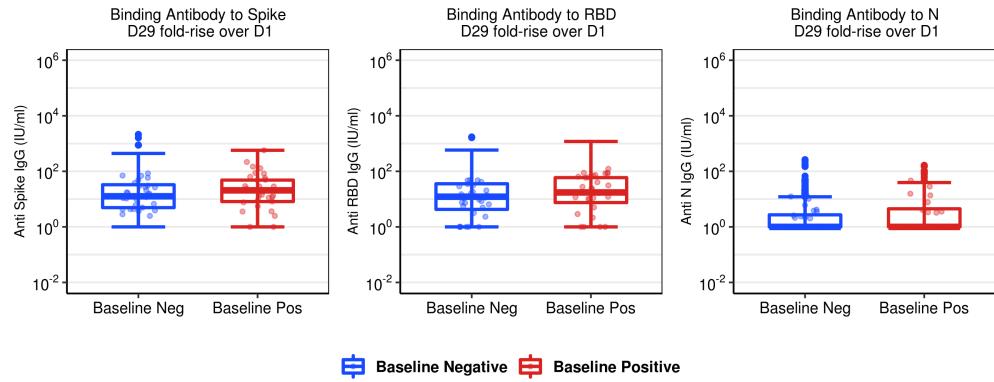


Figure 2.23: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive + negative vaccine arm

2.4.4 Baseline negative vs. positive placebo recipients

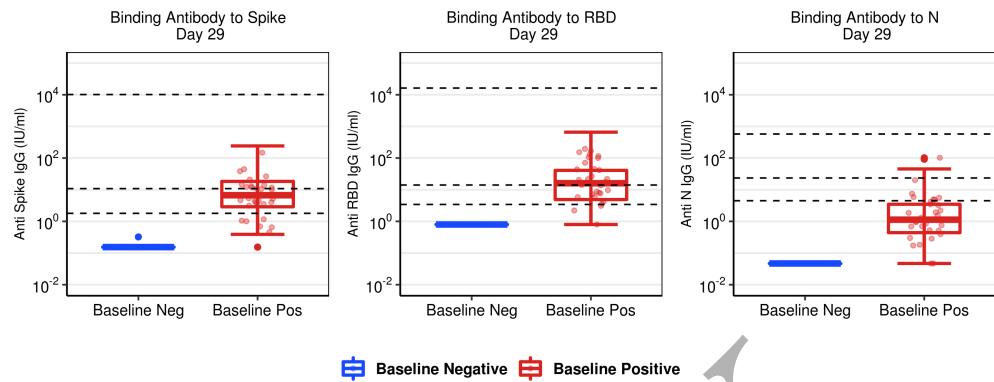


Figure 2.24: Boxplots of D29 Ab markers: baseline positive + negative placebo arm. The three dashed lines in each figure are ULOQ, LLOQ, and positivity cutoffs for binding antibody assays.

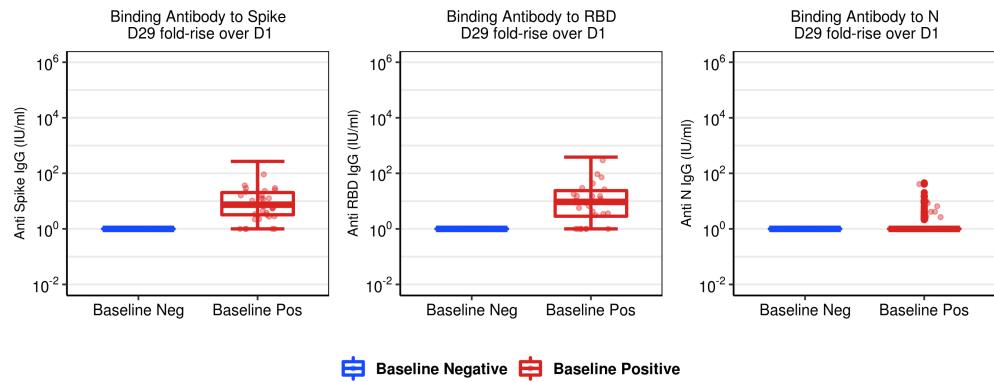


Figure 2.25: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive + negative placebo arm

2.5 Spaghetti plots of antibody markers over time for the overall per-protocol cohort

2.5.1 Baseline SARS-CoV-2 Negative

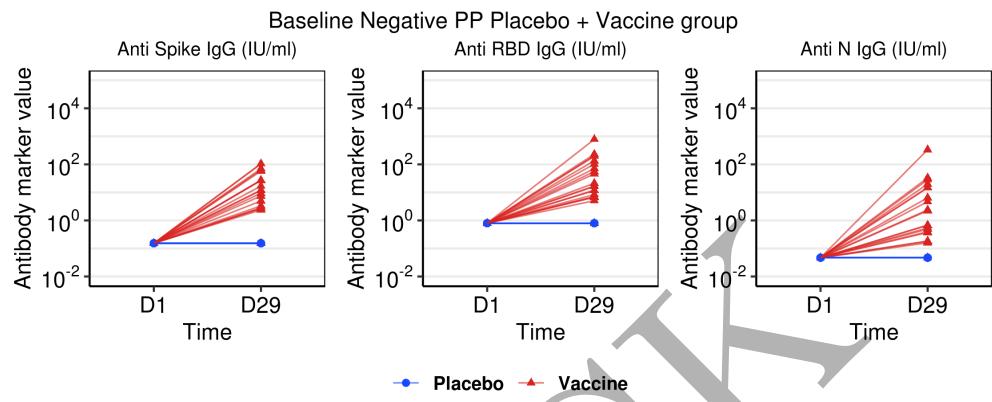


Figure 2.26: Spaghetti plots of Ab markers over time: baseline negative vaccine + placebo arm

2.5.2 Baseline SARS-CoV-2 Positive

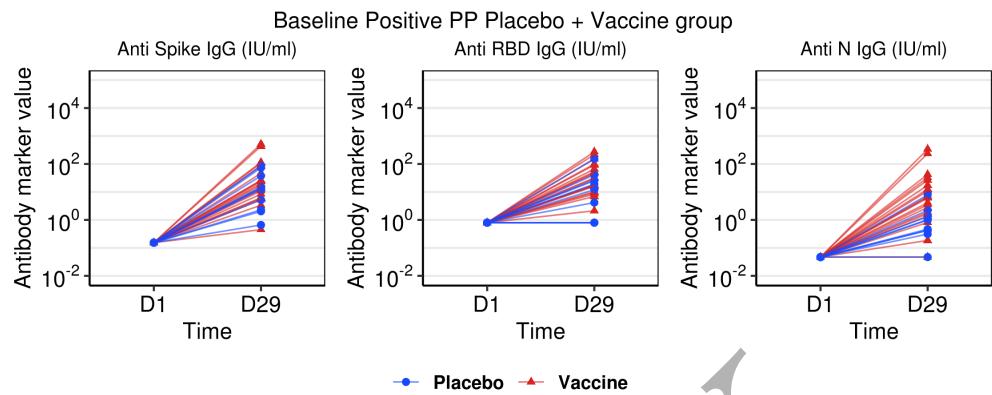


Figure 2.27: Spaghetti plots of Ab markers over time: baseline positive vaccine + placebo arm

2.6 RCDF plots of antibody markers by demographics for per-protocol cohort

2.6.1 Baseline SARS-CoV-2 Negative

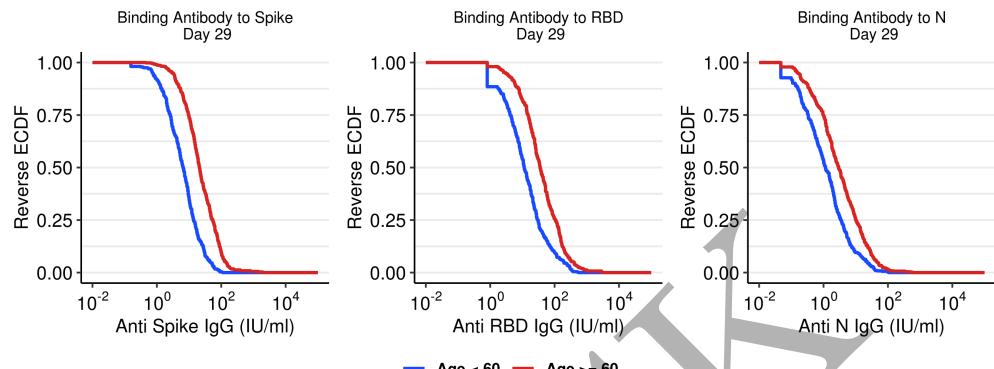


Figure 2.28: RCDF plots for D29 Ab markers: baseline negative vaccine arm by age groups.

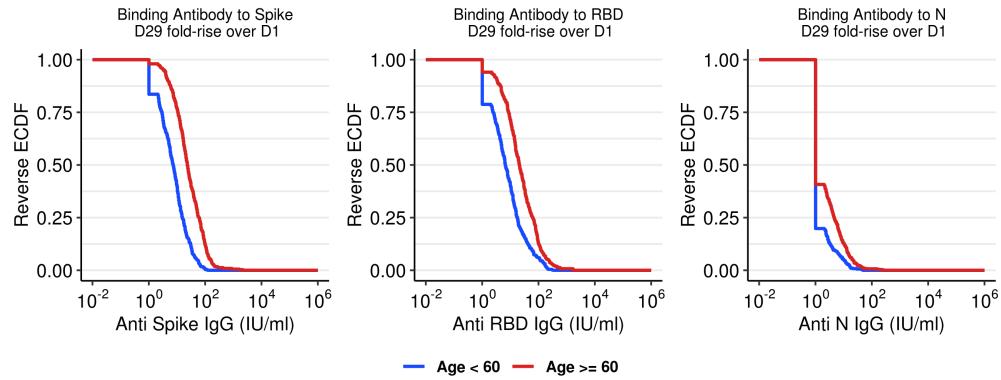


Figure 2.29: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age groups.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT265

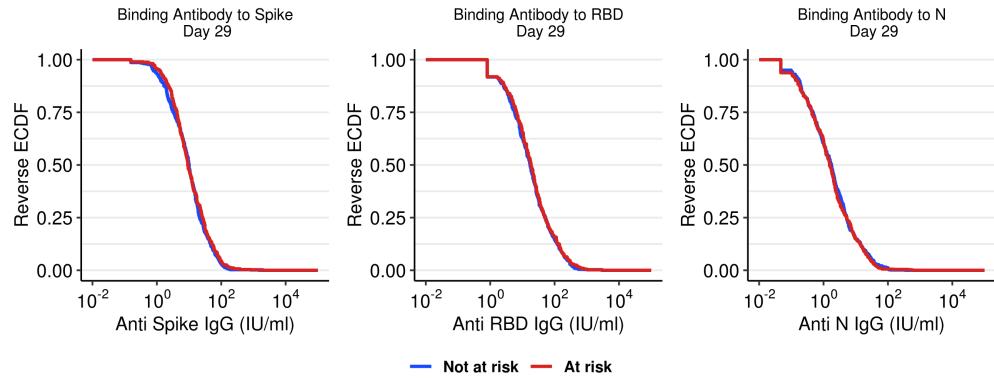


Figure 2.30: RCDF plots for D29 Ab markers: baseline negative vaccine arm by high-risk condition.

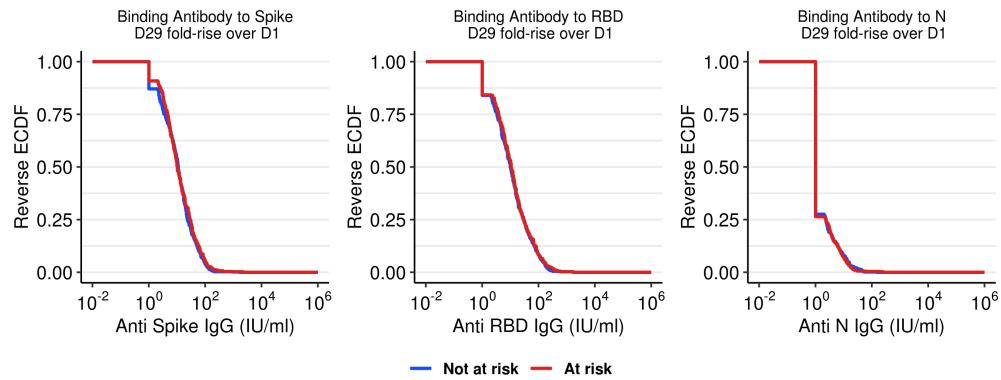


Figure 2.31: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by high-risk condition.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT267

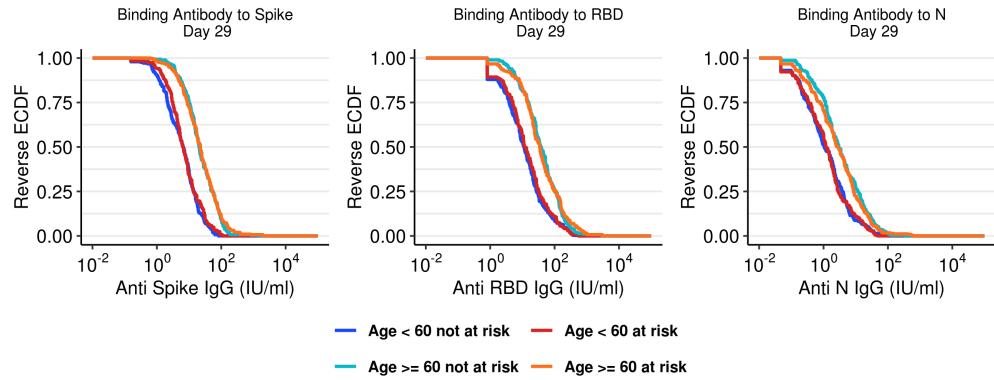


Figure 2.32: RCDF plots for D29 Ab markers: baseline negative vaccine arm by age and high-risk condition.

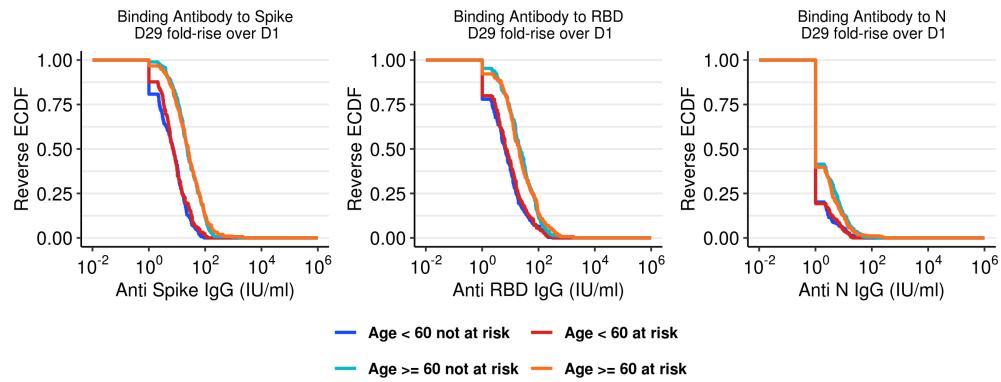


Figure 2.33: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and high-risk condition.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT269

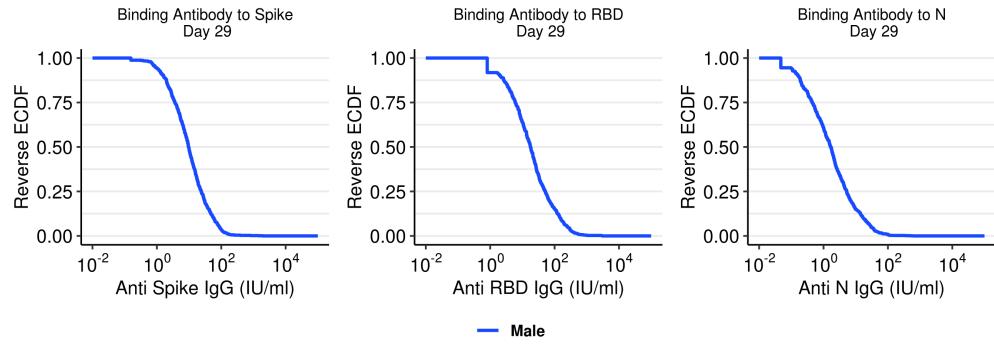


Figure 2.34: RCDF plots for D29 Ab markers: baseline negative vaccine arm by sex assigned at birth.

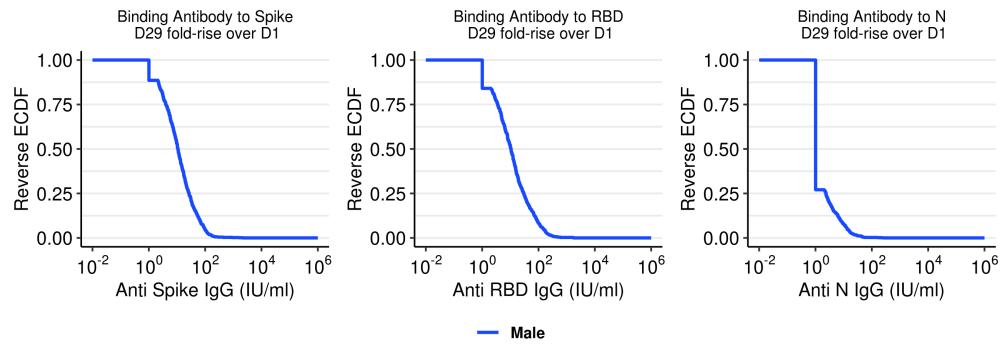


Figure 2.35: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by sex assigned at birth.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT271

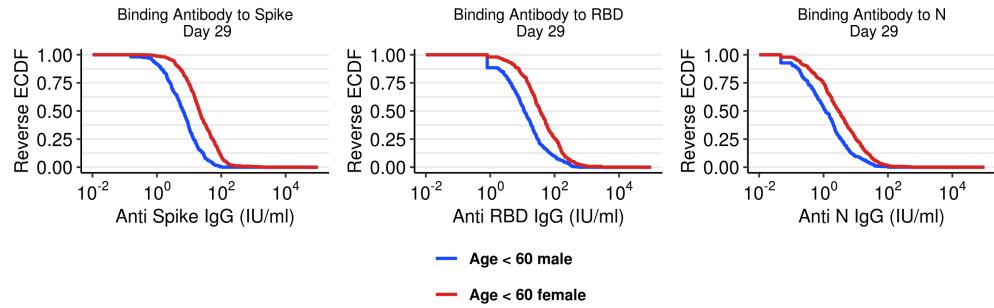


Figure 2.36: RCDF plots for D29 Ab markers: baseline negative vaccine arm by age and sex assigned at birth.

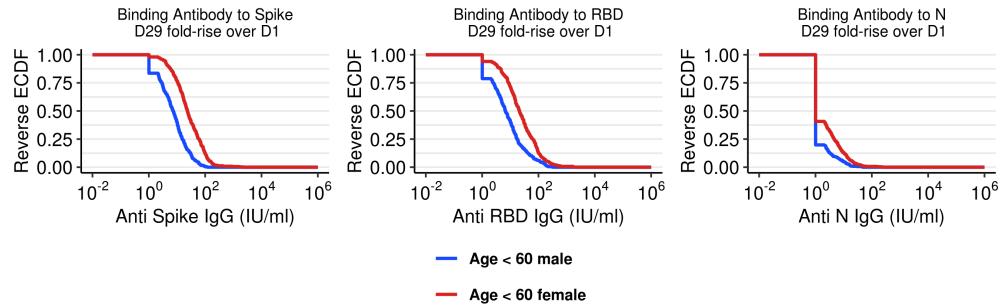


Figure 2.37: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and sex assigned at birth.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT273

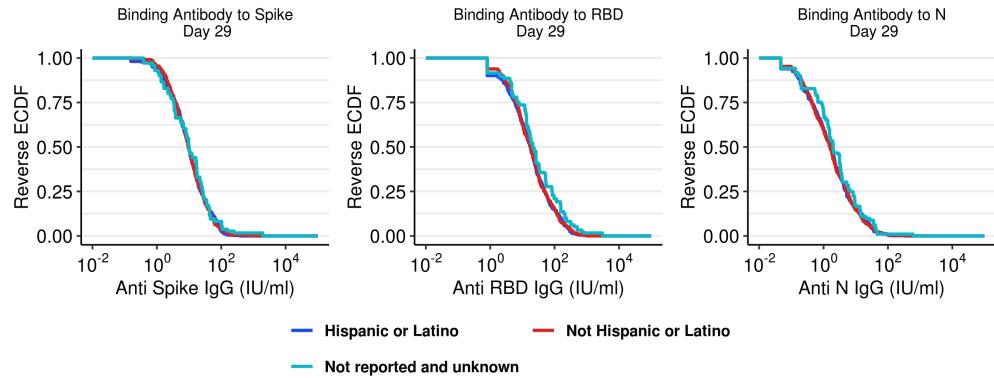


Figure 2.38: RCDF plots for D29 Ab markers: baseline negative vaccine arm by ethnicity.

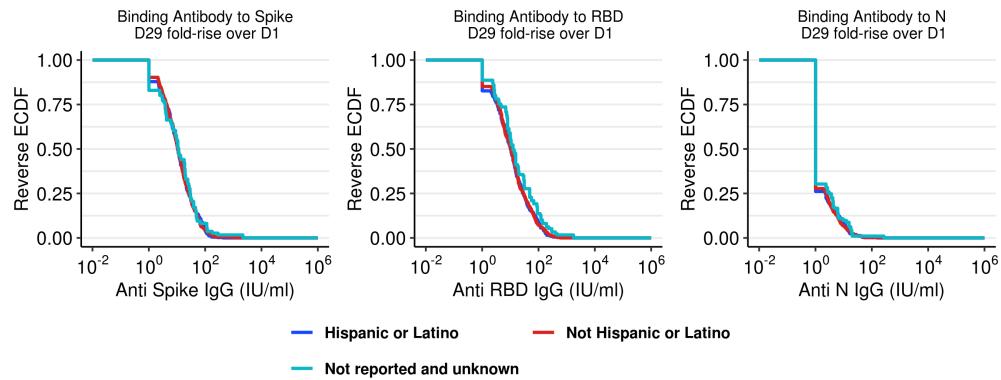


Figure 2.39: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by ethnicity.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT275

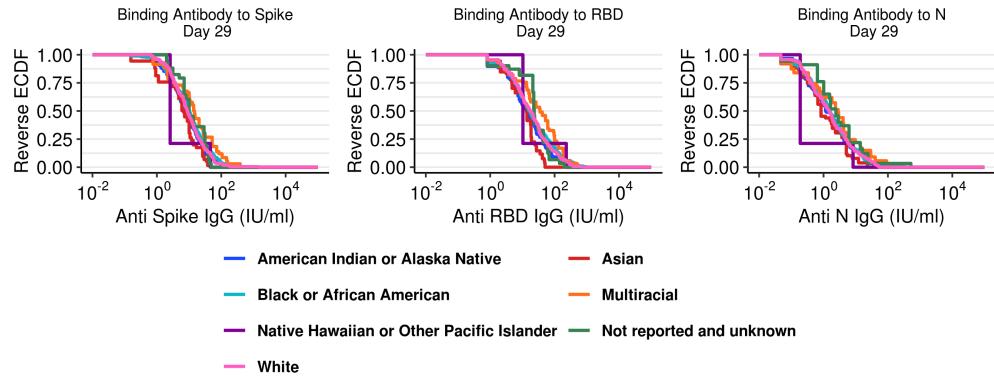


Figure 2.40: RCDF plots for D29 Ab markers: baseline negative vaccine arm by race.

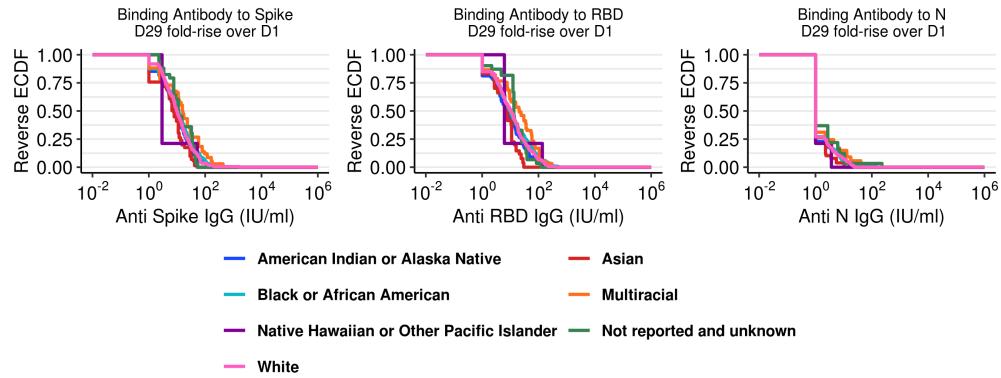


Figure 2.41: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by race.

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2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT277

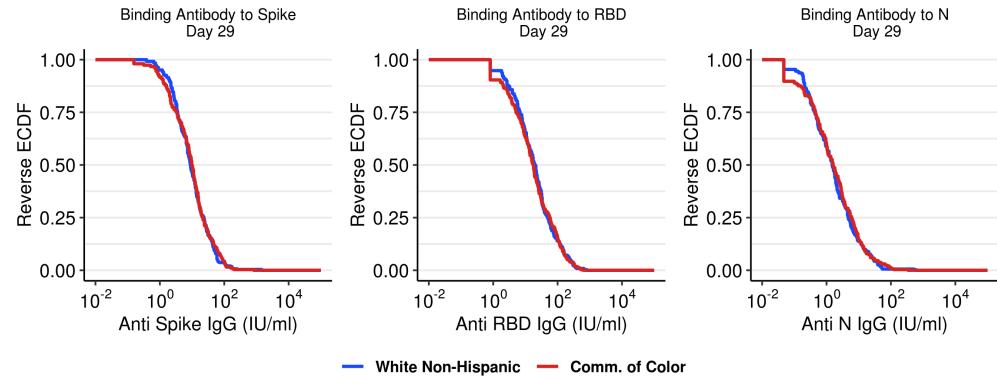


Figure 2.42: RCDF plots for D29 Ab markers: baseline negative vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

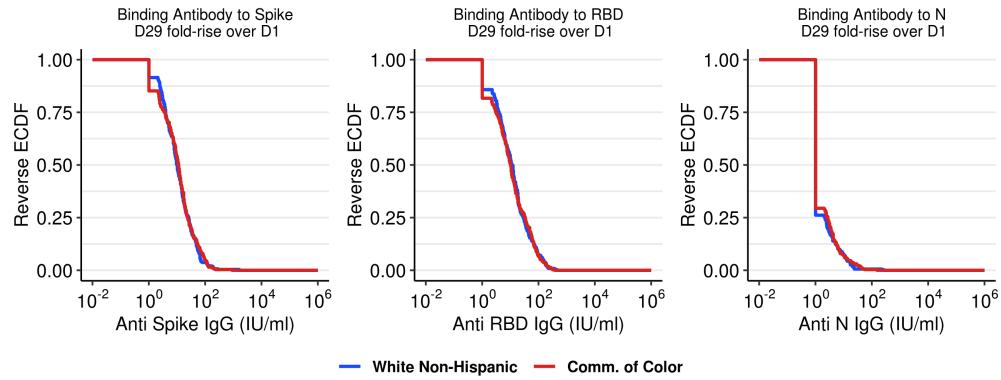


Figure 2.43: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT279

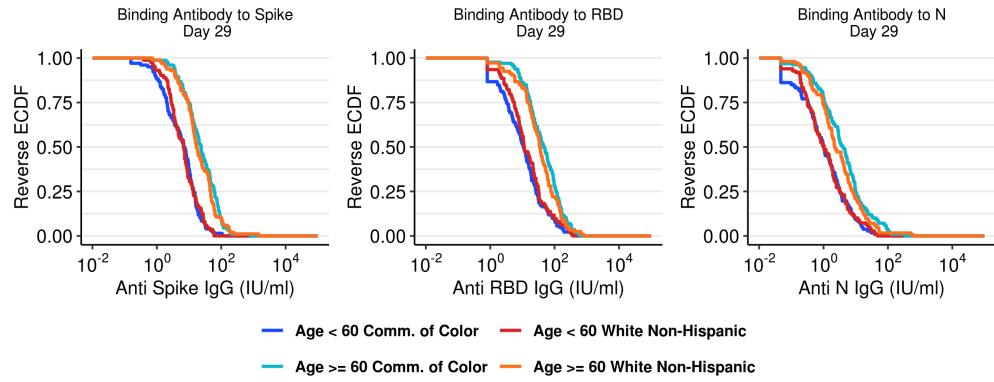


Figure 2.44: RCDF plots for D29 Ab markers: baseline negative vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

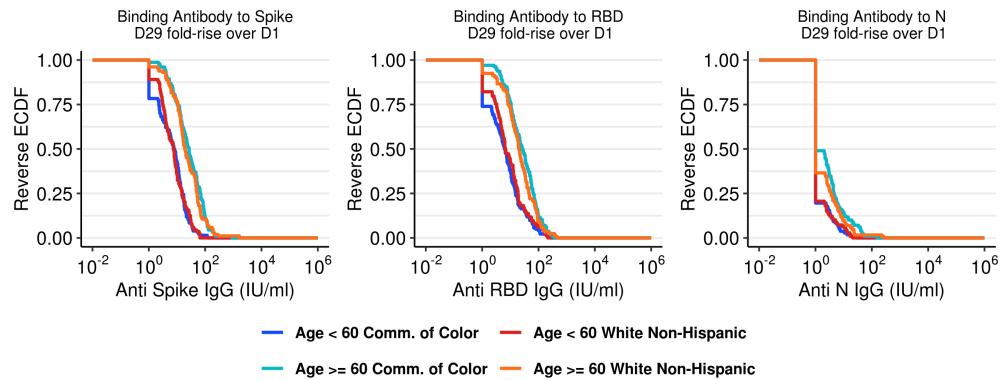


Figure 2.45: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT281

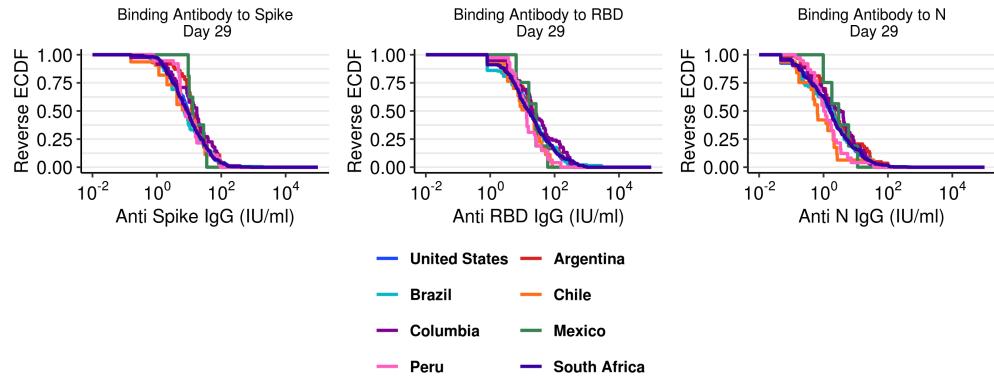


Figure 2.46: RCDF plots for D29 Ab markers: baseline negative vaccine arm by country of residence.

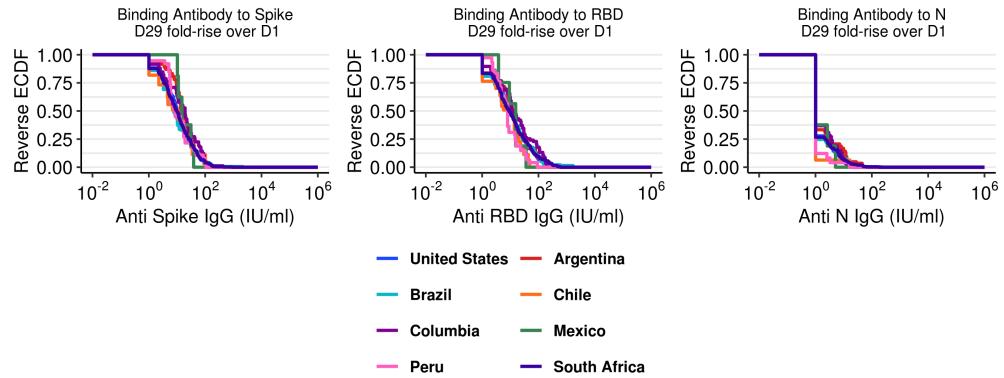


Figure 2.47: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by country of residence.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT283

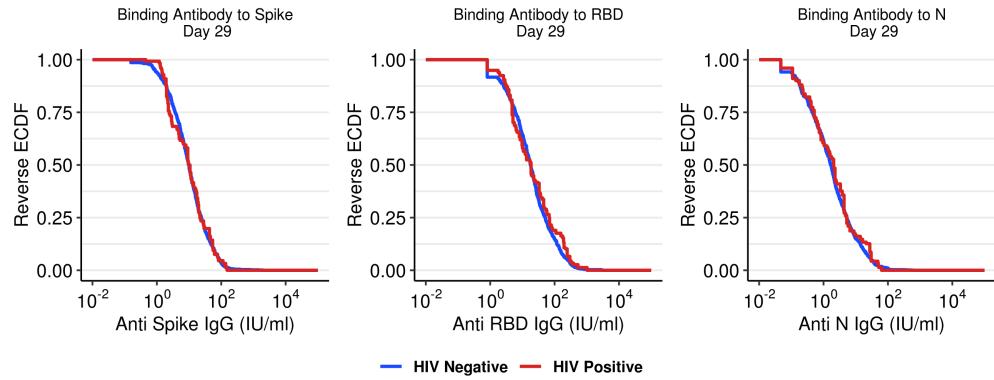


Figure 2.48: RCDF plots for D29 Ab markers: baseline negative vaccine arm by HIV positivity.

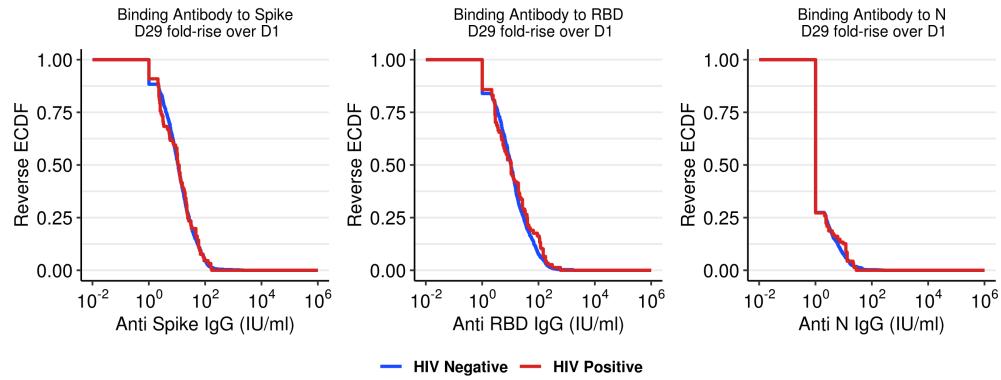


Figure 2.49: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by HIV positivity.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT285

2.6.2 Baseline SARS-CoV-2 Positive

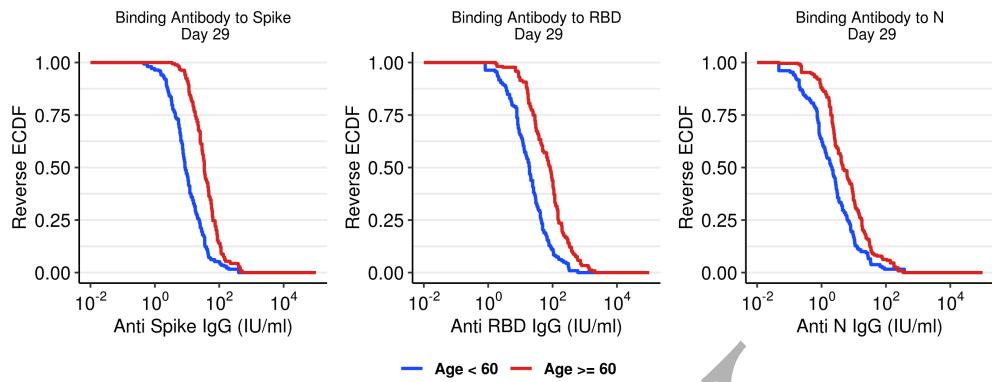


Figure 2.50: RCDF plots for D29 Ab markers: baseline positive vaccine arm by age groups.

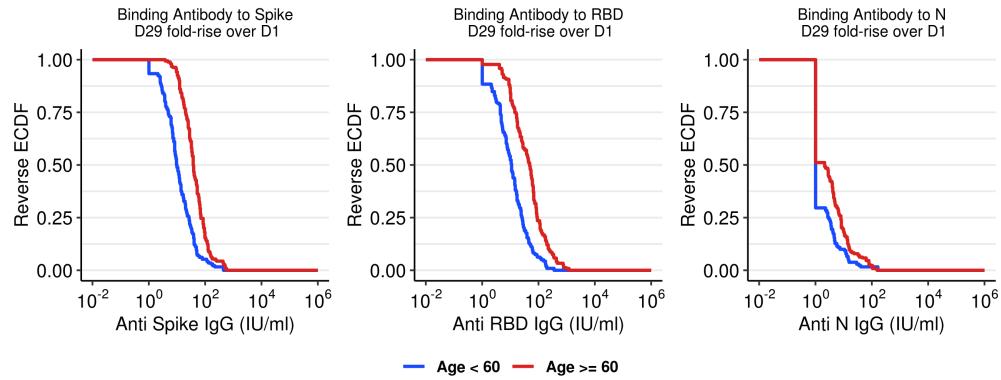


Figure 2.51: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age groups.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT287

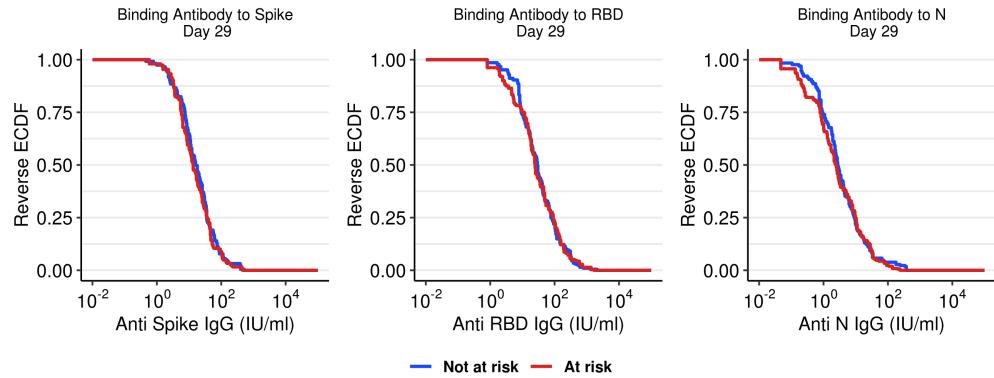


Figure 2.52: RCDF plots for D29 Ab markers: baseline positive vaccine arm by high-risk condition.

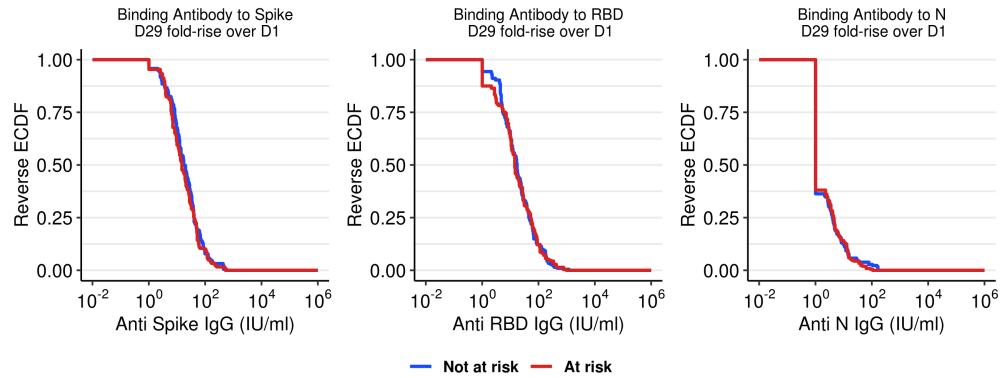


Figure 2.53: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by high-risk condition.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT289

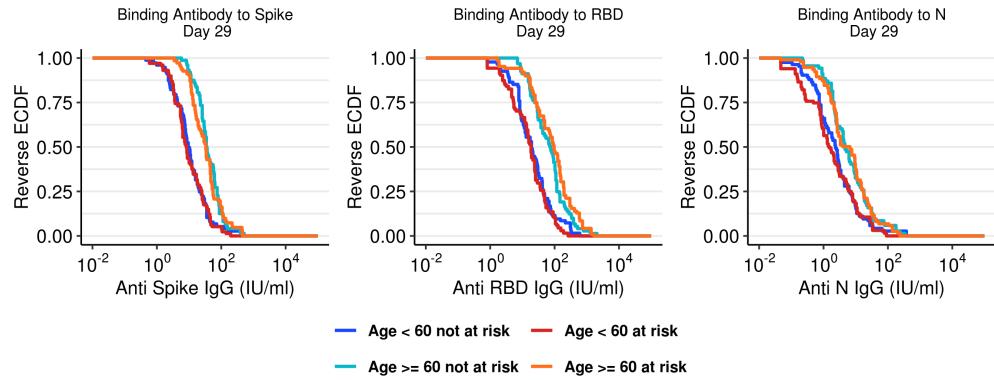


Figure 2.54: RCDF plots for D29 Ab markers: baseline positive vaccine arm by age and high-risk condition.

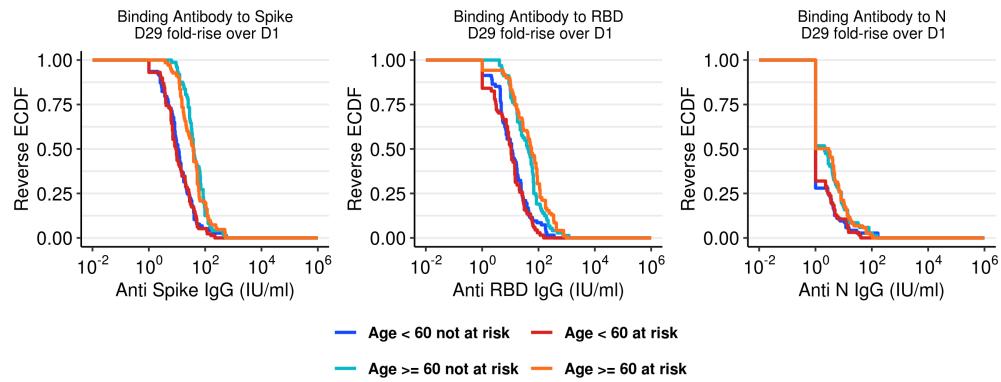


Figure 2.55: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and high-risk condition.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT291

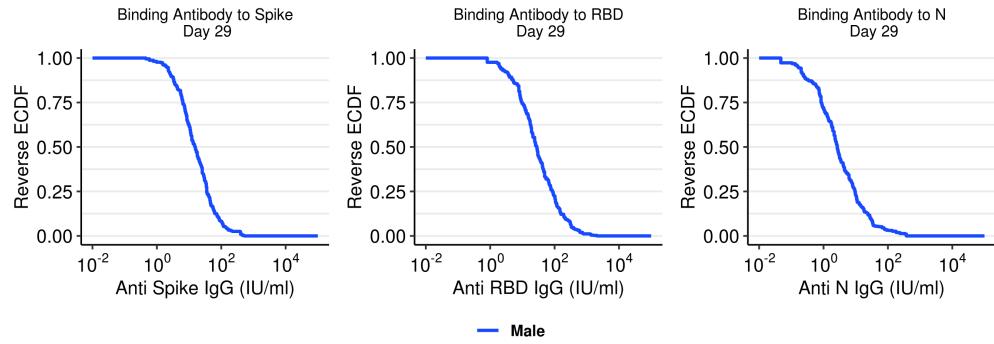


Figure 2.56: RCDF plots for D29 Ab markers: baseline positive vaccine arm by sex assigned at birth.

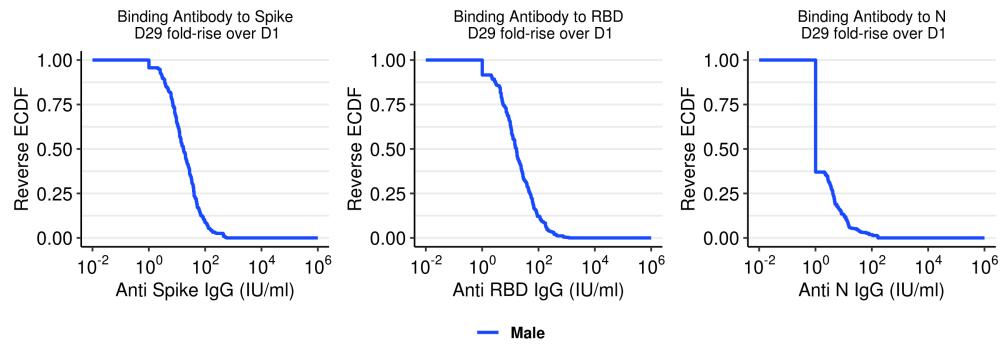


Figure 2.57: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by sex assigned at birth.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT293

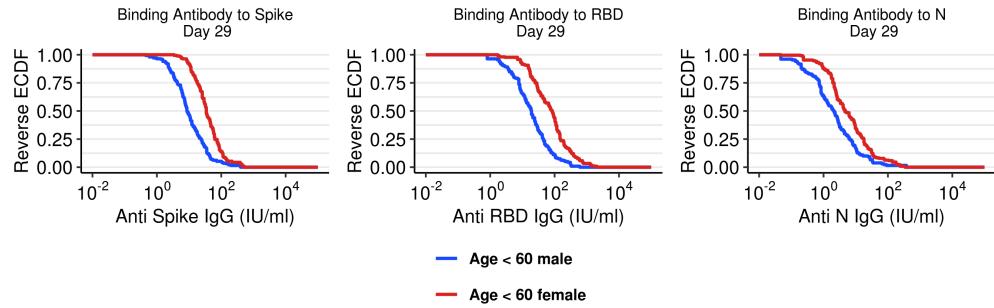


Figure 2.58: RCDF plots for D29 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

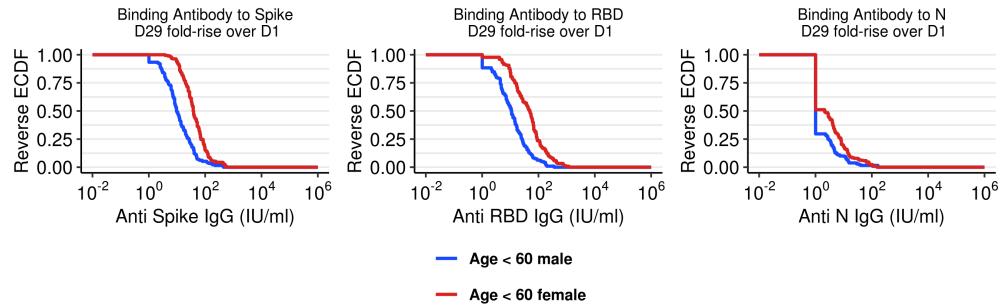


Figure 2.59: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT295

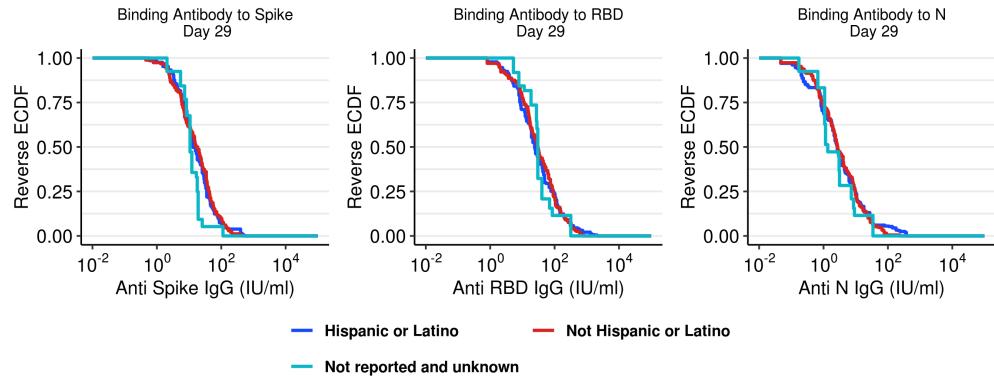


Figure 2.60: RCDF plots for D29 Ab markers: baseline positive vaccine arm by ethnicity.

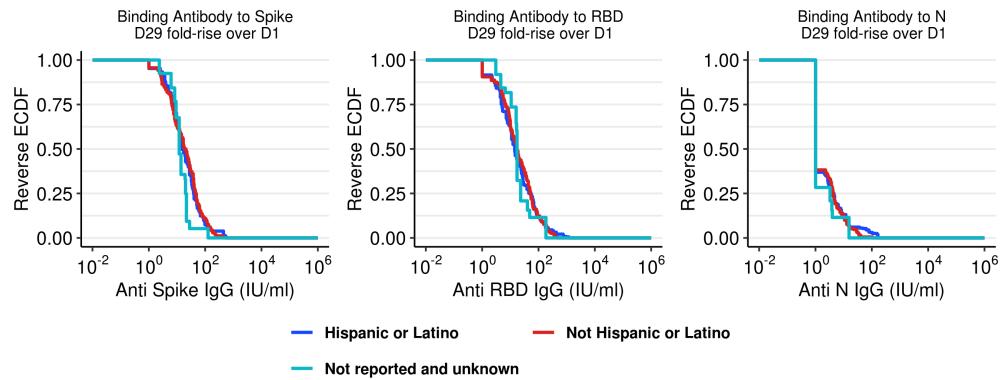


Figure 2.61: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by ethnicity.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT297

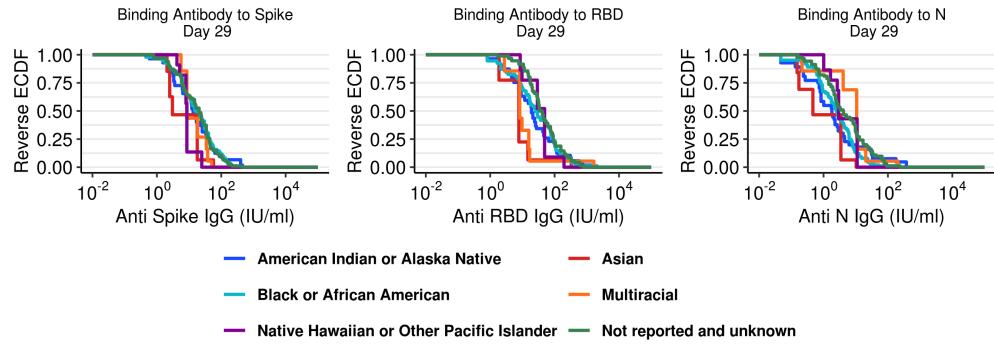


Figure 2.62: RCDF plots for D29 Ab markers: baseline positive vaccine arm by race.

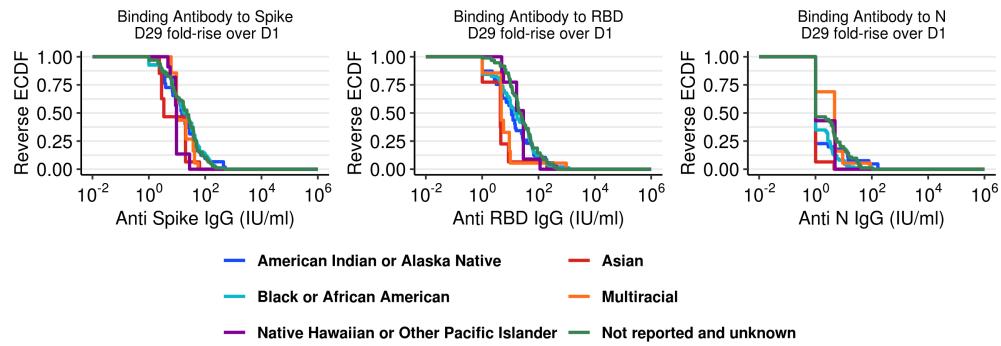


Figure 2.63: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by race.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT299

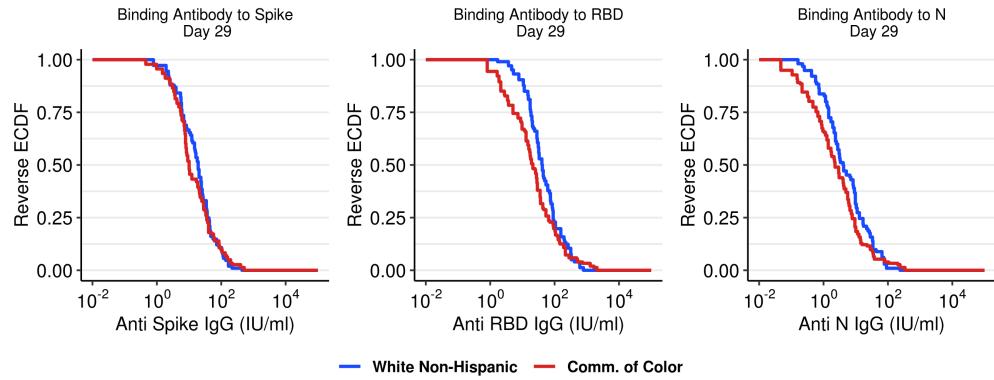


Figure 2.64: RCDF plots for D29 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

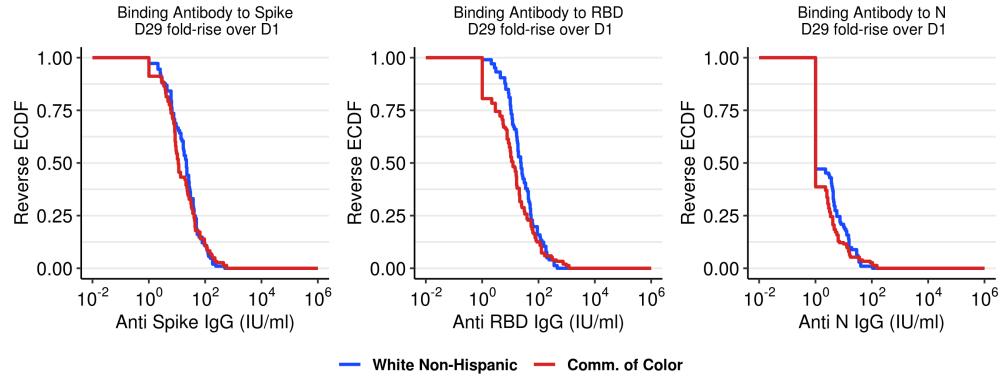


Figure 2.65: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT301

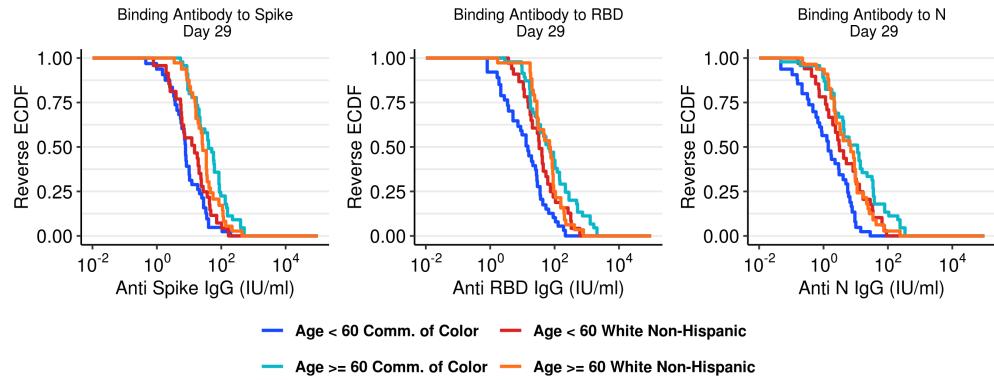


Figure 2.66: RCDF plots for D29 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

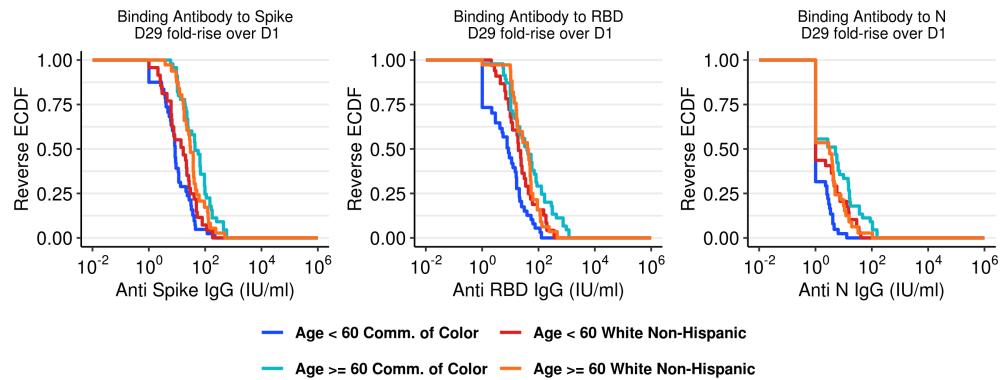


Figure 2.67: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT303

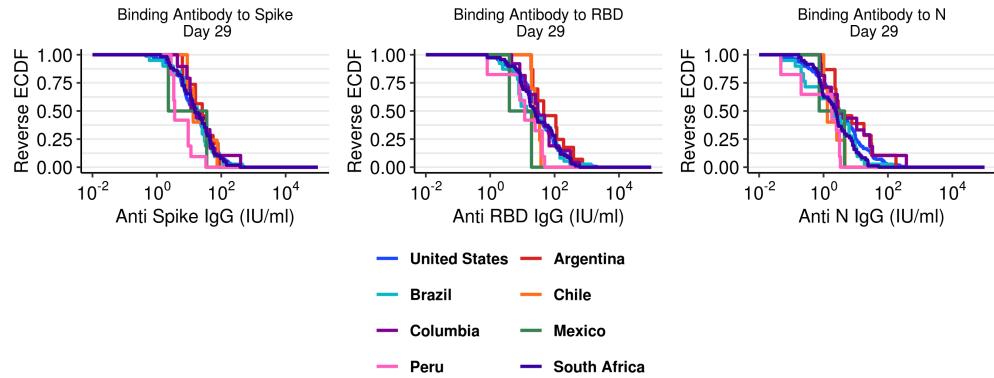


Figure 2.68: RCDF plots for D29 Ab markers: baseline positive vaccine arm by country of residence.

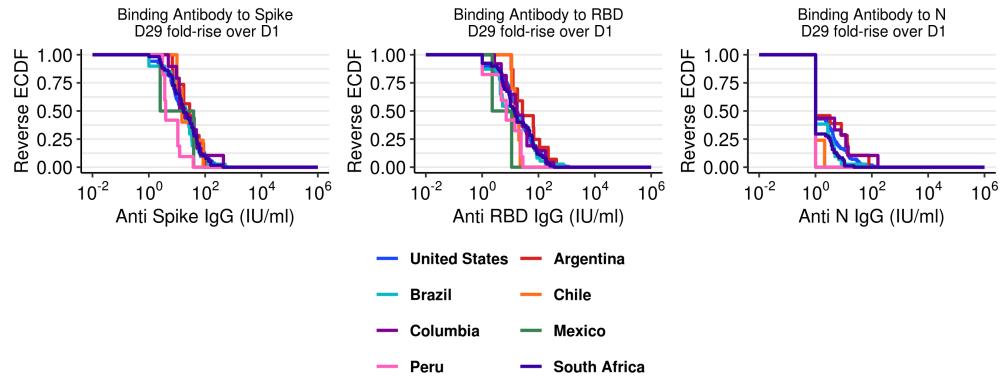


Figure 2.69: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by country of residence.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT305

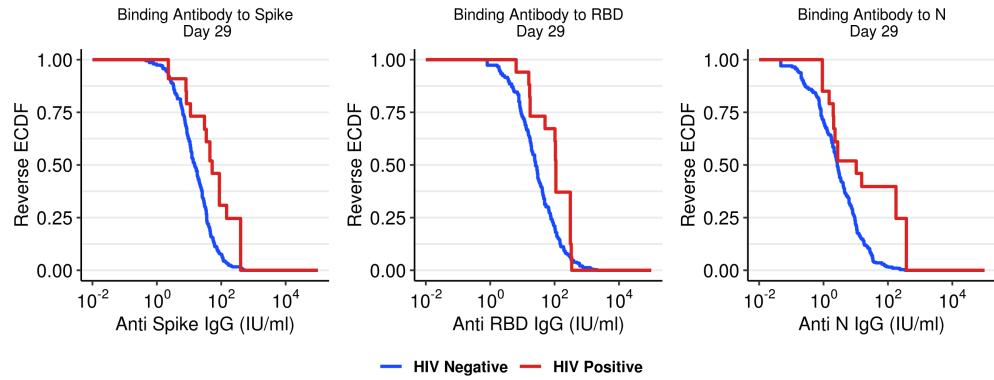


Figure 2.70: RCDF plots for D29 Ab markers: baseline positive vaccine arm by HIV positivity.

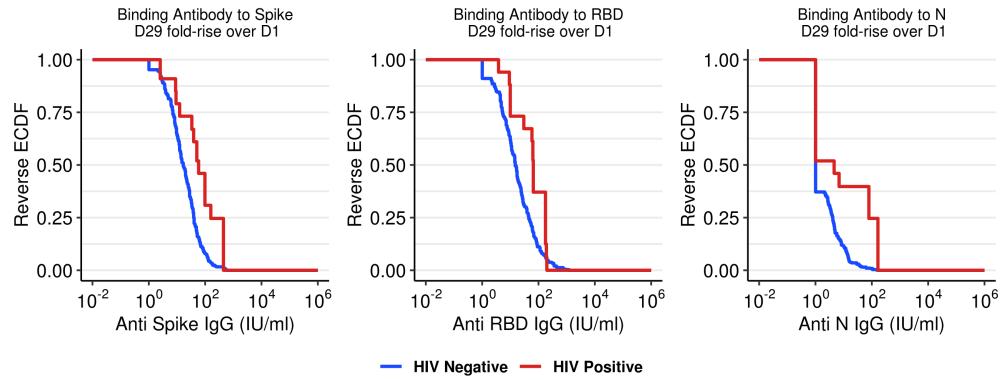


Figure 2.71: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by HIV positivity.

2.6.3 Baseline SARS-CoV-2 Positive Placebo Arm

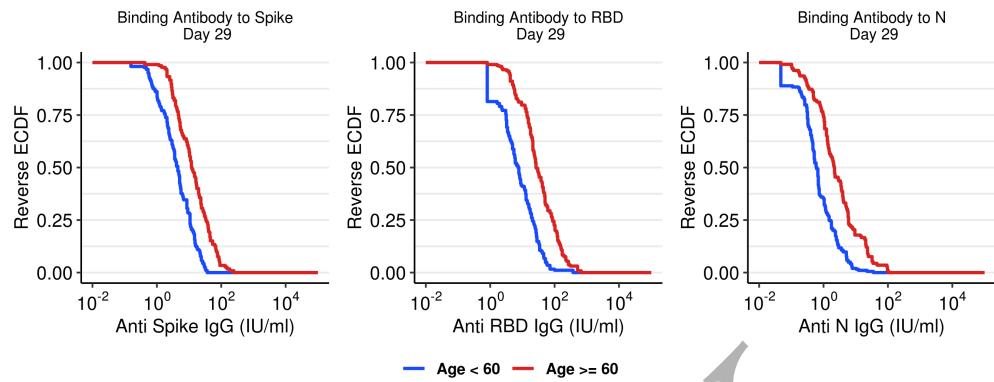


Figure 2.72: RCDF plots for D29 Ab markers: baseline positive placebo arm by age groups.

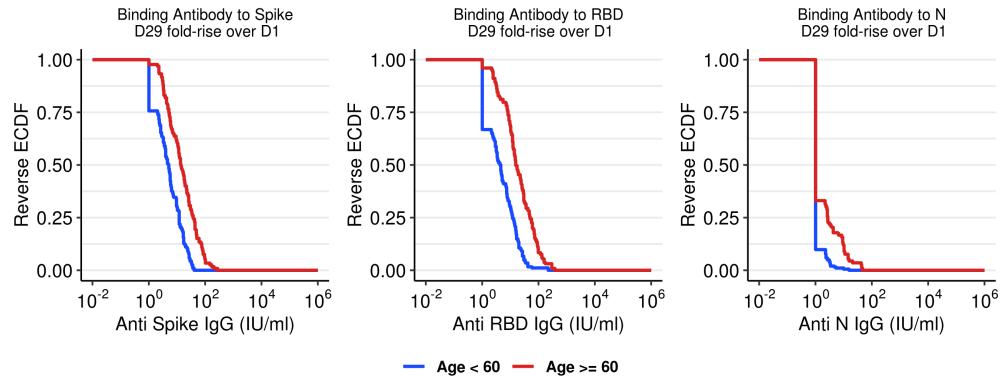


Figure 2.73: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by age groups.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT309

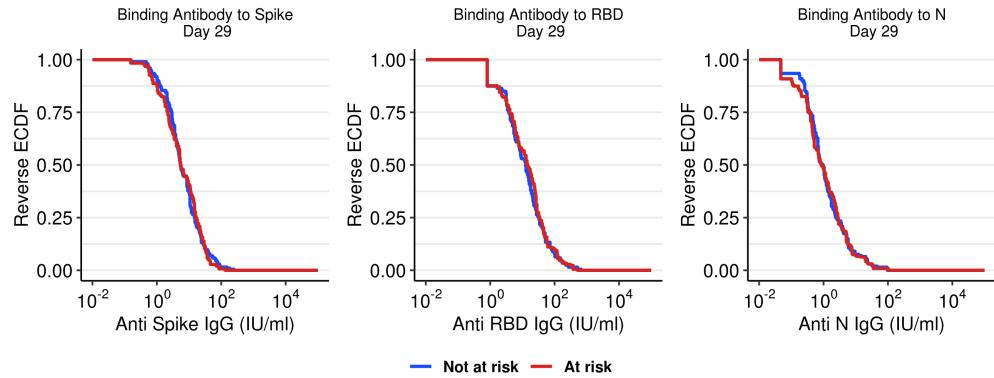


Figure 2.74: RCDF plots for D29 Ab markers: baseline positive placebo arm by high-risk condition.

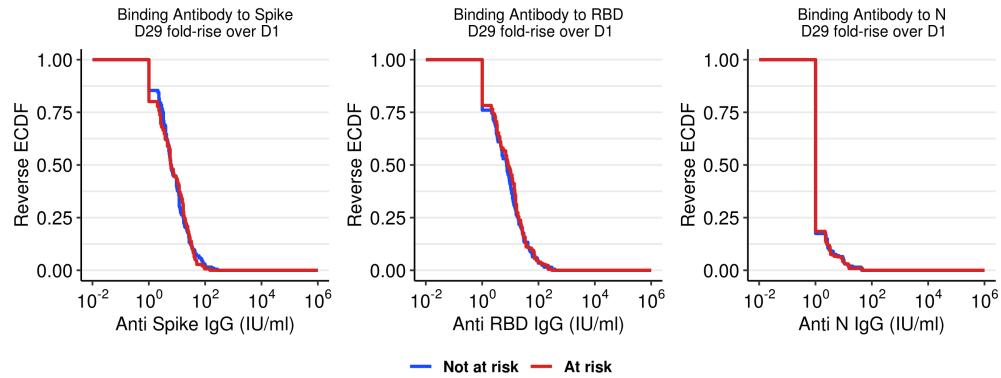


Figure 2.75: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by high-risk condition.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT311

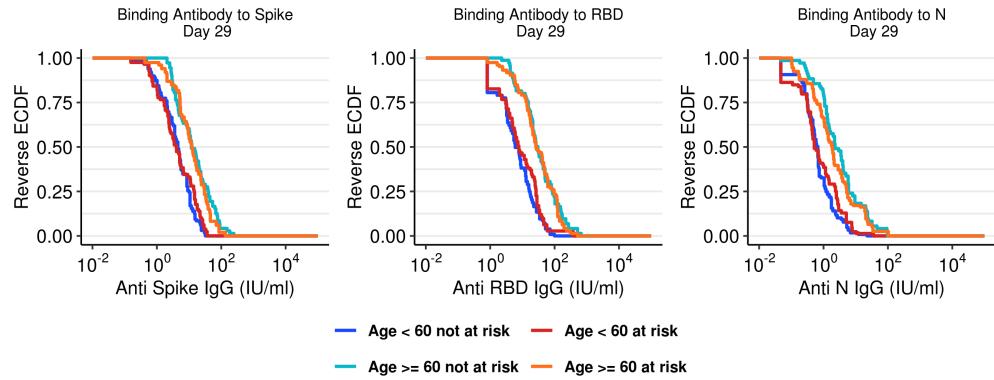


Figure 2.76: RCDF plots for D29 Ab markers: baseline positive placebo arm by age and high-risk condition.

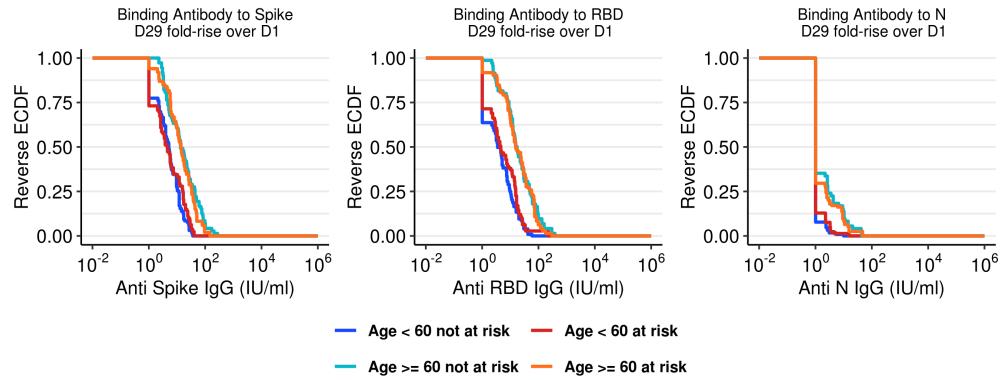


Figure 2.77: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by age and high-risk condition.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT313

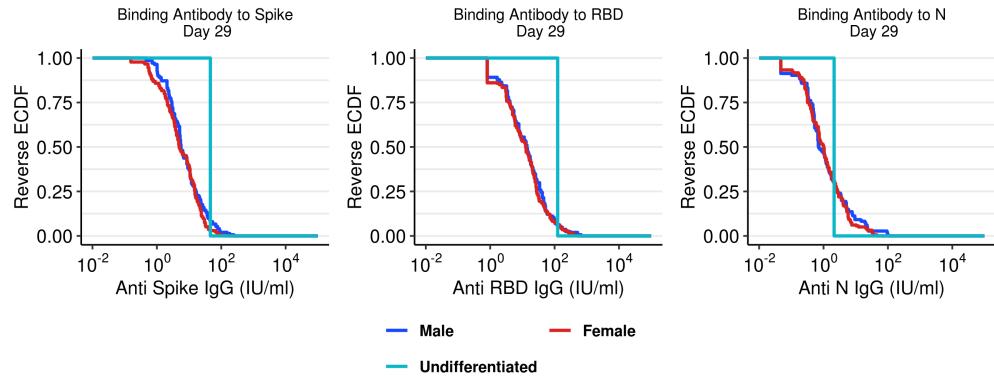


Figure 2.78: RCDF plots for D29 Ab markers: baseline positive placebo arm by sex assigned at birth.

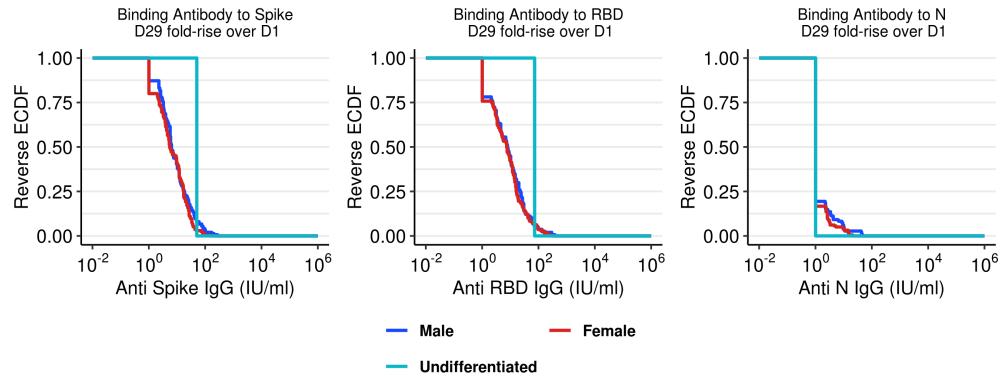


Figure 2.79: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by sex assigned at birth.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT315

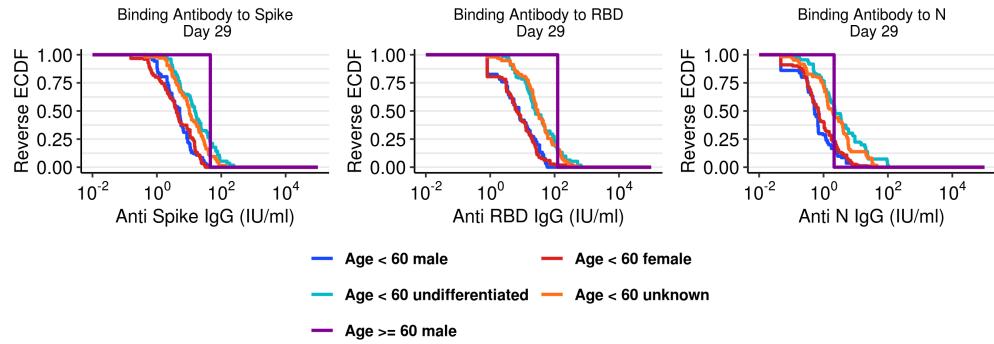


Figure 2.80: RCDF plots for D29 Ab markers: baseline positive placebo arm by age and sex assigned at birth.

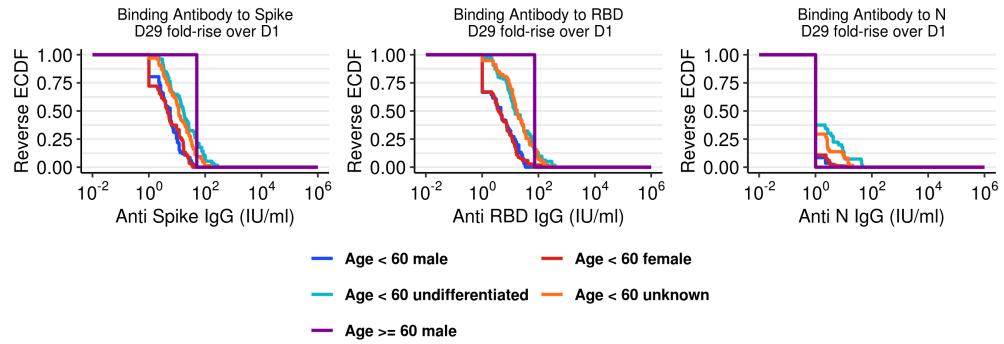


Figure 2.81: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by age and sex assigned at birth.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT317

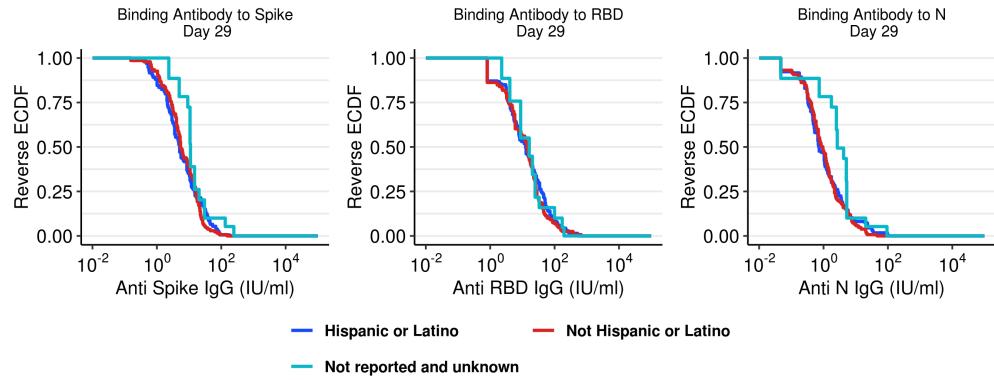


Figure 2.82: RCDF plots for D29 Ab markers: baseline positive placebo arm by ethnicity.

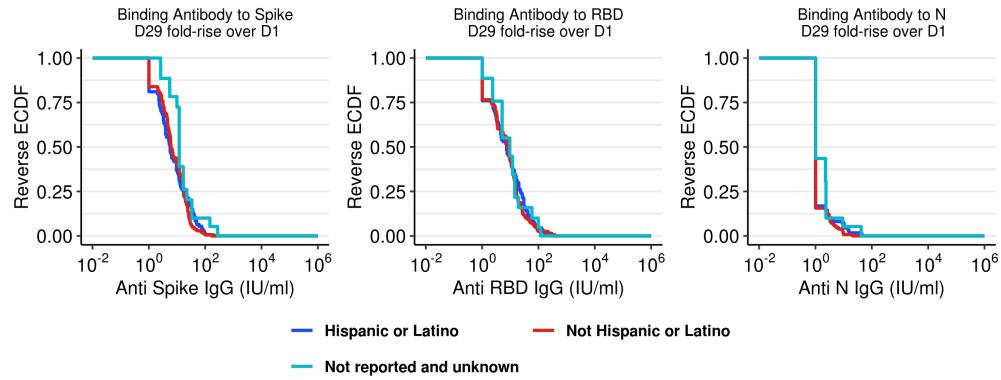


Figure 2.83: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by ethnicity.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT319

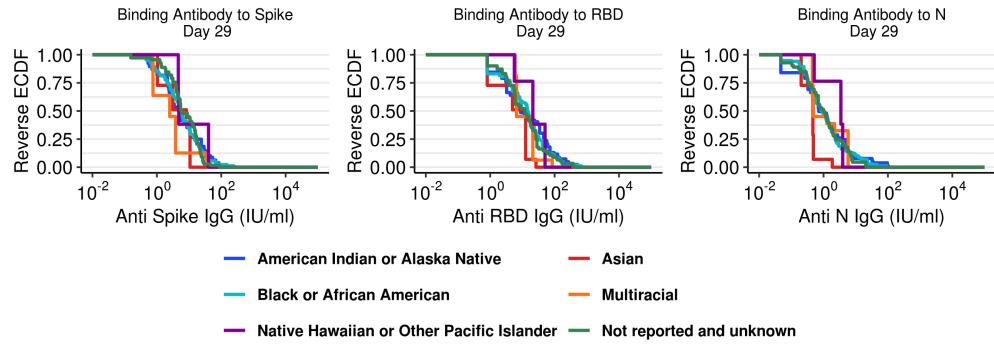


Figure 2.84: RCDF plots for D29 Ab markers: baseline positive placebo arm by race.

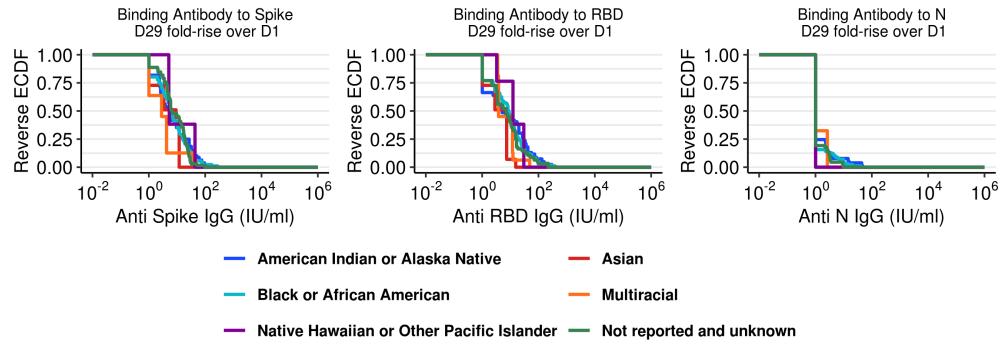


Figure 2.85: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by race.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT321

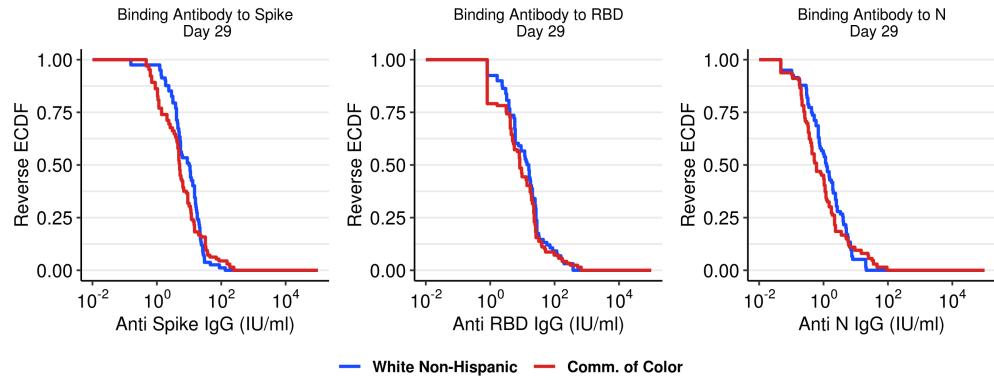


Figure 2.86: RCDF plots for D29 Ab markers: baseline positive placebo arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

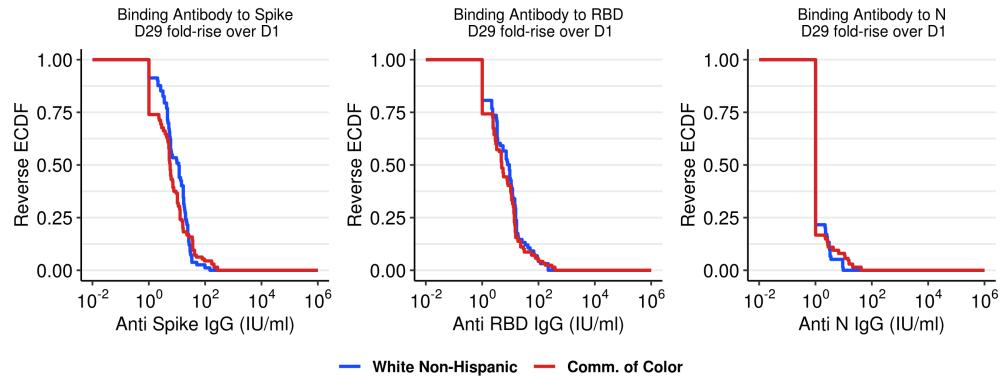


Figure 2.87: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT323

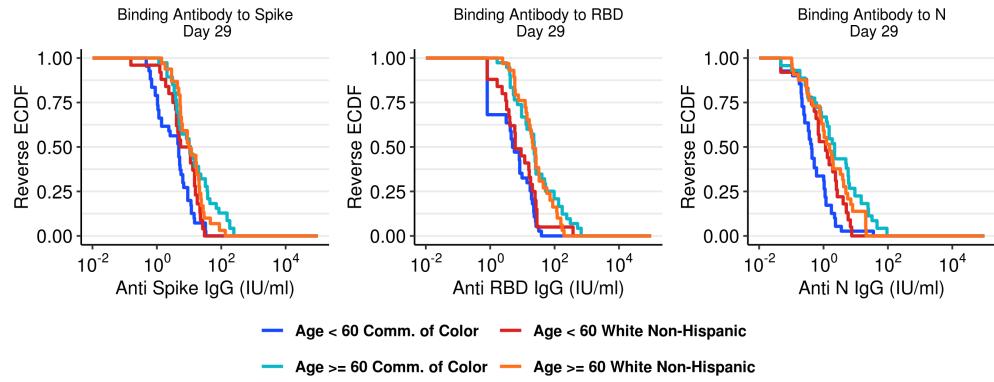


Figure 2.88: RCDF plots for D29 Ab markers: baseline positive placebo arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

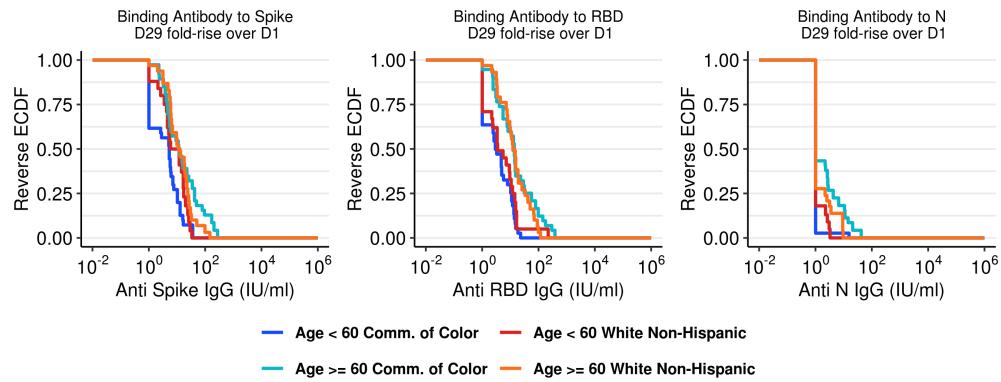


Figure 2.89: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT325

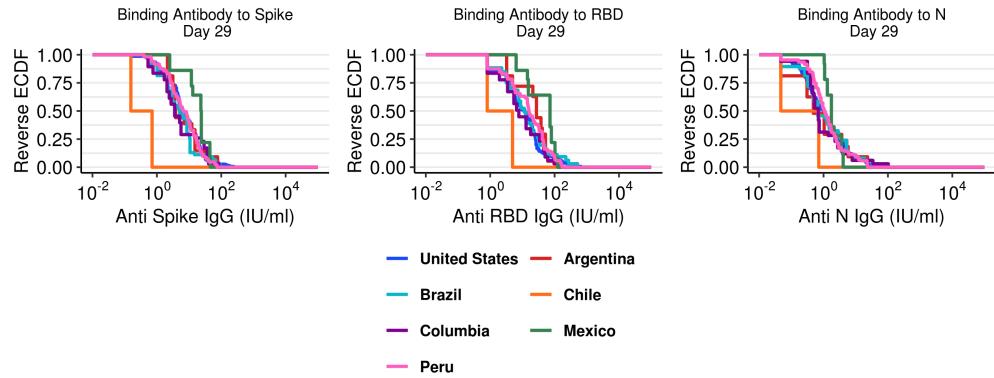


Figure 2.90: RCDF plots for D29 Ab markers: baseline positive placebo arm by country of residence.

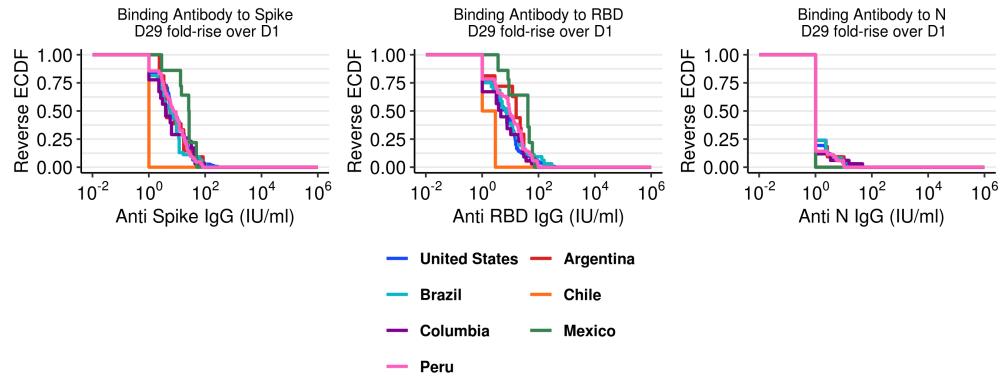


Figure 2.91: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by country of residence.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT327

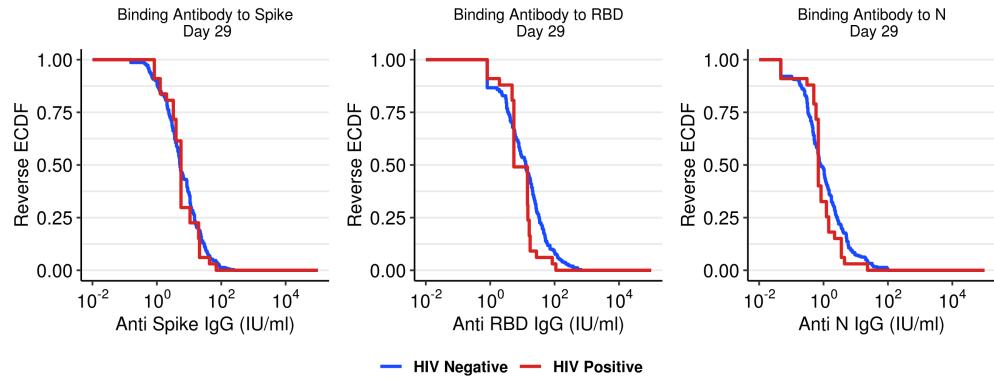


Figure 2.92: RCDF plots for D29 Ab markers: baseline positive placebo arm by HIV positivity.

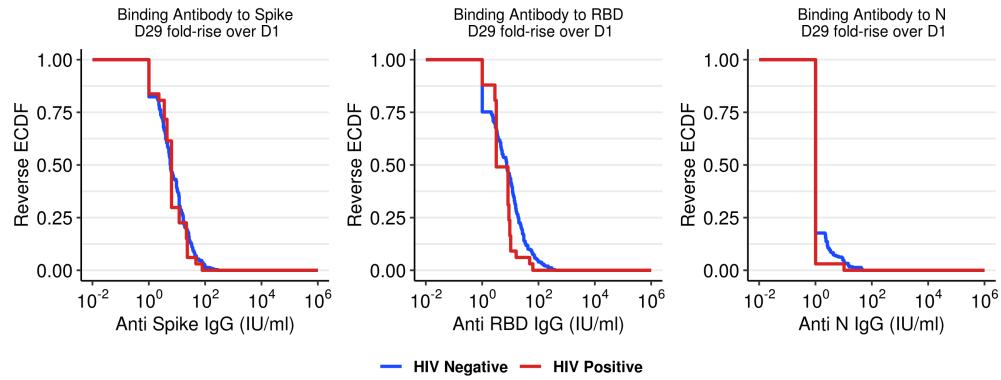


Figure 2.93: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by HIV positivity.

2.7 Boxplots of antibody markers by demographics for per-protocol cohort

2.7.1 Baseline SARS-CoV-2 Negative

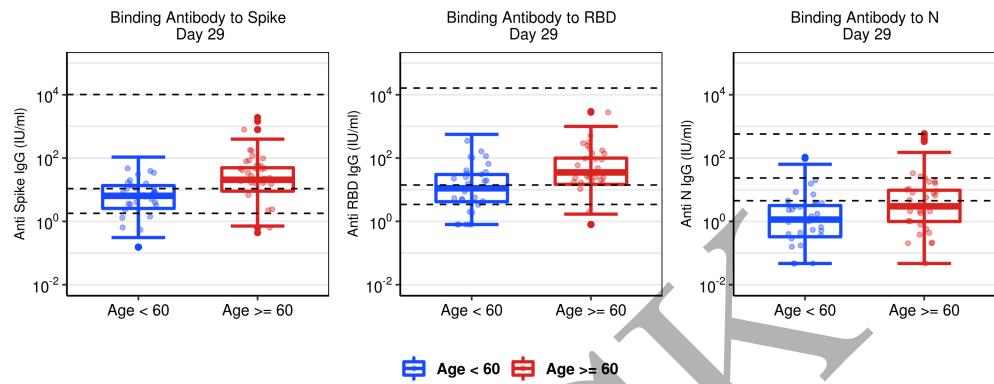


Figure 2.94: Boxplots of D29 Ab markers: Baseline negative vaccine arm by age group. The three dashed lines in each figure are ULOQ, LLOQ, and positivity cutoffs for binding antibody assays.

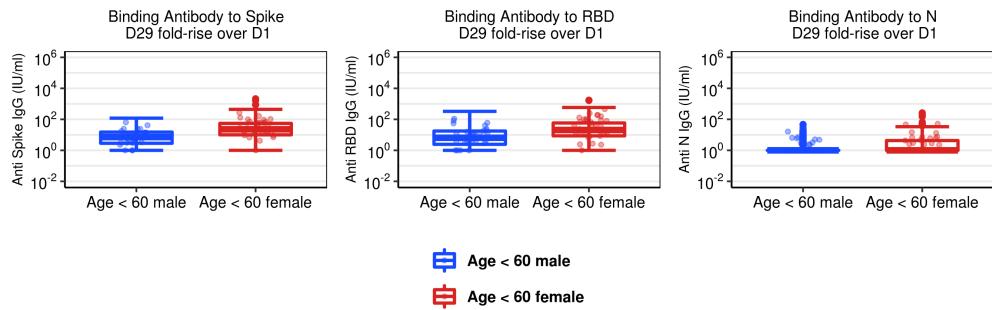


Figure 2.95: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by age and sex assigned at birth.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT331

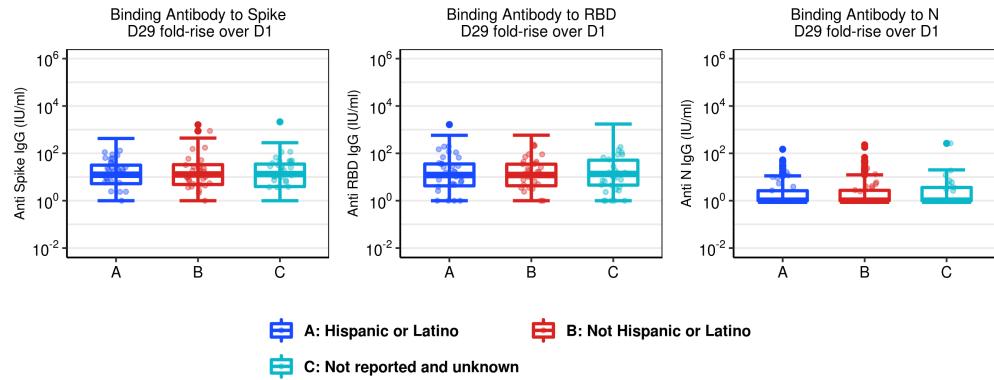


Figure 2.96: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by ethnicity.

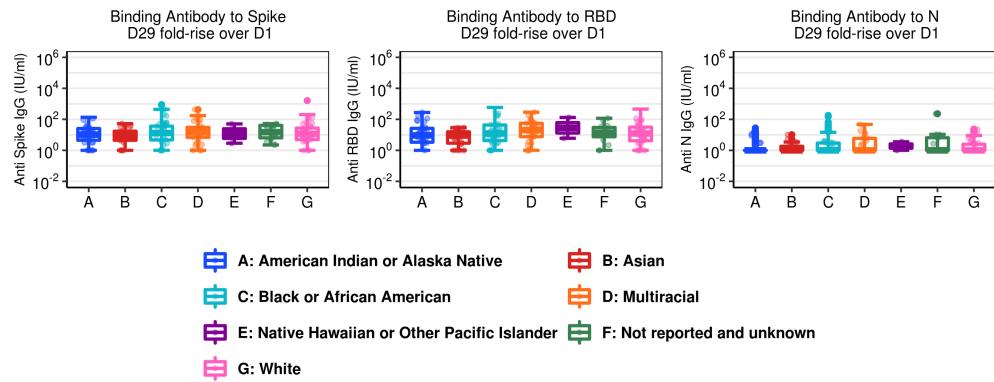


Figure 2.97: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by race.

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2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT333

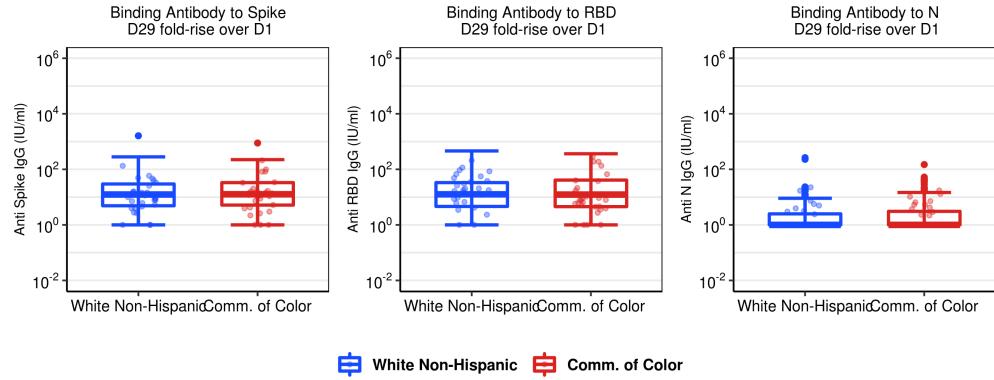


Figure 2.98: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

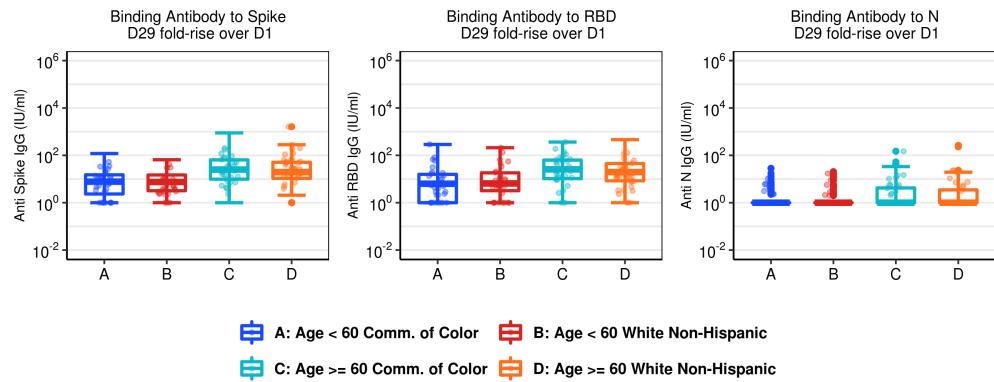


Figure 2.99: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT335

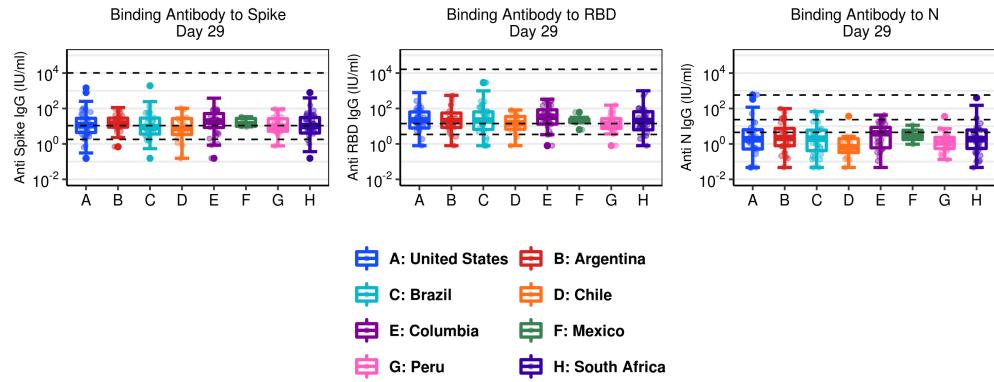


Figure 2.100: Boxplots of D29 Ab markers: Baseline negative vaccine arm by country of residence. The three dashed lines in each figure are ULOQ, LLOQ, and positivity cutoffs for binding antibody assays.

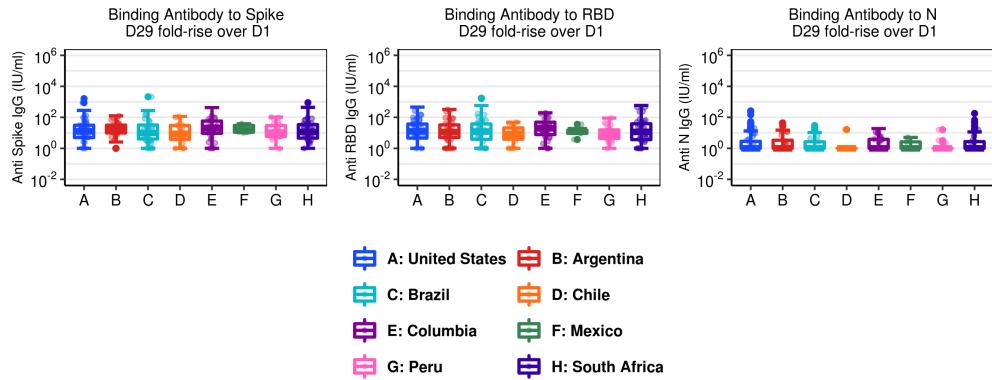


Figure 2.101: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by country of residence.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT337

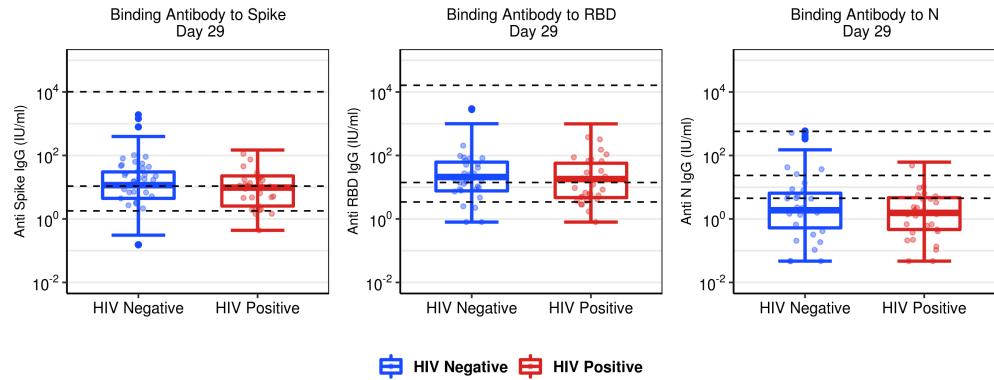


Figure 2.102: Boxplots of D29 Ab markers: Baseline negative vaccine arm by HIV positivity. The three dashed lines in each figure are ULOQ, LLOQ, and positivity cutoffs for binding antibody assays.

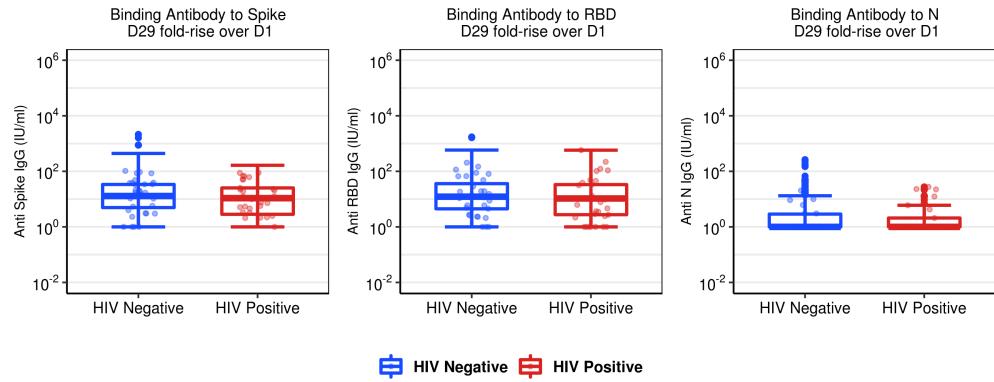


Figure 2.103: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by HIV positivity.

2.7.2 Baseline SARS-CoV-2 Positive

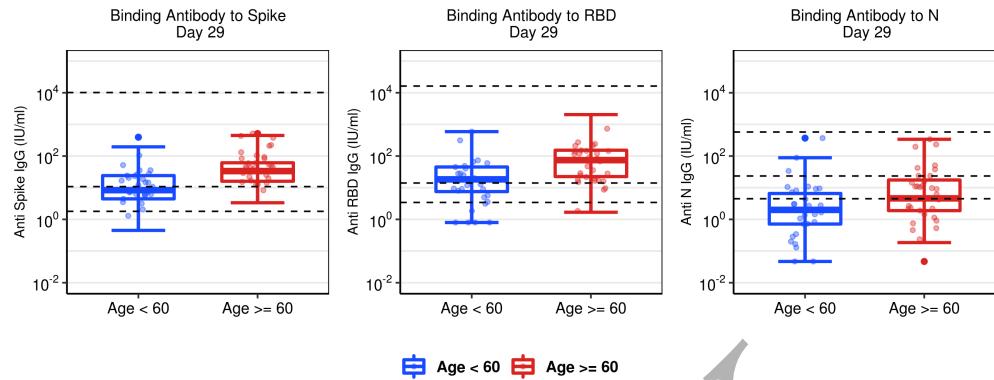


Figure 2.104: Boxplots of D29 Ab markers: baseline positive vaccine arm by age group. The three dashed lines in each figure are ULOQ, LLOQ, and positivity cutoffs for binding antibody assays.

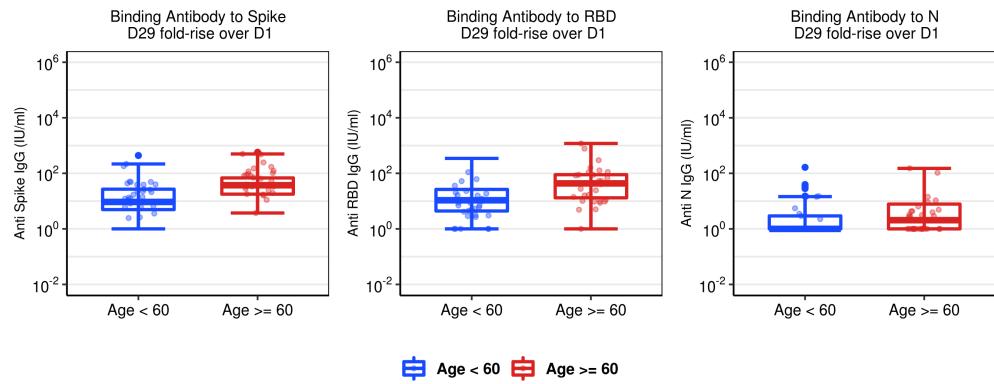


Figure 2.105: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age group.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT341

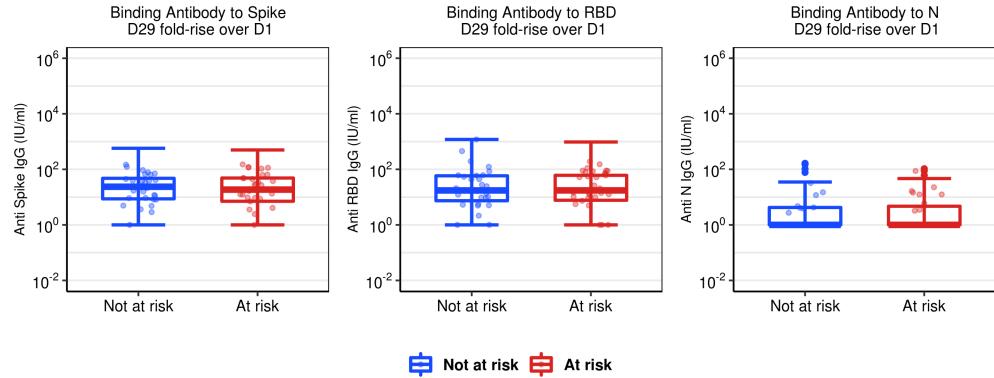


Figure 2.106: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by high-risk condition.

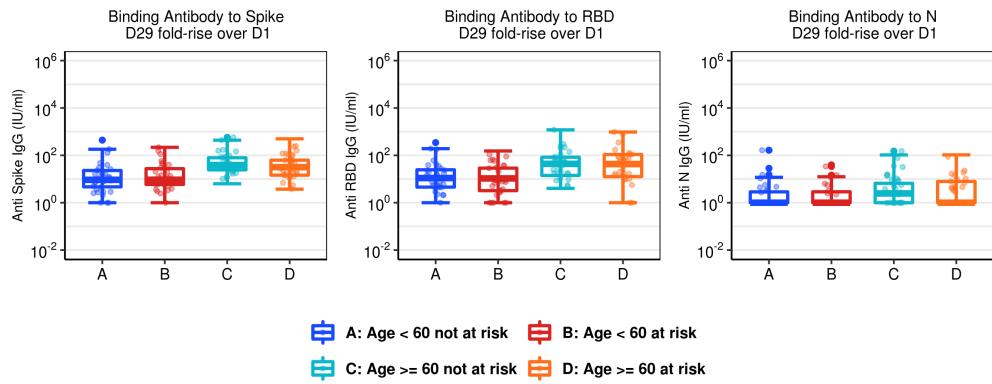


Figure 2.107: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and high-risk condition.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT343

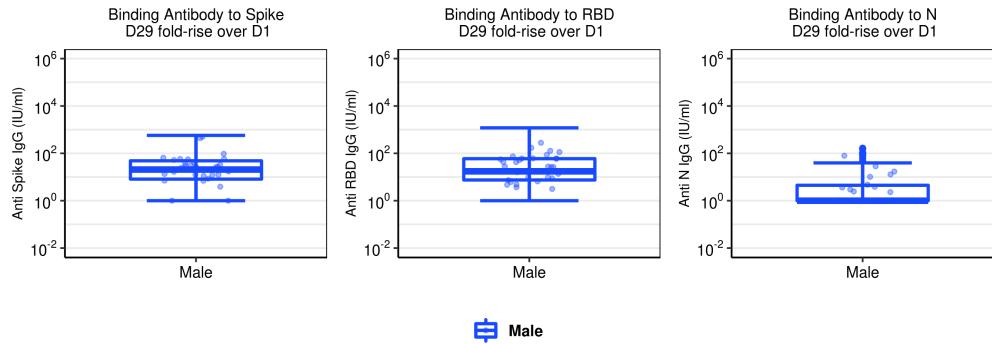


Figure 2.108: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by sex assigned at birth.

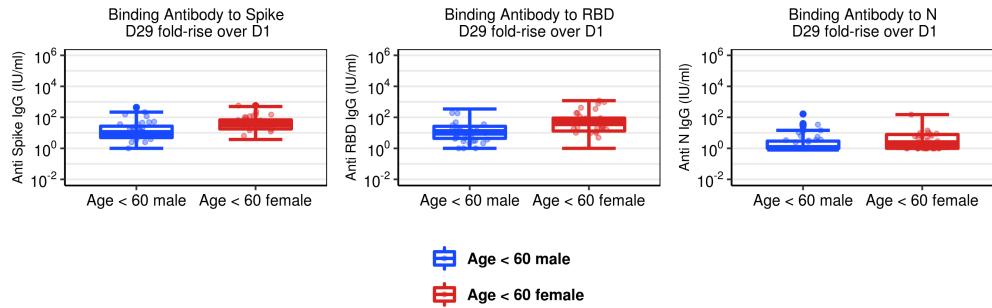


Figure 2.109: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT345

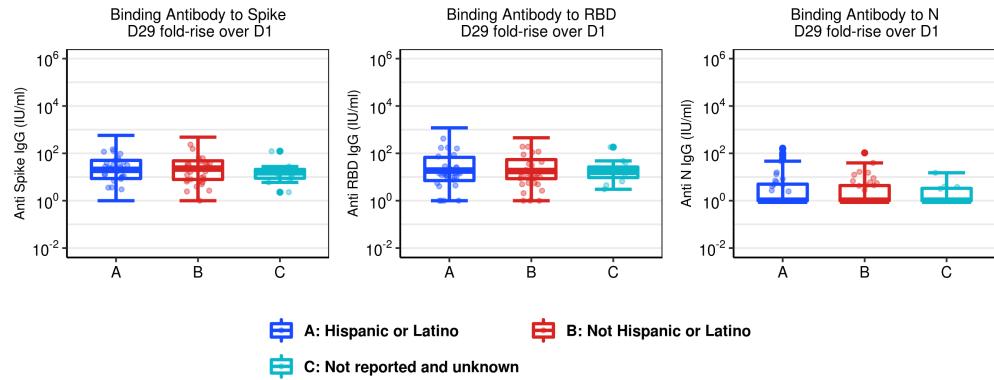


Figure 2.110: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by ethnicity.

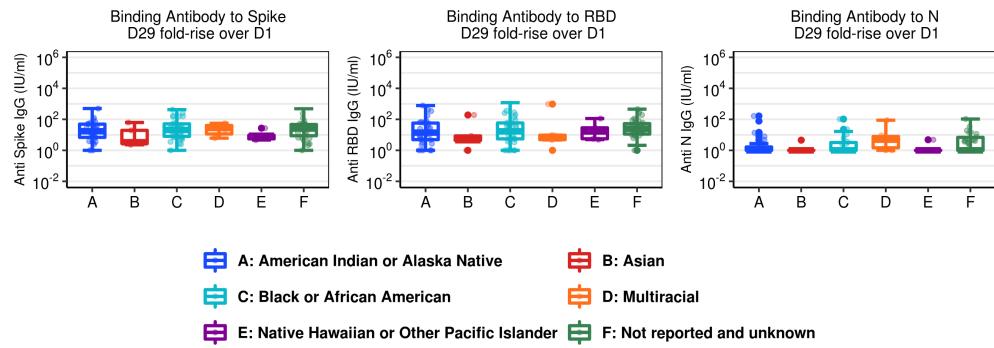


Figure 2.111: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by race.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT347

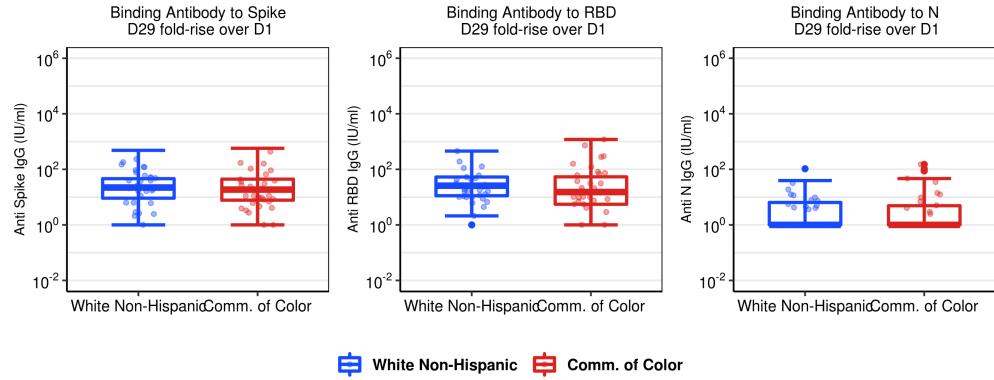


Figure 2.112: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

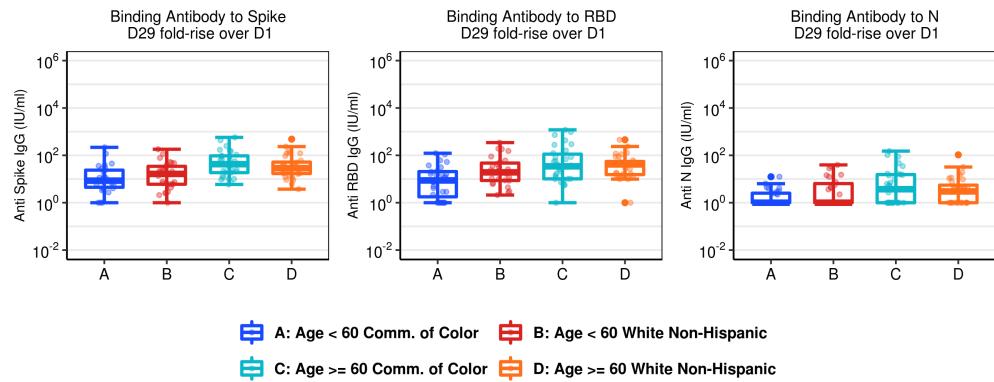


Figure 2.113: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT349

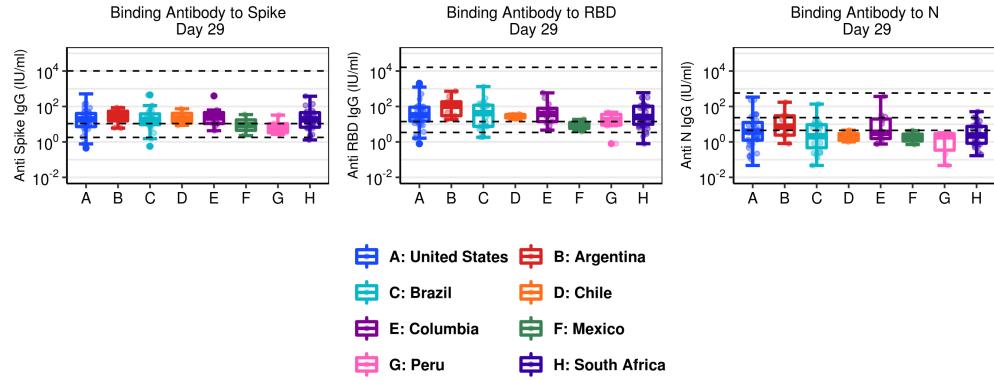


Figure 2.114: Boxplots of D29 Ab markers: baseline positive vaccine arm by country of residence. The three dashed lines in each figure are ULOQ, LLOQ, and positivity cutoffs for binding antibody assays.

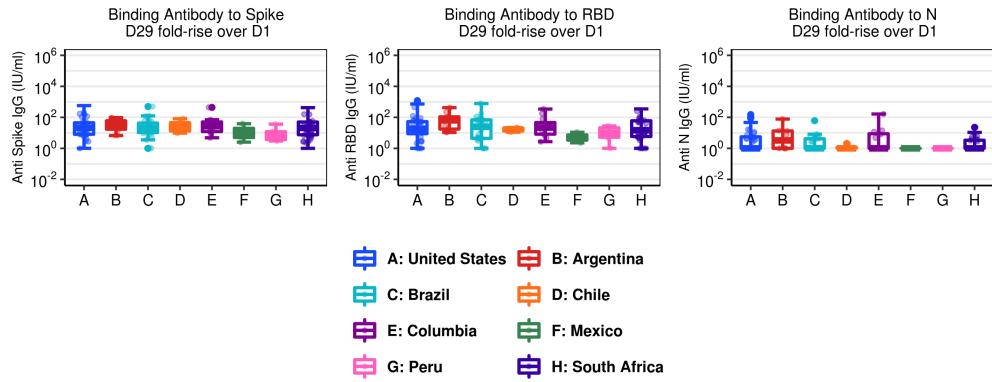


Figure 2.115: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by country of residence.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT351

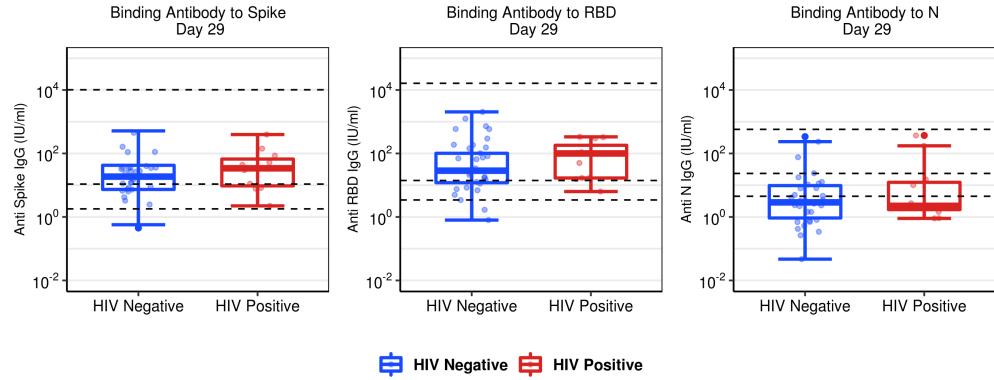


Figure 2.116: Boxplots of D29 Ab markers: baseline positive vaccine arm by HIV positivity. The three dashed lines in each figure are ULOQ, LLOQ, and positivity cutoffs for binding antibody assays.

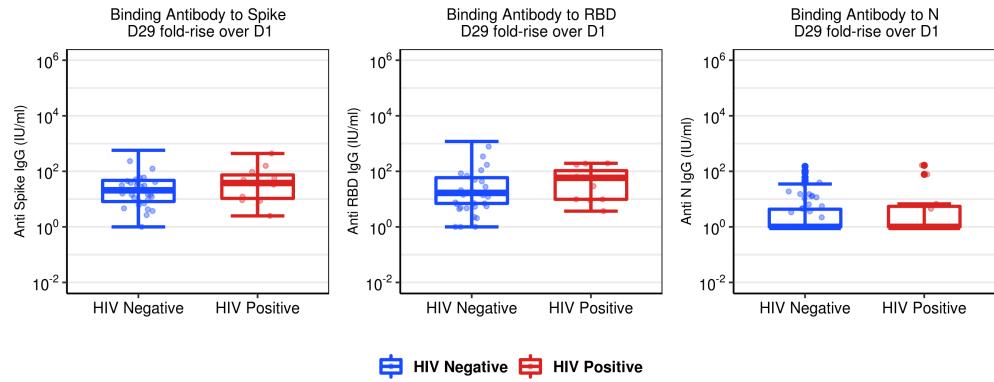


Figure 2.117: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by HIV positivity.

Chapter 3

Appendix

- This report was built from the [CoVPN/correlates_reporting](#) repository with commit hash 66a8c3ad281aa7d2a9fa11b56f39427627187a35. A diff of the changes introduced by that commit may be viewed at https://github.com/CoVPN/correlates_reporting/commit/66a8c3ad281aa7d2a9fa11b56f39427627187a35
- The sha256 hash sum of the raw input file, “COVID_ENSEMBLE_practicedata.csv”: 8a834b702e835fd258b0071185a12
- The sha256 hash sum of the processed file, “janssen_pooled_mock_data_processed.csv”: 98b9107848f6c2cc49308f98436865a2ea7be3656a074f98a4bdae19297cef35