

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 = 896)	Placebo (N = 107)	Total (N = 1003)
Age			
Age 18 - 59	448 (50.0%)	54 (50.5%)	502 (50.0%)
Age \geq 60	448 (50.0%)	53 (49.5%)	501 (50.0%)
Mean (Range)	56.0 (18.0, 85.0)	54.9 (18.0, 85.0)	55.9 (18.0, 85.0)
BMI			
Mean \pm SD	3.2 ± 0.8	3.3 ± 0.7	3.2 ± 0.8
Risk for Severe Covid-19			
At-risk	451 (50.3%)	53 (49.5%)	504 (50.2%)
Not at-risk	445 (49.7%)	54 (50.5%)	499 (49.8%)
Age, Risk for Severe Covid-19			
Age 18 - 59 At-risk	224 (25.0%)	26 (24.3%)	250 (24.9%)
Age 18 - 59 Not at-risk	224 (25.0%)	28 (26.2%)	252 (25.1%)
Age \geq 60 At-risk	227 (25.3%)	27 (25.2%)	254 (25.3%)
Age \geq 60 Not at-risk	221 (24.7%)	26 (24.3%)	247 (24.6%)
Sex			
Female	1 (0.1%)	44 (41.1%)	45 (4.5%)
Male	895 (99.9%)	63 (58.9%)	958 (95.5%)
Hispanic or Latino ethnicity			
Hispanic or Latino	371 (41.4%)	43 (40.2%)	414 (41.3%)
Not Hispanic or Latino	480 (53.6%)	60 (56.1%)	540 (53.8%)
Not reported and unknown	45 (5.0%)	4 (3.7%)	49 (4.9%)
Race			
White	395 (44.1%)	41 (38.3%)	436 (43.5%)

(continued)

Characteristics	Vaccine (N = 896)	Placebo (N = 107)	Total (N = 1003)
Black or African American	312 (34.8%)	38 (35.5%)	350 (34.9%)
Asian	21 (2.3%)	1 (0.9%)	22 (2.2%)
American Indian or Alaska Native	132 (14.7%)	21 (19.6%)	153 (15.3%)
Native Hawaiian or Other Pacific Islander		1 (0.9%)	1 (0.1%)
Multiracial	25 (2.8%)	4 (3.7%)	29 (2.9%)
Not reported and unknown	11 (1.2%)	1 (0.9%)	12 (1.2%)
Underrepresented Minority Status in the U.S.			
URM	651 (72.7%)	78 (72.9%)	729 (72.7%)
Non-URM	245 (27.3%)	29 (27.1%)	274 (27.3%)
Country			
United States	449 (50.1%)	55 (51.4%)	504 (50.2%)
Argentina	46 (5.1%)	6 (5.6%)	52 (5.2%)
Brazil	80 (8.9%)	14 (13.1%)	94 (9.4%)
Chile	11 (1.2%)		11 (1.1%)
Columbia	59 (6.6%)	4 (3.7%)	63 (6.3%)
Mexico	5 (0.6%)		5 (0.5%)
Peru	25 (2.8%)	2 (1.9%)	27 (2.7%)
South Africa	221 (24.7%)	26 (24.3%)	247 (24.6%)

This table summarizes characteristics of per-protocol participants in the immunogenicity subcohort, which was randomly sampled from the study cohort. The sampling was stratified by strata defined by enrollment characteristics: Assigned randomization arm × Baseline SARS-CoV-2 seronegative vs. seropositive × Randomization strata. The U.S. subcohort includes 8 baseline demographic strata; the Latin America and South Africa subcohorts each include 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 = 280)	Placebo (N = 282)	Total (N = 562)
Age			
Age 18 - 59	140 (50.0%)	139 (49.3%)	279 (49.6%)
Age ≥ 60	140 (50.0%)	143 (50.7%)	283 (50.4%)
Mean (Range)	55.6 (18.0, 85.0)	56.2 (18.0, 85.0)	55.9 (18.0, 85.0)
BMI			
Mean ± SD	3.2 ± 0.7	3.2 ± 0.8	3.2 ± 0.8
Risk for Severe Covid-19			
At-risk	141 (50.4%)	141 (50.0%)	282 (50.2%)
Not at-risk	139 (49.6%)	141 (50.0%)	280 (49.8%)
Age, Risk for Severe Covid-19			
Age 18 - 59 At-risk	70 (25.0%)	69 (24.5%)	139 (24.7%)
Age 18 - 59 Not at-risk	70 (25.0%)	70 (24.8%)	140 (24.9%)
Age ≥ 60 At-risk	71 (25.4%)	72 (25.5%)	143 (25.4%)
Age ≥ 60 Not at-risk	69 (24.6%)	71 (25.2%)	140 (24.9%)
Sex			
Female		170 (60.3%)	170 (30.2%)
Male	280 (100.0%)	112 (39.7%)	392 (69.8%)
Hispanic or Latino ethnicity			
Hispanic or Latino	114 (40.7%)	112 (39.7%)	226 (40.2%)
Not Hispanic or Latino	156 (55.7%)	157 (55.7%)	313 (55.7%)
Not reported and unknown	10 (3.6%)	13 (4.6%)	23 (4.1%)
Race			
White	105 (37.5%)	110 (39.0%)	215 (38.3%)
Black or African American	105 (37.5%)	109 (38.7%)	214 (38.1%)
Asian	11 (3.9%)	10 (3.5%)	21 (3.7%)
American Indian or Alaska Native	44 (15.7%)	43 (15.2%)	87 (15.5%)
Multiracial	11 (3.9%)	5 (1.8%)	16 (2.8%)
Not reported and unknown	4 (1.4%)	5 (1.8%)	9 (1.6%)
Underrepresented Minority Status in the U.S.			
URM	203 (72.5%)	208 (73.8%)	411 (73.1%)
Non-URM	77 (27.5%)	74 (26.2%)	151 (26.9%)
Country			
United States	141 (50.4%)	142 (50.4%)	283 (50.4%)
Argentina	11 (3.9%)	15 (5.3%)	26 (4.6%)
Brazil	30 (10.7%)	24 (8.5%)	54 (9.6%)
Chile	3 (1.1%)	2 (0.7%)	5 (0.9%)
Columbia	19 (6.8%)	21 (7.4%)	40 (7.1%)
Mexico		2 (0.7%)	2 (0.4%)
Peru	6 (2.1%)	6 (2.1%)	12 (2.1%)
South Africa	70 (25.0%)	70 (24.8%)	140 (24.9%)

(continued)

Characteristics	Vaccine (N = 280)	Placebo (N = 282)	Total (N = 562)
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This table summarizes characteristics of per-protocol participants in the immunogenicity subcohort, which was randomly sampled from the study cohort. The sampling was stratified by strata defined by enrollment characteristics: Assigned randomization arm \times Baseline SARS-CoV-2 seronegative vs. seropositive \times Randomization strata. The U.S. subcohort includes 8 baseline demographic strata; the Latin America and South Africa subcohorts each include 4 baseline demographic strata.

MOCH

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=787 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	58	56	58	56	56	53	55	18	17	17	18	17	18	18	18
Estimated	1547	994	786	513	1826	1209	961	631	160	113	93	44	196	134	91	79
Placebo																
Observed	7	7	7	7	7	7	7	6	18	18	18	18	17	17	18	18
Estimated	1535	1008	865	536	1791	1177	937	664	165	104	92	61	194	136	104	67

Demographic covariate strata:

1. US Underrepresented minority, Age 18-59, Absence of comorbidities
2. US Underrepresented minority, Age 18-59, Presence of comorbidities
3. US Underrepresented minority, Age ≥ 60 , Absence of comorbidities
4. US Underrepresented minority, Age ≥ 60 , Presence of comorbidities
5. US White non-Hisp, Age 18-59, Absence of comorbidities
6. US White non-Hisp, Age 18-59, Presence of comorbidities
7. US White non-Hisp, Age ≥ 60 , Absence of comorbidities
8. US White non-Hisp, Age ≥ 60 , Presence of comorbidities

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=778 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	56	57	58	56	54	55	56	17	18	16	18	18	17	18	17
Estimated	3129	2082	1631	1098	1109	714	614	456	322	233	206	96	120	82	67	39
Placebo																
Observed	7	6	6	7	7	6	6	7	18	16	18	18	17	18	17	18
Estimated	2994	2055	1644	1085	1123	750	614	430	335	212	203	94	118	76	55	42

Demographic covariate strata:

1. Latin America, Age 18-59, Absence of comorbidities
2. Latin America, Age 18-59, Presence of comorbidities
3. Latin America, Age ≥ 60 , Absence of comorbidities
4. Latin America, Age ≥ 60 , Presence of comorbidities
5. South Africa, Age 18-59, Absence of comorbidities
6. South Africa, Age 18-59, Presence of comorbidities
7. South Africa, Age ≥ 60 , Absence of comorbidities
8. South Africa, Age ≥ 60 , Presence of comorbidities

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 $\geq 2 \times$ LLOQ or $\geq 4 \times$ LLOQ for binding antibody markers

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

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times$ LLOQ	% Greater than $4 \times$ LLOQ
All participants								
	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	896	1133.5/19300 = 5.9% (4.4%, 7.8%)	2836.6/19300 = 14.7% (12.4%, 17.3%)	1486/19300 = 7.7% (6.1%, 9.7%)
	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	896	9847.8/19300 = 51.0% (47.5%, 54.6%)	11360.5/19300 = 58.9% (55.2%, 62.4%)	8233.3/19300 = 42.7% (39.3%, 46.1%)
	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	896	8261.3/19300 = 42.8% (39.4%, 46.2%)	13756.9/19300 = 71.3% (67.7%, 74.6%)	10152/19300 = 52.6% (49.1%, 56.1%)
	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	280	223.7/2075 = 10.8% (7.4%, 15.5%)	448.4/2075 = 21.6% (16.8%, 27.4%)	258.2/2075 = 12.4% (8.8%, 17.2%)
	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	280	1357.5/2075 = 65.4% (58.7%, 71.6%)	1502.9/2075 = 72.4% (65.8%, 78.2%)	1112.5/2075 = 53.6% (46.9%, 60.2%)
	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	280	1190.7/2075 = 57.4% (51.0%, 63.5%)	1714.4/2075 = 82.6% (76.9%, 87.2%)	1387.4/2075 = 66.9% (60.3%, 72.8%)
	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	107	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	107	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	107	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	282	75/2058 = 3.6% (2.1%, 6.3%)	213.4/2058 = 10.4% (7.3%, 14.4%)	89.2/2058 = 4.3% (2.6%, 7.1%)
	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	282	807.5/2058 = 39.2% (33.9%, 44.8%)	993.7/2058 = 48.3% (42.4%, 54.2%)	649.9/2058 = 31.6% (26.7%, 36.9%)

Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	282	546/2058 = 26.5% (21.9%, 31.7%)	1168.1/2058 = 56.8% (50.1%, 63.2%)	724.4/2058 = 35.2% (30.0%, 40.8%)
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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 $\geq 2 \times$ LLOQ or $\geq 4 \times$ LLOQ for binding antibody markers by Age

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times$ LLOQ	% Greater than $4 \times$ LLOQ
Age								
Age 18 - 59	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	448	530.6/12610 = 4.2% (2.6%, 6.8%)	1214.8/12610 = 9.6% (7.1%, 12.9%)	633.2/12610 = 5.0% (3.3%, 7.7%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	4700.6/12610 = 37.3% (32.5%, 42.3%)	5866.2/12610 = 46.5% (41.5%, 51.7%)	3526.6/12610 = 28.0% (23.6%, 32.8%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	3526.3/12610 = 28.0% (23.6%, 32.8%)	7528.4/12610 = 59.7% (54.6%, 64.6%)	4683.9/12610 = 37.1% (32.3%, 42.2%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	86.8/1360 = 6.4% (3.1%, 12.7%)	181.7/1360 = 13.4% (8.2%, 21.1%)	107.2/1360 = 7.9% (4.2%, 14.2%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	763.2/1360 = 56.1% (47.0%, 64.9%)	866.3/1360 = 63.7% (54.5%, 72.0%)	582.5/1360 = 42.8% (34.1%, 52.1%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	556.9/1360 = 40.9% (32.2%, 50.3%)	1018.5/1360 = 74.9% (66.4%, 81.8%)	714.1/1360 = 52.5% (43.2%, 61.6%)
Age 18 - 59	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	54	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	139	0/1340 = 0.0% (0.0%, 0.0%)	42.1/1340 = 3.1% (1.1%, 8.6%)	0/1340 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	139	296/1340 = 22.1% (15.9%, 29.9%)	436.2/1340 = 32.6% (25.1%, 41.0%)	191.5/1340 = 14.3% (9.2%, 21.5%)
Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	139	142.8/1340 = 10.7% (6.3%, 17.4%)	581.2/1340 = 43.4% (34.5%, 52.7%)	236/1340 = 17.6% (11.8%, 25.4%)
Age \geq 60	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	448	602.9/6690 = 9.0% (6.5%, 12.3%)	1621.8/6690 = 24.2% (20.1%, 28.9%)	852.7/6690 = 12.7% (9.8%, 16.4%)
Age \geq 60	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	5147.2/6690 = 76.9% (72.6%, 80.8%)	5494.4/6690 = 82.1% (78.1%, 85.5%)	4706.6/6690 = 70.4% (65.7%, 74.6%)
Age \geq 60	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	4735.1/6690 = 70.8% (66.0%, 75.1%)	6228.5/6690 = 93.1% (90.2%, 95.2%)	5468/6690 = 81.7% (77.6%, 85.2%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Age ≥ 60	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	136.9/715 = 19.2% (12.5%, 28.1%)	266.6/715 = 37.3% (28.3%, 47.3%)	151.1/715 = 21.1% (14.2%, 30.2%)
Age ≥ 60	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	594.3/715 = 83.1% (74.1%, 89.4%)	636.6/715 = 89.0% (80.3%, 94.2%)	530/715 = 74.1% (64.5%, 81.9%)
Age ≥ 60	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	633.8/715 = 88.6% (82.6%, 92.8%)	695.8/715 = 97.3% (93.5%, 98.9%)	673.3/715 = 94.2% (89.2%, 96.9%)
Age ≥ 60	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0/6775 = 0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0/6775 = 0.0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0/6775 = 0.0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	143	75/718 = 10.4% (5.9%, 17.9%)	171.2/718 = 23.8% (16.7%, 32.8%)	89.2/718 = 12.4% (7.5%, 20.0%)
Age ≥ 60	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	143	511.5/718 = 71.2% (62.2%, 78.8%)	557.5/718 = 77.6% (68.8%, 84.5%)	458.4/718 = 63.8% (54.5%, 72.2%)
Age ≥ 60	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	143	403.3/718 = 56.2% (46.7%, 65.2%)	587/718 = 81.7% (72.8%, 88.2%)	488.3/718 = 68.0% (58.7%, 76.1%)

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

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times$ LLOQ	% Greater than $4 \times$ LLOQ
Risk for Severe Covid-19								
At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	451	542.1/7697 = 7.0% (4.8%, 10.2%)	1177.9/7697 = 15.3% (12.0%, 19.3%)	667.3/7697 = 8.7% (6.2%, 12.0%)
At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	451	3671.5/7697 = 47.7% (42.7%, 52.7%)	4463.7/7697 = 58.0% (52.9%, 62.9%)	3070.4/7697 = 39.9% (35.2%, 44.8%)
At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	451	3235.1/7697 = 42.0% (37.3%, 47.0%)	5381.4/7697 = 69.9% (64.9%, 74.5%)	4070.4/7697 = 52.9% (47.9%, 57.8%)
At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	74/820 = 9.0% (5.2%, 15.2%)	148.4/820 = 18.1% (12.2%, 26.0%)	84.1/820 = 10.3% (6.2%, 16.5%)
At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	566.9/820 = 69.1% (59.4%, 77.4%)	614.7/820 = 75.0% (65.4%, 82.6%)	500.4/820 = 61.0% (51.3%, 70.0%)
At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	433.3/820 = 52.8% (43.7%, 61.8%)	665.4/820 = 81.1% (72.1%, 87.7%)	519.6/820 = 63.4% (53.8%, 72.0%)
At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	141	29.3/792 = 3.7% (1.8%, 7.4%)	100.3/792 = 12.7% (7.8%, 19.9%)	40.3/792 = 5.1% (2.8%, 9.1%)
At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	141	339/792 = 42.8% (34.3%, 51.8%)	450.1/792 = 56.8% (47.3%, 65.9%)	284.8/792 = 36.0% (27.9%, 44.9%)
At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	141	217.2/792 = 27.4% (21.2%, 34.6%)	479.7/792 = 60.6% (50.9%, 69.5%)	275.9/792 = 34.8% (27.6%, 42.9%)
Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	445	591.4/11603 = 5.1% (3.4%, 7.7%)	1658.7/11603 = 14.3% (11.4%, 17.8%)	818.7/11603 = 7.1% (5.1%, 9.8%)
Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	445	6176.3/11603 = 53.2% (48.3%, 58.1%)	6896.9/11603 = 59.4% (54.4%, 64.3%)	5162.9/11603 = 44.5% (39.9%, 49.2%)
Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	445	5026.2/11603 = 43.3% (38.7%, 48.0%)	8375.5/11603 = 72.2% (67.2%, 76.7%)	6081.6/11603 = 52.4% (47.6%, 57.2%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	139	149.8/1255 = 11.9% (7.2%, 19.1%)	300/1255 = 23.9% (17.1%, 32.3%)	174.1/1255 = 13.9% (8.8%, 21.1%)
Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	139	790.6/1255 = 63.0% (53.6%, 71.5%)	888.2/1255 = 70.8% (61.4%, 78.7%)	612.1/1255 = 48.8% (39.7%, 57.9%)
Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	139	757.4/1255 = 60.3% (51.6%, 68.5%)	1049/1255 = 83.6% (75.5%, 89.4%)	867.8/1255 = 69.1% (60.1%, 77.0%)
Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	54	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	141	45.7/1266 = 3.6% (1.6%, 8.0%)	113/1266 = 8.9% (5.4%, 14.4%)	48.9/1266 = 3.9% (1.8%, 8.2%)
Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	141	468.5/1266 = 37.0% (30.3%, 44.3%)	543.7/1266 = 42.9% (35.5%, 50.7%)	365.1/1266 = 28.8% (22.9%, 35.7%)
Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	141	328.8/1266 = 26.0% (19.8%, 33.3%)	688.4/1266 = 54.4% (45.3%, 63.1%)	448.4/1266 = 35.4% (28.3%, 43.2%)

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

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times$ LLOQ	% Greater than $4 \times$ LLOQ
Age, Risk for Severe Covid-19								
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	224	276.6/4999 = 5.5% (2.9%, 10.3%)	587.5/4999 = 11.8% (7.8%, 17.4%)	306.9/4999 = 6.1% (3.4%, 11.0%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	1781.3/4999 = 35.6% (29.1%, 42.8%)	2377.2/4999 = 47.6% (40.5%, 54.7%)	1381.9/4999 = 27.6% (21.7%, 34.5%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	1452.9/4999 = 29.1% (23.0%, 36.0%)	2912.2/4999 = 58.3% (51.1%, 65.1%)	1968.6/4999 = 39.4% (32.6%, 46.6%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	25.2/562 = 4.5% (1.3%, 14.7%)	55.9/562 = 10.0% (4.2%, 21.8%)	30/562 = 5.3% (1.8%, 15.1%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	351.9/562 = 62.6% (49.5%, 74.1%)	373.5/562 = 66.5% (53.3%, 77.5%)	303/562 = 53.9% (41.0%, 66.3%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	218.8/562 = 38.9% (27.3%, 51.9%)	414.1/562 = 73.7% (61.0%, 83.3%)	280.3/562 = 49.9% (37.2%, 62.6%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	69	0/528 = 0.0% (0.0%, 0.0%)	30.7/528 = 5.8% (1.7%, 18.2%)	0/528 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	69	158.1/528 = 29.9% (19.5%, 43.0%)	243.1/528 = 46.0% (33.4%, 59.2%)	120.1/528 = 22.7% (13.4%, 36.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	69	53/528 = 10.0% (4.5%, 20.9%)	249.3/528 = 47.2% (34.3%, 60.5%)	88.5/528 = 16.8% (9.1%, 28.9%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	224	254.1/7611 = 3.3% (1.6%, 6.8%)	627.3/7611 = 8.2% (5.3%, 12.6%)	326.3/7611 = 4.3% (2.3%, 7.9%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	2919.3/7611 = 38.4% (31.7%, 45.4%)	3489/7611 = 45.8% (38.9%, 53.0%)	2144.7/7611 = 28.2% (22.3%, 34.9%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	2073.4/7611 = 27.2% (21.4%, 34.0%)	4616.3/7611 = 60.7% (53.5%, 67.4%)	2715.3/7611 = 35.7% (29.2%, 42.8%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	61.6/798 = 7.7% (3.2%, 17.7%)	125.8/798 = 15.8% (8.5%, 27.3%)	77.1/798 = 9.7% (4.5%, 19.5%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	411.3/798 = 51.5% (38.9%, 64.0%)	492.9/798 = 61.8% (48.8%, 73.3%)	279.5/798 = 35.0% (23.6%, 48.5%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	338.1/798 = 42.4% (30.2%, 55.5%)	604.5/798 = 75.8% (63.5%, 84.9%)	433.8/798 = 54.4% (41.2%, 66.9%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	28	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	28	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	28	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	70	0/812 = 0.0% (0.0%, 0.0%)	11.4/812 = 1.4% (0.2%, 9.7%)	0/812 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	70	137.9/812 = 17.0% (10.0%, 27.4%)	193.2/812 = 23.8% (15.1%, 35.4%)	71.4/812 = 8.8% (3.9%, 18.7%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	70	89.8/812 = 11.1% (5.5%, 21.1%)	331.8/812 = 40.9% (29.1%, 53.8%)	147.5/812 = 18.2% (10.6%, 29.3%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	227	265.6/2698 = 9.8% (6.6%, 14.5%)	590.4/2698 = 21.9% (16.7%, 28.1%)	360.3/2698 = 13.4% (9.4%, 18.6%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	227	1890.2/2698 = 70.1% (63.3%, 76.0%)	2086.5/2698 = 77.3% (71.0%, 82.6%)	1688.4/2698 = 62.6% (55.6%, 69.0%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	227	1782.2/2698 = 66.1% (59.1%, 72.4%)	2469.2/2698 = 91.5% (86.8%, 94.6%)	2101.8/2698 = 77.9% (71.5%, 83.2%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	48.8/258 = 18.9% (11.1%, 30.3%)	92.4/258 = 35.8% (24.7%, 48.7%)	54.1/258 = 21.0% (12.6%, 32.8%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	215/258 = 83.3% (71.3%, 91.0%)	241.2/258 = 93.5% (84.0%, 97.5%)	197.5/258 = 76.5% (63.7%, 85.8%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	214.5/258 = 83.1% (70.7%, 91.0%)	251.3/258 = 97.4% (89.2%, 99.4%)	239.3/258 = 92.8% (82.6%, 97.2%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	72	29.3/264 = 11.1% (5.3%, 21.7%)	69.6/264 = 26.4% (16.9%, 38.7%)	40.3/264 = 15.3% (8.2%, 26.5%)
Age ≥ 60 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	72	180.9/264 = 68.5% (56.1%, 78.8%)	207/264 = 78.4% (66.5%, 86.9%)	164.7/264 = 62.4% (49.8%, 73.5%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Age ≥ 60 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	72	164.2/264 = 62.2% (49.5%, 73.4%)	230.4/264 = 87.3% (76.0%, 93.7%)	187.4/264 = 71.0% (58.5%, 81.0%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	221	337.3/3992 = 8.4% (5.2%, 13.5%)	1031.4/3992 = 25.8% (20.0%, 32.6%)	492.4/3992 = 12.3% (8.5%, 17.7%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	3257/3992 = 81.6% (75.7%, 86.3%)	3407.9/3992 = 85.4% (79.9%, 89.5%)	3018.2/3992 = 75.6% (69.3%, 81.0%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	2952.9/3992 = 74.0% (67.3%, 79.7%)	3759.3/3992 = 94.2% (89.8%, 96.7%)	3366.3/3992 = 84.3% (78.7%, 88.7%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	69	88.2/457 = 19.3% (10.5%, 32.7%)	174.2/457 = 38.1% (25.8%, 52.2%)	97/457 = 21.2% (12.1%, 34.5%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	69	379.4/457 = 83.0% (69.6%, 91.3%)	395.3/457 = 86.5% (73.0%, 93.8%)	332.5/457 = 72.8% (58.9%, 83.2%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	69	419.3/457 = 91.8% (84.1%, 95.9%)	444.5/457 = 97.3% (91.6%, 99.1%)	434/457 = 95.0% (88.1%, 98.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	71	45.7/454 = 10.1% (4.3%, 21.6%)	101.6/454 = 22.4% (13.2%, 35.4%)	48.9/454 = 10.8% (4.9%, 22.2%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	71	330.6/454 = 72.8% (59.9%, 82.7%)	350.5/454 = 77.2% (64.4%, 86.4%)	293.6/454 = 64.7% (51.5%, 76.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	71	239.1/454 = 52.7% (39.6%, 65.3%)	356.6/454 = 78.5% (65.3%, 87.7%)	300.9/454 = 66.3% (53.0%, 77.4%)

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

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times$ LLOQ	% Greater than $4 \times$ LLOQ
Sex								
Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	895	1133.5/19281.1 = 5.9% (4.4%, 7.8%)	2836.6/19281.1 = 14.7% (12.5%, 17.3%)	1486/19281.1 = 7.7% (6.1%, 9.7%)
Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	895	9828.8/19281.1 = 51.0% (47.4%, 54.5%)	11341.6/19281.1 = 58.8% (55.2%, 62.4%)	8214.3/19281.1 = 42.6% (39.3%, 46.0%)
Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	895	8242.4/19281.1 = 42.7% (39.4%, 46.2%)	13738/19281.1 = 71.3% (67.7%, 74.5%)	10133/19281.1 = 52.6% (49.0%, 56.0%)
Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	280	223.7/2075 = 10.8% (7.4%, 15.5%)	448.4/2075 = 21.6% (16.8%, 27.4%)	258.2/2075 = 12.4% (8.8%, 17.2%)
Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	280	1357.5/2075 = 65.4% (58.7%, 71.6%)	1502.9/2075 = 72.4% (65.8%, 78.2%)	1112.5/2075 = 53.6% (46.9%, 60.2%)
Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	280	1190.7/2075 = 57.4% (51.0%, 63.5%)	1714.4/2075 = 82.6% (76.9%, 87.2%)	1387.4/2075 = 66.9% (60.3%, 72.8%)
Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	63	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	63	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	63	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	112	10.4/813.9 = 1.3% (0.3%, 5.0%)	71.8/813.9 = 8.8% (4.8%, 15.6%)	13.7/813.9 = 1.7% (0.5%, 5.2%)
Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	112	358.6/813.9 = 44.1% (34.3%, 54.3%)	401/813.9 = 49.3% (39.1%, 59.5%)	257.1/813.9 = 31.6% (23.2%, 41.4%)
Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	112	222.6/813.9 = 27.4% (19.9%, 36.4%)	479.3/813.9 = 58.9% (47.9%, 69.1%)	290.2/813.9 = 35.7% (27.0%, 45.4%)
Female	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1	0/18.9 = 0.0%	0/18.9 = 0.0%	0/18.9 = 0.0%
Female	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%
Female	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%
Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	44	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	44	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	44	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	170	64.6/1244.1 = 5.2% (2.8%, 9.5%)	141.5/1244.1 = 11.4% (7.4%, 17.2%)	75.5/1244.1 = 6.1% (3.5%, 10.4%)
Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	170	448.9/1244.1 = 36.1% (29.2%, 43.6%)	592.7/1244.1 = 47.6% (39.7%, 55.7%)	392.8/1244.1 = 31.6% (25.0%, 39.0%)
Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	170	323.4/1244.1 = 26.0% (19.9%, 33.2%)	688.8/1244.1 = 55.4% (46.6%, 63.8%)	434.2/1244.1 = 34.9% (27.7%, 42.8%)

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 $\geq 2 \times$ LLOQ or $\geq 4 \times$ LLOQ for binding antibody markers by Age, sex

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times$ LLOQ	% Greater than $4 \times$ LLOQ
Age, sex								
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	23	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	23	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	23	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	84	0/815 = 0.0% (0.0%, 0.0%)	26.5/815 = 3.3% (0.8%, 11.9%)	0/815 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	84	124.4/815 = 15.3% (8.7%, 25.3%)	245.2/815 = 30.1% (20.8%, 41.4%)	99.5/815 = 12.2% (6.3%, 22.3%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	84	77.4/815 = 9.5% (4.4%, 19.3%)	332.4/815 = 40.8% (29.6%, 53.0%)	142.4/815 = 17.5% (10.2%, 28.4%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	448	530.6/12610 = 4.2% (2.6%, 6.8%)	1214.8/12610 = 9.6% (7.1%, 12.9%)	633.2/12610 = 5.0% (3.3%, 7.7%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	4700.6/12610 = 37.3% (32.5%, 42.3%)	5866.2/12610 = 46.5% (41.5%, 51.7%)	3526.6/12610 = 28.0% (23.6%, 32.8%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	3526.3/12610 = 28.0% (23.6%, 32.8%)	7528.4/12610 = 59.7% (54.6%, 64.6%)	4683.9/12610 = 37.1% (32.3%, 42.2%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	86.8/1360 = 6.4% (3.1%, 12.7%)	181.7/1360 = 13.4% (8.2%, 21.1%)	107.2/1360 = 7.9% (4.2%, 14.2%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	763.2/1360 = 56.1% (47.0%, 64.9%)	866.3/1360 = 63.7% (54.5%, 72.0%)	582.5/1360 = 42.8% (34.1%, 52.1%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	556.9/1360 = 40.9% (32.2%, 50.3%)	1018.5/1360 = 74.9% (66.4%, 81.8%)	714.1/1360 = 52.5% (43.2%, 61.6%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	31	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	31	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	31	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	55	0/525 = 0.0% (0.0%, 0.0%)	15.6/525 = 3.0% (0.6%, 13.3%)	0/525 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	171.6/525 = 32.7% (21.2%, 46.7%)	191/525 = 36.4% (24.3%, 50.5%)	92.1/525 = 17.5% (9.3%, 30.5%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	55	65.4/525 = 12.5% (6.0%, 24.1%)	248.8/525 = 47.4% (33.2%, 62.1%)	93.6/525 = 17.8% (9.6%, 30.8%)
Age ≥ 60 Female	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1	0/18.9 = 0.0%	0/18.9 = 0.0%	0/18.9 = 0.0%
Age ≥ 60 Female	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%
Age ≥ 60 Female	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	21	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	86	64.6/429.2 = 15.0% (8.0%, 26.4%)	115/429.2 = 26.8% (17.3%, 39.1%)	75.5/429.2 = 17.6% (10.0%, 29.0%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	86	324.5/429.2 = 75.6% (63.5%, 84.7%)	347.4/429.2 = 81.0% (68.8%, 89.1%)	293.3/429.2 = 68.3% (55.7%, 78.8%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	86	246.1/429.2 = 57.3% (44.7%, 69.0%)	356.4/429.2 = 83.1% (70.8%, 90.8%)	291.8/429.2 = 68.0% (55.3%, 78.5%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	447	602.9/6671.1 = 9.0% (6.5%, 12.4%)	1621.8/6671.1 = 24.3% (20.2%, 29.0%)	852.7/6671.1 = 12.8% (9.8%, 16.4%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	447	5128.3/6671.1 = 76.9% (72.5%, 80.7%)	5475.4/6671.1 = 82.1% (78.1%, 85.5%)	4687.7/6671.1 = 70.3% (65.7%, 74.5%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	447	4716.1/6671.1 = 70.7% (65.9%, 75.0%)	6209.5/6671.1 = 93.1% (90.1%, 95.2%)	5449.1/6671.1 = 81.7% (77.6%, 85.2%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	136.9/715 = 19.2% (12.5%, 28.1%)	266.6/715 = 37.3% (28.3%, 47.3%)	151.1/715 = 21.1% (14.2%, 30.2%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	594.3/715 = 83.1% (74.1%, 89.4%)	636.6/715 = 89.0% (80.3%, 94.2%)	530/715 = 74.1% (64.5%, 81.9%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	633.8/715 = 88.6% (82.6%, 92.8%)	695.8/715 = 97.3% (93.5%, 98.9%)	673.3/715 = 94.2% (89.2%, 96.9%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	32	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	32	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	32	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	57	10.4/288.8 = 3.6% (0.9%, 13.6%)	56.2/288.8 = 19.5% (10.2%, 33.8%)	13.7/288.8 = 4.7% (1.5%, 14.4%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	57	187/288.8 = 64.7% (50.3%, 76.9%)	210.1/288.8 = 72.7% (58.4%, 83.5%)	165/288.8 = 57.1% (42.7%, 70.4%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	57	157.2/288.8 = 54.4% (39.6%, 68.5%)	230.5/288.8 = 79.8% (64.3%, 89.7%)	196.5/288.8 = 68.0% (53.2%, 80.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times \text{LLOQ}$	% Greater than $4 \times \text{LLOQ}$
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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 5g. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOQ or $\geq 4 \times$ LLOQ for binding antibody markers by Hispanic or Latino ethnicity

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times$ LLOQ	% Greater than $4 \times$ LLOQ
Hispanic or Latino ethnicity								
Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	371	596.1/10188.1 = 5.9% (3.8%, 8.9%)	1375.9/10188.1 = 13.5% (10.4%, 17.4%)	660/10188.1 = 6.5% (4.3%, 9.6%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	371	5168.1/10188.1 = 50.7% (45.2%, 56.2%)	6095.9/10188.1 = 59.8% (54.2%, 65.3%)	4279.4/10188.1 = 42.0% (36.9%, 47.3%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	371	4297.5/10188.1 = 42.2% (37.0%, 47.6%)	7377.2/10188.1 = 72.4% (66.9%, 77.4%)	5349.1/10188.1 = 52.5% (47.0%, 57.9%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	114	146.9/1085 = 13.5% (8.2%, 21.6%)	253.3/1085 = 23.3% (15.9%, 32.9%)	161.1/1085 = 14.8% (9.3%, 22.9%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	114	763.7/1085 = 70.4% (59.7%, 79.2%)	842.2/1085 = 77.6% (67.0%, 85.6%)	624.9/1085 = 57.6% (46.9%, 67.6%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	114	678.6/1085 = 62.5% (52.5%, 71.6%)	977.6/1085 = 90.1% (81.0%, 95.1%)	779.5/1085 = 71.8% (61.5%, 80.3%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	43	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	43	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	43	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	112	44.9/1063.7 = 4.2% (1.8%, 9.3%)	126.5/1063.7 = 11.9% (7.2%, 19.0%)	53.3/1063.7 = 5.0% (2.4%, 10.1%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	112	411.9/1063.7 = 38.7% (31.0%, 47.1%)	489.7/1063.7 = 46.0% (37.2%, 55.1%)	351.8/1063.7 = 33.1% (25.6%, 41.5%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	112	237.8/1063.7 = 22.4% (15.9%, 30.5%)	557.1/1063.7 = 52.4% (42.0%, 62.5%)	339.5/1063.7 = 31.9% (24.2%, 40.7%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	480	529.2/8229 = 6.4% (4.4%, 9.2%)	1327.9/8229 = 16.1% (12.9%, 19.9%)	765.9/8229 = 9.3% (6.9%, 12.4%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	480	4169.9/8229 = 50.7% (46.0%, 55.4%)	4718.6/8229 = 57.3% (52.5%, 62.0%)	3564.8/8229 = 43.3% (38.8%, 48.0%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	480	3496.1/8229 = 42.5% (38.1%, 47.0%)	5823.5/8229 = 70.8% (66.0%, 75.1%)	4307.8/8229 = 52.3% (47.7%, 57.0%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	156	76.9/935.3 = 8.2% (4.7%, 13.9%)	181/935.3 = 19.4% (13.6%, 26.9%)	97.2/935.3 = 10.4% (6.4%, 16.4%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	156	568/935.3 = 60.7% (51.8%, 69.0%)	630.5/935.3 = 67.4% (58.5%, 75.2%)	461.7/935.3 = 49.4% (40.8%, 58.0%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	156	491.6/935.3 = 52.6% (44.3%, 60.7%)	682.1/935.3 = 72.9% (64.0%, 80.3%)	577.6/935.3 = 61.8% (53.0%, 69.8%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	60	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	60	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	60	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	157	30.1/896.7 = 3.4% (1.6%, 6.8%)	86.9/896.7 = 9.7% (6.1%, 15.1%)	35.9/896.7 = 4.0% (2.1%, 7.5%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	157	353.3/896.7 = 39.4% (31.8%, 47.6%)	458/896.7 = 51.1% (42.7%, 59.4%)	268.5/896.7 = 29.9% (23.5%, 37.3%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	157	258.7/896.7 = 28.8% (22.9%, 35.6%)	544.4/896.7 = 60.7% (52.0%, 68.8%)	329.5/896.7 = 36.7% (29.8%, 44.3%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	45	8.1/882.9 = 0.9% (0.1%, 6.8%)	132.8/882.9 = 15.0% (6.6%, 30.6%)	60.1/882.9 = 6.8% (2.3%, 18.2%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	45	509.8/882.9 = 57.7% (41.7%, 72.3%)	546/882.9 = 61.8% (45.6%, 75.8%)	389.1/882.9 = 44.1% (29.3%, 60.0%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	45	467.8/882.9 = 53.0% (37.3%, 68.1%)	556.2/882.9 = 63.0% (46.5%, 76.9%)	495/882.9 = 56.1% (40.0%, 70.9%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	10	0/54.7 = 0.0% (0.0%, 0.0%)	14.1/54.7 = 25.8% (3.5%, 76.9%)	0/54.7 = 0.0% (0.0%, 0.0%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	10	25.8/54.7 = 47.3% (10.0%, 87.9%)	30.2/54.7 = 55.3% (12.2%, 91.7%)	25.8/54.7 = 47.3% (10.0%, 87.9%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	10	20.5/54.7 = 37.5% (7.1%, 82.4%)	54.7/54.7 = 100.0% (100.0%, 100.0%)	30.2/54.7 = 55.3% (12.2%, 91.7%)
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0/601.4 = 0.0%	0/601.4 = 0.0%	0/601.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0/601.4 = 0.0%	0/601.4 = 0.0%	0/601.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0/601.4 = 0.0%	0/601.4 = 0.0%	0/601.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	13	0/97.6 = 0.0% (0.0%, 0.0%)	0/97.6 = 0.0% (0.0%, 0.0%)	0/97.6 = 0.0% (0.0%, 0.0%)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	13	42.3/97.6 = 43.3% (10.1%, 84.0%)	46/97.6 = 47.1% (11.3%, 86.2%)	29.6/97.6 = 30.3% (5.9%, 75.2%)
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	13	49.6/97.6 = 50.8% (12.0%, 88.6%)	66.6/97.6 = 68.2% (16.1%, 96.0%)	55.4/97.6 = 56.7% (13.9%, 91.4%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times \text{LLOQ}$	% Greater than $4 \times \text{LLOQ}$
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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 5h. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOQ or $\geq 4 \times$ LLOQ for binding antibody markers by Race

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times$ LLOQ	% Greater than $4 \times$ LLOQ
Race								
White Non-Hispanic	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	189	357.9/3947.8 = 9.1% (5.6%, 14.4%)	741.8/3947.8 = 18.8% (13.7%, 25.2%)	474.5/3947.8 = 12.0% (8.0%, 17.7%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	189	2127.4/3947.8 = 53.9% (46.6%, 61.0%)	2405.2/3947.8 = 60.9% (53.5%, 67.9%)	1837.8/3947.8 = 46.6% (39.4%, 53.9%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	189	1741/3947.8 = 44.1% (37.2%, 51.2%)	2776/3947.8 = 70.3% (62.9%, 76.8%)	2073.8/3947.8 = 52.5% (45.3%, 59.6%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	58	48/414.4 = 11.6% (5.4%, 23.0%)	90.6/414.4 = 21.9% (12.6%, 35.2%)	53/414.4 = 12.8% (6.4%, 24.1%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	58	237.7/414.4 = 57.3% (43.1%, 70.5%)	277.9/414.4 = 67.1% (52.4%, 79.0%)	196.8/414.4 = 47.5% (34.0%, 61.3%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	58	201.4/414.4 = 48.6% (35.5%, 61.9%)	291.2/414.4 = 70.3% (55.4%, 81.8%)	247.8/414.4 = 59.8% (45.5%, 72.6%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	24	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	24	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	24	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	55	19/389.1 = 4.9% (1.8%, 12.8%)	32.2/389.1 = 8.3% (3.9%, 16.6%)	19/389.1 = 4.9% (1.8%, 12.8%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	154.4/389.1 = 39.7% (27.6%, 53.2%)	203.6/389.1 = 52.3% (38.2%, 66.1%)	120/389.1 = 30.9% (20.5%, 43.6%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
White Non-Hispanic	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	55	130.2/389.1 = 33.5% (23.5%, 45.1%)	239.7/389.1 = 61.6% (46.8%, 74.5%)	138.2/389.1 = 35.5% (25.1%, 47.6%)
Black or African American	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	312	172.4/4736 = 3.6% (2.0%, 6.5%)	721.1/4736 = 15.2% (11.2%, 20.4%)	332/4736 = 7.0% (4.6%, 10.5%)
Black or African American	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	312	2388/4736 = 50.4% (44.5%, 56.3%)	2755.2/4736 = 58.2% (52.1%, 64.0%)	2066.5/4736 = 43.6% (37.9%, 49.5%)
Black or African American	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	312	2037.2/4736 = 43.0% (37.4%, 48.8%)	3422.7/4736 = 72.3% (66.6%, 77.3%)	2505.3/4736 = 52.9% (47.0%, 58.8%)
Black or African American	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	105	47.8/538.7 = 8.9% (4.7%, 16.2%)	98.1/538.7 = 18.2% (11.6%, 27.5%)	63/538.7 = 11.7% (6.7%, 19.7%)
Black or African American	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	105	316.3/538.7 = 58.7% (48.2%, 68.5%)	361.7/538.7 = 67.1% (56.5%, 76.3%)	250.9/538.7 = 46.6% (36.8%, 56.6%)
Black or African American	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	105	317.7/538.7 = 59.0% (48.3%, 68.9%)	449.4/538.7 = 83.4% (74.0%, 89.9%)	358/538.7 = 66.5% (55.8%, 75.7%)
Black or African American	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	38	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Black or African American	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	109	22.4/543.2 = 4.1% (1.4%, 11.7%)	57.1/543.2 = 10.5% (6.0%, 17.8%)	31.4/543.2 = 5.8% (2.5%, 12.8%)
Black or African American	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	109	202.4/543.2 = 37.3% (28.5%, 46.9%)	264/543.2 = 48.6% (38.7%, 58.6%)	158.7/543.2 = 29.2% (21.5%, 38.4%)
Black or African American	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	109	173.4/543.2 = 31.9% (23.6%, 41.6%)	323.3/543.2 = 59.5% (49.0%, 69.2%)	201.4/543.2 = 37.1% (28.1%, 47.0%)
Asian	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	21	31.1/431.7 = 7.2% (1.9%, 24.2%)	103.8/431.7 = 24.0% (8.6%, 51.6%)	42.6/431.7 = 9.9% (3.0%, 27.7%)
Asian	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	21	199.9/431.7 = 46.3% (22.9%, 71.4%)	199.9/431.7 = 46.3% (22.9%, 71.4%)	177/431.7 = 41.0% (19.1%, 67.2%)
Asian	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	21	197/431.7 = 45.6% (22.7%, 70.6%)	302/431.7 = 70.0% (40.6%, 88.8%)	252.3/431.7 = 58.4% (31.8%, 80.9%)
Asian	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	11	9/94.4 = 9.5% (0.9%, 53.8%)	27/94.4 = 28.5% (5.0%, 75.2%)	9/94.4 = 9.5% (0.9%, 53.8%)
Asian	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	68.1/94.4 = 72.1% (19.4%, 96.5%)	68.1/94.4 = 72.1% (19.4%, 96.5%)	68.1/94.4 = 72.1% (19.4%, 96.5%)
Asian	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	39.9/94.4 = 42.3% (9.5%, 83.6%)	68.1/94.4 = 72.1% (19.4%, 96.5%)	52.8/94.4 = 55.9% (14.4%, 90.5%)
Asian	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/168.1 = 0.0%	0/168.1 = 0.0%	0/168.1 = 0.0%
Asian	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/168.1 = 0.0%	0/168.1 = 0.0%	0/168.1 = 0.0%
Asian	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/168.1 = 0.0%	0/168.1 = 0.0%	0/168.1 = 0.0%
Asian	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	10	0/84 = 0.0% (0.0%, 0.0%)	0/84 = 0.0% (0.0%, 0.0%)	0/84 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Asian	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	10	19.8/84 = 23.6% (3.2%, 74.5%)	25.6/84 = 30.5% (4.9%, 78.9%)	11.8/84 = 14.1% (1.5%, 63.5%)
Asian	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	10	11.8/84 = 14.1% (1.5%, 63.5%)	32.7/84 = 39.0% (6.4%, 85.6%)	27/84 = 32.1% (4.6%, 82.1%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	132	262.4/4654.5 = 5.6% (2.7%, 11.4%)	565.2/4654.5 = 12.1% (7.7%, 18.7%)	281.3/4654.5 = 6.0% (3.0%, 11.8%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	132	2333.2/4654.5 = 50.1% (41.2%, 59.0%)	2577.4/4654.5 = 55.4% (46.2%, 64.2%)	1900.4/4654.5 = 40.8% (32.6%, 49.6%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	132	1810.2/4654.5 = 38.9% (30.8%, 47.7%)	3310.4/4654.5 = 71.1% (61.8%, 79.0%)	2452.8/4654.5 = 52.7% (43.7%, 61.5%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	44	56.9/535.7 = 10.6% (4.3%, 24.1%)	112.3/535.7 = 21.0% (10.9%, 36.5%)	56.9/535.7 = 10.6% (4.3%, 24.1%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	44	411.2/535.7 = 76.8% (59.6%, 88.1%)	421.9/535.7 = 78.8% (61.3%, 89.7%)	343.7/535.7 = 64.2% (47.3%, 78.1%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	44	367.9/535.7 = 68.7% (52.3%, 81.4%)	484.8/535.7 = 90.5% (73.5%, 97.0%)	383.9/535.7 = 71.7% (55.0%, 84.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	21	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	43	16.5/502.5 = 3.3% (0.7%, 14.0%)	40.2/502.5 = 8.0% (3.0%, 19.9%)	21.7/502.5 = 4.3% (1.2%, 14.2%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	43	193.5/502.5 = 38.5% (25.4%, 53.5%)	230.6/502.5 = 45.9% (31.0%, 61.5%)	179.1/502.5 = 35.6% (22.9%, 50.8%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	43	85.8/502.5 = 17.1% (8.3%, 31.8%)	273.8/502.5 = 54.5% (37.8%, 70.2%)	161.9/502.5 = 32.2% (19.4%, 48.5%)
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/144 = 0.0%	0/144 = 0.0%	0/144 = 0.0%
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/144 = 0.0%	0/144 = 0.0%	0/144 = 0.0%
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/144 = 0.0%	0/144 = 0.0%	0/144 = 0.0%
Multiracial	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	25	28.2/548.4 = 5.1% (1.3%, 17.7%)	28.2/548.4 = 5.1% (1.3%, 17.7%)	28.2/548.4 = 5.1% (1.3%, 17.7%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Multiracial	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	212.3/548.4 = 38.7% (19.6%, 62.1%)	269.2/548.4 = 49.1% (25.7%, 72.8%)	151.2/548.4 = 27.6% (12.7%, 50.0%)
Multiracial	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	238.2/548.4 = 43.4% (21.7%, 68.0%)	391.3/548.4 = 71.3% (44.7%, 88.5%)	249.4/548.4 = 45.5% (23.2%, 69.7%)
Multiracial	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	11	7.6/87.5 = 8.7% (0.2%, 78.6%)	23.1/87.5 = 26.4% (2.2%, 84.9%)	7.6/87.5 = 8.7% (0.2%, 78.6%)
Multiracial	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	82/87.5 = 93.7% (13.3%, 99.9%)	82/87.5 = 93.7% (13.3%, 99.9%)	43.5/87.5 = 49.7% (4.5%, 95.4%)
Multiracial	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	60.4/87.5 = 69.1% (8.2%, 98.2%)	87.5/87.5 = 100.0% (100.0%, 100.0%)	67.1/87.5 = 76.7% (8.1%, 99.2%)
Multiracial	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0/1128.4 = 0.0%	0/1128.4 = 0.0%	0/1128.4 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0/1128.4 = 0.0%	0/1128.4 = 0.0%	0/1128.4 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0/1128.4 = 0.0%	0/1128.4 = 0.0%	0/1128.4 = 0.0%
Multiracial	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	5	0/48 = 0.0%	5.8/48 = 12.0%	0/48 = 0.0%
Multiracial	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	8.1/48 = 16.9%	16.1/48 = 33.6%	8.1/48 = 16.9%
Multiracial	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	2.3/48 = 4.9%	26.7/48 = 55.7%	8.1/48 = 16.9%
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	11	8.1/152.6 = 5.3% (0.3%, 51.3%)	19.3/152.6 = 12.7% (1.6%, 57.1%)	8.1/152.6 = 5.3% (0.3%, 51.3%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	11	128.2/152.6 = 84.0% (36.4%, 98.0%)	128.2/152.6 = 84.0% (36.4%, 98.0%)	128.2/152.6 = 84.0% (36.4%, 98.0%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	11	75.2/152.6 = 49.3% (13.9%, 85.4%)	139.3/152.6 = 91.3% (35.8%, 99.5%)	75.2/152.6 = 49.3% (13.9%, 85.4%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	4	0/32.8 = 0.0%	0/32.8 = 0.0%	0/32.8 = 0.0%
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	4	21.3/32.8 = 64.8%	21.3/32.8 = 64.8%	21.3/32.8 = 64.8%
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	4	2.3/32.8 = 7.0%	9.7/32.8 = 29.7%	9.7/32.8 = 29.7%
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/61.4 = 0.0%	0/61.4 = 0.0%	0/61.4 = 0.0%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/61.4 = 0.0%	0/61.4 = 0.0%	0/61.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/61.4 = 0.0%	0/61.4 = 0.0%	0/61.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	5	0/42.8 = 0.0%	11.4/42.8 = 26.7%	0/42.8 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	18.4/42.8 = 42.9%	22.6/42.8 = 52.8%	6.9/42.8 = 16.2%
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	0/42.8 = 0.0%	27.1/42.8 = 63.4%	13.9/42.8 = 32.5%

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

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times \text{LLOQ}$	% Greater than $4 \times \text{LLOQ}$
Underrepresented Minority Status in the U.S.								
URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	651	717.1/14304.4 = 5.0% (3.5%, 7.2%)	1918.8/14304.4 = 13.4% (10.9%, 16.4%)	923.3/14304.4 = 6.5% (4.7%, 8.8%)
URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	651	7163.3/14304.4 = 50.1% (45.8%, 54.3%)	8362.1/14304.4 = 58.5% (54.1%, 62.7%)	5979.1/14304.4 = 41.8% (37.8%, 45.9%)
URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	651	6085/14304.4 = 42.5% (38.5%, 46.7%)	10281.6/14304.4 = 71.9% (67.6%, 75.8%)	7587.6/14304.4 = 53.0% (48.8%, 57.2%)
URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	203	164.5/1552.5 = 10.6% (6.7%, 16.4%)	321/1552.5 = 20.7% (15.1%, 27.7%)	193.9/1552.5 = 12.5% (8.3%, 18.4%)
URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	203	1035.1/1552.5 = 66.7% (58.6%, 73.9%)	1135.9/1552.5 = 73.2% (65.1%, 79.9%)	831/1552.5 = 53.5% (45.5%, 61.3%)
URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	203	940.7/1552.5 = 60.6% (52.9%, 67.8%)	1345.6/1552.5 = 86.7% (79.9%, 91.4%)	1071.7/1552.5 = 69.0% (61.2%, 75.9%)
URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	78	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	78	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	78	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	208	56/1536.6 = 3.6% (1.8%, 7.1%)	163.9/1536.6 = 10.7% (7.1%, 15.6%)	70.2/1536.6 = 4.6% (2.6%, 8.0%)
URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	208	587.3/1536.6 = 38.2% (32.2%, 44.6%)	702.6/1536.6 = 45.7% (39.0%, 52.6%)	489.3/1536.6 = 31.8% (26.1%, 38.1%)
URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	208	380.8/1536.6 = 24.8% (19.5%, 30.9%)	839.2/1536.6 = 54.6% (46.7%, 62.3%)	510.6/1536.6 = 33.2% (27.2%, 39.9%)
Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	245	416.4/4995.6 = 8.3% (5.4%, 12.6%)	917.8/4995.6 = 18.4% (13.9%, 23.9%)	562.6/4995.6 = 11.3% (7.8%, 15.9%)
Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	245	2684.5/4995.6 = 53.7% (47.3%, 60.0%)	2998.4/4995.6 = 60.0% (53.5%, 66.2%)	2254.2/4995.6 = 45.1% (38.9%, 51.5%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	245	2176.3/4995.6 = 43.6% (37.6%, 49.7%)	3475.3/4995.6 = 69.6% (63.1%, 75.3%)	2564.4/4995.6 = 51.3% (45.2%, 57.5%)
Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	77	59.2/522.5 = 11.3% (5.9%, 20.7%)	127.4/522.5 = 24.4% (15.9%, 35.5%)	64.3/522.5 = 12.3% (6.7%, 21.6%)
Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	77	322.4/522.5 = 61.7% (49.2%, 72.8%)	367/522.5 = 70.2% (57.7%, 80.3%)	281.5/522.5 = 53.9% (41.7%, 65.6%)
Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	77	250/522.5 = 47.8% (37.0%, 58.9%)	368.7/522.5 = 70.6% (57.9%, 80.7%)	315.7/522.5 = 60.4% (48.2%, 71.5%)
Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	29	0/4972.9 = 0% (0.0%, 0.0%)	0/4972.9 = 0% (0.0%, 0.0%)	0/4972.9 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	29	0/4972.9 = 0% (0.0%, 0.0%)	0/4972.9 = 0.0% (0.0%, 0.0%)	0/4972.9 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	29	0/4972.9 = 0.0% (0.0%, 0.0%)	0/4972.9 = 0.0% (0.0%, 0.0%)	0/4972.9 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	74	19/521.4 = 3.6% (1.3%, 9.6%)	49.4/521.4 = 9.5% (4.7%, 18.3%)	19/521.4 = 3.6% (1.3%, 9.6%)
Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	74	220.2/521.4 = 42.2% (31.2%, 54.0%)	291.1/521.4 = 55.8% (43.7%, 67.3%)	160.6/521.4 = 30.8% (21.8%, 41.5%)
Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	74	165.2/521.4 = 31.7% (22.8%, 42.1%)	329/521.4 = 63.1% (50.6%, 74.0%)	213.8/521.4 = 41.0% (31.0%, 51.9%)

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 $\geq 2 \times$ LLOQ or $\geq 4 \times$ LLOQ 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 $2 \times$ LLOQ	% Greater than $4 \times$ LLOQ
Age, Underrepresented Minority Status in the U.S.								
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	328	357/9442.9 = 3.8% (2.1%, 6.8%)	813.4/9442.9 = 8.6% (5.9%, 12.4%)	427/9442.9 = 4.5% (2.7%, 7.6%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	328	3461.1/9442.9 = 36.7% (31.0%, 42.7%)	4432/9442.9 = 46.9% (40.9%, 53.1%)	2556.8/9442.9 = 27.1% (22.0%, 32.8%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	328	2678.5/9442.9 = 28.4% (23.2%, 34.2%)	5758.5/9442.9 = 61.0% (54.8%, 66.8%)	3608.8/9442.9 = 38.2% (32.5%, 44.3%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	103	61.2/1016.7 = 6.0% (2.4%, 14.1%)	126.4/1016.7 = 12.4% (6.7%, 21.9%)	81.5/1016.7 = 8.0% (3.9%, 15.9%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	103	587.3/1016.7 = 57.8% (46.8%, 68.0%)	664/1016.7 = 65.3% (54.3%, 74.9%)	433/1016.7 = 42.6% (32.3%, 53.6%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	103	456.1/1016.7 = 44.9% (34.2%, 56.0%)	819.6/1016.7 = 80.6% (70.5%, 87.9%)	556.5/1016.7 = 54.7% (43.6%, 65.4%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	39	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	102	0/991.9 = 0.0% (0.0%, 0.0%)	30.7/991.9 = 3.1% (0.9%, 10.0%)	0/991.9 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	102	200/991.9 = 20.2% (13.5%, 29.1%)	284.6/991.9 = 28.7% (20.5%, 38.6%)	137.8/991.9 = 13.9% (8.2%, 22.6%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	102	96/991.9 = 9.7% (5.0%, 17.8%)	408.6/991.9 = 41.2% (30.8%, 52.4%)	155.9/991.9 = 15.7% (9.4%, 25.1%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	120	173.6/3167.1 = 5.5% (2.4%, 11.9%)	401.4/3167.1 = 12.7% (7.5%, 20.5%)	206.2/3167.1 = 6.5% (3.1%, 13.3%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	120	1239.5/3167.1 = 39.1% (30.5%, 48.5%)	1434.2/3167.1 = 45.3% (36.3%, 54.6%)	969.8/3167.1 = 30.6% (22.7%, 39.9%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	120	847.8/3167.1 = 26.8% (19.3%, 35.8%)	1770/3167.1 = 55.9% (46.5%, 64.8%)	1075.1/3167.1 = 33.9% (25.8%, 43.2%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	25.6/343.3 = 7.5% (2.2%, 22.6%)	55.4/343.3 = 16.1% (7.0%, 33.0%)	25.6/343.3 = 7.5% (2.2%, 22.6%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	175.9/343.3 = 51.2% (34.5%, 67.7%)	202.3/343.3 = 58.9% (41.6%, 74.3%)	149.5/343.3 = 43.5% (27.8%, 60.7%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	100.8/343.3 = 29.3% (16.2%, 47.2%)	199/343.3 = 58.0% (40.3%, 73.8%)	157.7/343.3 = 45.9% (29.6%, 63.2%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	15	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	15	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	15	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	37	0/348.1 = 0.0% (0.0%, 0.0%)	11.4/348.1 = 3.3% (0.4%, 21.7%)	0/348.1 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	37	96/348.1 = 27.6% (14.8%, 45.6%)	151.6/348.1 = 43.6% (27.8%, 60.7%)	53.8/348.1 = 15.4% (6.6%, 32.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	37	46.8/348.1 = 13.5% (5.3%, 30.1%)	172.6/348.1 = 49.6% (32.9%, 66.4%)	80.1/348.1 = 23.0% (11.7%, 40.2%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	323	360/4861.5 = 7.4% (4.8%, 11.4%)	1105.4/4861.5 = 22.7% (17.9%, 28.4%)	496.3/4861.5 = 10.2% (7.1%, 14.4%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	323	3702.2/4861.5 = 76.2% (70.9%, 80.7%)	3930.1/4861.5 = 80.8% (75.9%, 85.0%)	3422.3/4861.5 = 70.4% (64.9%, 75.4%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	323	3406.5/4861.5 = 70.1% (64.3%, 75.3%)	4523.2/4861.5 = 93.0% (89.4%, 95.5%)	3978.8/4861.5 = 81.8% (76.9%, 85.9%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	100	103.4/535.8 = 19.3% (11.5%, 30.6%)	194.6/535.8 = 36.3% (25.5%, 48.7%)	112.4/535.8 = 21.0% (12.9%, 32.3%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	100	447.9/535.8 = 83.6% (72.1%, 90.9%)	471.9/535.8 = 88.1% (76.6%, 94.3%)	398/535.8 = 74.3% (62.3%, 83.5%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	100	484.6/535.8 = 90.4% (83.4%, 94.7%)	526.1/535.8 = 98.2% (94.4%, 99.4%)	515.3/535.8 = 96.2% (90.7%, 98.5%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	39	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	106	56/544.7 = 10.3% (5.1%, 19.6%)	133.2/544.7 = 24.5% (16.1%, 35.3%)	70.2/544.7 = 12.9% (7.1%, 22.2%)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	106	387.3/544.7 = 71.1% (60.3%, 80.0%)	418/544.7 = 76.8% (65.9%, 85.0%)	351.5/544.7 = 64.5% (53.4%, 74.3%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	106	284.9/544.7 = 52.3% (41.1%, 63.3%)	430.6/544.7 = 79.1% (67.8%, 87.1%)	354.6/544.7 = 65.1% (53.8%, 75.0%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	125	242.8/1828.5 = 13.3% (8.3%, 20.6%)	516.4/1828.5 = 28.2% (20.7%, 37.2%)	356.4/1828.5 = 19.5% (13.2%, 27.8%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	125	1445/1828.5 = 79.0% (70.7%, 85.5%)	1564.2/1828.5 = 85.5% (78.0%, 90.8%)	1284.3/1828.5 = 70.2% (61.4%, 77.8%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	125	1328.6/1828.5 = 72.7% (64.0%, 79.9%)	1705.3/1828.5 = 93.3% (87.2%, 96.6%)	1489.2/1828.5 = 81.4% (73.4%, 87.5%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	40	33.6/179.2 = 18.7% (9.1%, 34.7%)	72/179.2 = 40.2% (25.7%, 56.7%)	38.6/179.2 = 21.6% (11.1%, 37.8%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	40	146.5/179.2 = 81.7% (65.3%, 91.4%)	164.7/179.2 = 91.9% (76.6%, 97.5%)	132/179.2 = 73.6% (56.6%, 85.7%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	40	149.2/179.2 = 83.3% (67.6%, 92.2%)	169.7/179.2 = 94.7% (79.9%, 98.8%)	158/179.2 = 88.2% (73.0%, 95.4%)
Age ≥ 60 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	14	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	14	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	14	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	37	19/173.3 = 11.0% (3.8%, 27.5%)	38/173.3 = 21.9% (10.7%, 39.7%)	19/173.3 = 11.0% (3.8%, 27.5%)
Age ≥ 60 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	37	124.2/173.3 = 71.6% (54.2%, 84.3%)	139.4/173.3 = 80.4% (64.3%, 90.4%)	106.8/173.3 = 61.6% (43.8%, 76.8%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Age ≥ 60 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	37	118.4/173.3 = 68.3% (50.6%, 81.9%)	156.4/173.3 = 90.2% (75.3%, 96.6%)	133.7/173.3 = 77.1% (60.1%, 88.3%)

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.

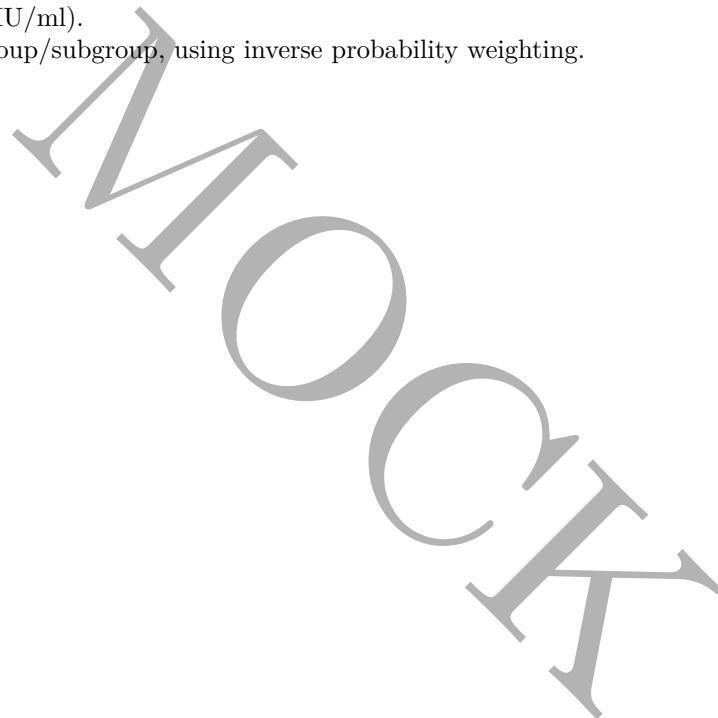


Table 5k. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOQ or $\geq 4 \times$ LLOQ for binding antibody markers by Country

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times$ LLOQ	% Greater than $4 \times$ LLOQ
Country								
United States	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	449	578/8467 = 6.8% (4.8%, 9.6%)	1314.6/8467 = 15.5% (12.4%, 19.3%)	801.2/8467 = 9.5% (7.1%, 12.5%)
United States	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	449	4397.3/8467 = 51.9% (47.2%, 56.7%)	4922.3/8467 = 58.1% (53.3%, 62.8%)	3714.3/8467 = 43.9% (39.3%, 48.6%)
United States	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	449	3819.9/8467 = 45.1% (40.6%, 49.7%)	5952.8/8467 = 70.3% (65.6%, 74.7%)	4550.6/8467 = 53.7% (49.1%, 58.3%)
United States	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	104.7/910 = 11.5% (7.2%, 17.9%)	186.1/910 = 20.4% (14.5%, 28.0%)	118.7/910 = 13.0% (8.4%, 19.7%)
United States	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	544.3/910 = 59.8% (50.8%, 68.2%)	653.4/910 = 71.8% (62.9%, 79.3%)	460.1/910 = 50.6% (41.8%, 59.3%)
United States	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	472.4/910 = 51.9% (43.6%, 60.1%)	718.5/910 = 79.0% (70.5%, 85.5%)	597.9/910 = 65.7% (56.8%, 73.6%)
United States	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	55	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	142	30.9/923 = 3.3% (1.6%, 7.0%)	86.8/923 = 9.4% (5.8%, 14.8%)	34.3/923 = 3.7% (1.8%, 7.4%)
United States	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	142	390.7/923 = 42.3% (34.5%, 50.6%)	496.7/923 = 53.8% (45.3%, 62.2%)	286.9/923 = 31.1% (24.6%, 38.5%)
United States	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	142	293.7/923 = 31.8% (25.2%, 39.3%)	546.2/923 = 59.2% (50.4%, 67.4%)	346.1/923 = 37.5% (30.4%, 45.2%)
Argentina	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	46	65.8/1512.6 = 4.3% (1.0%, 16.7%)	322.5/1512.6 = 21.3% (11.4%, 36.2%)	84.7/1512.6 = 5.6% (1.7%, 17.2%)
Argentina	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	46	796.6/1512.6 = 52.7% (37.0%, 67.9%)	1022/1512.6 = 67.6% (50.4%, 81.0%)	663.9/1512.6 = 43.9% (29.9%, 58.9%)
Argentina	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	46	691.9/1512.6 = 45.7% (30.8%, 61.5%)	1154.6/1512.6 = 76.3% (58.6%, 88.0%)	814.5/1512.6 = 53.8% (37.9%, 69.1%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Argentina	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	11	10.7/123.8 = 8.6% (1.5%, 37.1%)	36.5/123.8 = 29.5% (7.6%, 67.9%)	10.7/123.8 = 8.6% (1.5%, 37.1%)
Argentina	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	86.6/123.8 = 69.9% (28.1%, 93.3%)	91.9/123.8 = 74.2% (29.3%, 95.3%)	81.2/123.8 = 65.6% (26.3%, 91.1%)
Argentina	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	91.9/123.8 = 74.2% (29.3%, 95.3%)	91.9/123.8 = 74.2% (29.3%, 95.3%)	91.9/123.8 = 74.2% (29.3%, 95.3%)
Argentina	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	6	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	6	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	15	0/167.4 = 0.0% (0.0%, 0.0%)	28.9/167.4 = 17.3% (4.9%, 45.8%)	5.2/167.4 = 3.1% (0.3%, 24.3%)
Argentina	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	15	58/167.4 = 34.6% (12.7%, 65.9%)	58/167.4 = 34.6% (12.7%, 65.9%)	52.8/167.4 = 31.5% (10.7%, 63.8%)
Argentina	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	15	47.5/167.4 = 28.4% (8.9%, 61.8%)	89.8/167.4 = 53.7% (23.8%, 81.2%)	71.4/167.4 = 42.6% (16.5%, 73.7%)
Brazil	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	80	236/3029.5 = 7.8% (3.5%, 16.3%)	444.4/3029.5 = 14.7% (8.7%, 23.7%)	255/3029.5 = 8.4% (4.0%, 16.9%)
Brazil	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	80	1559.5/3029.5 = 51.5% (40.0%, 62.8%)	1729.3/3029.5 = 57.1% (45.2%, 68.2%)	1285.8/3029.5 = 42.4% (32.0%, 53.6%)
Brazil	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	80	1182.2/3029.5 = 39.0% (28.9%, 50.2%)	1936.4/3029.5 = 63.9% (51.7%, 74.6%)	1447.9/3029.5 = 47.8% (36.6%, 59.2%)
Brazil	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	30	44/403.8 = 10.9% (3.8%, 27.7%)	68.3/403.8 = 16.9% (6.8%, 36.3%)	44/403.8 = 10.9% (3.8%, 27.7%)
Brazil	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	30	237.5/403.8 = 58.8% (38.5%, 76.5%)	237.5/403.8 = 58.8% (38.5%, 76.5%)	154.9/403.8 = 38.4% (21.9%, 57.9%)
Brazil	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	30	180.6/403.8 = 44.7% (28.1%, 62.7%)	340/403.8 = 84.2% (62.9%, 94.4%)	225.4/403.8 = 55.8% (36.8%, 73.3%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Brazil	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	14	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	14	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	14	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	24	5.2/280.9 = 1.9% (0.2%, 13.8%)	27.8/280.9 = 9.9% (2.8%, 29.6%)	5.2/280.9 = 1.9% (0.2%, 13.8%)
Brazil	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	24	107.9/280.9 = 38.4% (21.5%, 58.6%)	113.1/280.9 = 40.3% (22.9%, 60.4%)	96.6/280.9 = 34.4% (18.2%, 55.2%)
Brazil	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	24	66/280.9 = 23.5% (11.0%, 43.3%)	155.5/280.9 = 55.4% (33.3%, 75.5%)	107/280.9 = 38.1% (21.1%, 58.7%)
Chile	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	11	0/424.5 = 0.0% (0.0%, 0.0%)	0/424.5 = 0.0% (0.0%, 0.0%)	0/424.5 = 0.0% (0.0%, 0.0%)
Chile	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	11	123.4/424.5 = 29.1% (7.4%, 67.6%)	234.9/424.5 = 55.3% (20.6%, 85.5%)	104.4/424.5 = 24.6% (5.3%, 65.4%)
Chile	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	11	84.7/424.5 = 20.0% (4.5%, 56.9%)	254.6/424.5 = 60.0% (23.2%, 88.1%)	140.8/424.5 = 33.2% (10.2%, 68.5%)
Chile	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	3	0/23.6 = 0.0%	5.3/23.6 = 22.6%	0/23.6 = 0.0%
Chile	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	3	23.6/23.6 = 100.0%	23.6/23.6 = 100.0%	18.3/23.6 = 77.4%
Chile	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	3	18.3/23.6 = 77.4%	23.6/23.6 = 100.0%	23.6/23.6 = 100.0%
Chile	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0/37.2 = 0.0%	0/37.2 = 0.0%	0/37.2 = 0.0%
Chile	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	0/37.2 = 0.0%	0/37.2 = 0.0%	0/37.2 = 0.0%
Chile	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0/37.2 = 0.0%	0/37.2 = 0.0%	0/37.2 = 0.0%
Columbia	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	59	140.8/1954.6 = 7.2% (2.8%, 17.1%)	244.5/1954.6 = 12.5% (6.3%, 23.4%)	140.8/1954.6 = 7.2% (2.8%, 17.1%)
Columbia	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	59	1087.7/1954.6 = 55.7% (41.5%, 68.9%)	1230/1954.6 = 62.9% (48.4%, 75.4%)	965.8/1954.6 = 49.4% (35.8%, 63.1%)
Columbia	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	59	936.1/1954.6 = 47.9% (34.3%, 61.8%)	1569/1954.6 = 80.3% (66.3%, 89.4%)	1049.5/1954.6 = 53.7% (39.7%, 67.2%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Columbia	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	19	31.8/237.5 = 13.4% (2.8%, 45.2%)	75.8/237.5 = 31.9% (13.1%, 59.3%)	31.8/237.5 = 13.4% (2.8%, 45.2%)
Columbia	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	19	200.3/237.5 = 84.4% (54.5%, 96.0%)	219.2/237.5 = 92.3% (67.9%, 98.6%)	181.4/237.5 = 76.4% (46.6%, 92.3%)
Columbia	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	19	182/237.5 = 76.6% (49.4%, 91.7%)	237.5/237.5 = 100.0% (100.0%, 100.0%)	192.6/237.5 = 81.1% (52.0%, 94.5%)
Columbia	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0/1199.2 = 0.0%	0/1199.2 = 0.0%	0/1199.2 = 0.0%
Columbia	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0/1199.2 = 0.0%	0/1199.2 = 0.0%	0/1199.2 = 0.0%
Columbia	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0/1199.2 = 0.0%	0/1199.2 = 0.0%	0/1199.2 = 0.0%
Columbia	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	21	27.8/253.8 = 10.9% (3.0%, 32.5%)	41/253.8 = 16.2% (5.3%, 40.0%)	27.8/253.8 = 10.9% (3.0%, 32.5%)
Columbia	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	21	101.8/253.8 = 40.1% (21.6%, 61.9%)	146.9/253.8 = 57.9% (33.6%, 78.9%)	96.6/253.8 = 38.1% (20.1%, 60.0%)
Columbia	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	21	49.5/253.8 = 19.5% (7.9%, 40.6%)	122.4/253.8 = 48.2% (26.1%, 71.1%)	72.1/253.8 = 28.4% (13.7%, 49.7%)
Mexico	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	5	0/170.2 = 0.0%	28.6/170.2 = 16.8%	0/170.2 = 0.0%
Mexico	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	5	113.3/170.2 = 66.6%	113.3/170.2 = 66.6%	76.2/170.2 = 44.7%
Mexico	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	5	76.2/170.2 = 44.7%	133.1/170.2 = 78.2%	133.1/170.2 = 78.2%
Mexico	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0/31.9 = 0.0%	0/31.9 = 0.0%	0/31.9 = 0.0%
Mexico	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	13.2/31.9 = 41.6%	13.2/31.9 = 41.6%	13.2/31.9 = 41.6%
Mexico	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0/31.9 = 0.0%	13.2/31.9 = 41.6%	0/31.9 = 0.0%
Peru	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	25	0/848.6 = 0.0% (0.0%, 0.0%)	65.8/848.6 = 7.8% (1.7%, 28.6%)	0/848.6 = 0.0% (0.0%, 0.0%)
Peru	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	376.9/848.6 = 44.4% (24.8%, 65.9%)	442.6/848.6 = 52.2% (31.0%, 72.6%)	302.5/848.6 = 35.6% (18.3%, 57.8%)
Peru	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	368.3/848.6 = 43.4% (24.1%, 64.9%)	661.2/848.6 = 77.9% (54.1%, 91.4%)	548.2/848.6 = 64.6% (41.6%, 82.4%)
Peru	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	6	0/68.4 = 0.0% (0.0%, 0.0%)	5.3/68.4 = 7.8% (0.1%, 90.9%)	5.3/68.4 = 7.8% (0.1%, 90.9%)
Peru	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	63/68.4 = 92.2% (9.1%, 99.9%)	68.4/68.4 = 100.0% (100.0%, 100.0%)	63/68.4 = 92.2% (9.1%, 99.9%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Peru	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	50.1/68.4 = 73.3% (4.5%, 99.4%)	55.4/68.4 = 81.1% (3.3%, 99.8%)	50.1/68.4 = 73.3% (4.5%, 99.4%)
Peru	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	2	0/685 = 0.0%	0/685 = 0.0%	0/685 = 0.0%
Peru	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0/685 = 0.0%	0/685 = 0.0%	0/685 = 0.0%
Peru	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0/685 = 0.0%	0/685 = 0.0%	0/685 = 0.0%
Peru	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	6	0/72.9 = 0.0% (0.0%, 0.0%)	0/72.9 = 0.0% (0.0%, 0.0%)	0/72.9 = 0.0% (0.0%, 0.0%)
Peru	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	6	16.5/72.9 = 22.6% (0.6%, 93.7%)	16.5/72.9 = 22.6% (0.6%, 93.7%)	16.5/72.9 = 22.6% (0.6%, 93.7%)
Peru	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	6	11.3/72.9 = 15.5% (0.2%, 95.6%)	61.6/72.9 = 84.5% (4.4%, 99.8%)	11.3/72.9 = 15.5% (0.2%, 95.6%)
South Africa	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	221	112.9/2893 = 3.9% (2.0%, 7.5%)	416.1/2893 = 14.4% (10.2%, 19.9%)	204.3/2893 = 7.1% (4.3%, 11.5%)
South Africa	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	1393.1/2893 = 48.2% (41.6%, 54.8%)	1666/2893 = 57.6% (50.7%, 64.2%)	1120.2/2893 = 38.7% (32.6%, 45.3%)
South Africa	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	1102.1/2893 = 38.1% (32.2%, 44.4%)	2095.2/2893 = 72.4% (65.8%, 78.2%)	1467.4/2893 = 50.7% (44.1%, 57.3%)
South Africa	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	32.5/308 = 10.5% (4.9%, 21.3%)	71/308 = 23.0% (14.2%, 35.2%)	47.7/308 = 15.5% (8.2%, 27.3%)
South Africa	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	202.2/308 = 65.7% (52.7%, 76.7%)	208.9/308 = 67.8% (54.7%, 78.6%)	153.6/308 = 49.9% (38.1%, 61.6%)
South Africa	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	195.5/308 = 63.5% (50.5%, 74.8%)	247.5/308 = 80.3% (67.7%, 88.9%)	205.9/308 = 66.8% (53.9%, 77.7%)
South Africa	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	70	11.1/291 = 3.8% (1.4%, 10.0%)	28.8/291 = 9.9% (5.3%, 17.6%)	16.7/291 = 5.7% (2.6%, 12.3%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
South Africa	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	70	119.4/291 = 41.0% (29.5%, 53.6%)	149.2/291 = 51.3% (38.8%, 63.6%)	87.3/291 = 30.0% (20.5%, 41.6%)
South Africa	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	70	78/291 = 26.8% (17.9%, 38.2%)	179.3/291 = 61.6% (48.6%, 73.2%)	116.6/291 = 40.1% (28.5%, 52.9%)

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.

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)	896	1133.5/19300 = 5.9% (4.4%, 7.8%)	4787.6/19300 = 24.8% (22.0%, 27.9%)	2836.6/19300 = 14.7% (12.4%, 17.3%)
	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	896	9847.8/19300 = 51.0% (47.5%, 54.6%)	13903.3/19300 = 72.0% (68.5%, 75.3%)	11360.5/19300 = 58.9% (55.2%, 62.4%)
	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	896	8261.3/19300 = 42.8% (39.4%, 46.2%)	16807/19300 = 87.1% (84.2%, 89.5%)	13756.9/19300 = 71.3% (67.7%, 74.6%)
	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	280	223.7/2075 = 10.8% (7.4%, 15.5%)	738.9/2075 = 35.6% (29.5%, 42.2%)	448.4/2075 = 21.6% (16.8%, 27.4%)
	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	280	1357.5/2075 = 65.4% (58.7%, 71.6%)	1789.5/2075 = 86.2% (81.0%, 90.2%)	1502.9/2075 = 72.4% (65.8%, 78.2%)
	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	280	1190.7/2075 = 57.4% (51.0%, 63.5%)	1899.1/2075 = 91.5% (86.4%, 94.8%)	1714.4/2075 = 82.6% (76.9%, 87.2%)
	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	107	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	107	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	107	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)	0/19208 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	282	75/2058 = 3.6% (2.1%, 6.3%)	333.3/2058 = 16.2% (12.4%, 20.8%)	213.4/2058 = 10.4% (7.3%, 14.4%)
	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	282	807.5/2058 = 39.2% (33.9%, 44.8%)	1401.5/2058 = 68.1% (61.2%, 74.2%)	993.7/2058 = 48.3% (42.4%, 54.2%)

Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	282	546/2058 = 26.5% (21.9%, 31.7%)	1567.2/2058 = 76.2% (69.8%, 81.5%)	1168.1/2058 = 56.8% (50.1%, 63.2%)
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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 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)	448	530.6/12610 = 4.2% (2.6%, 6.8%)	2060.3/12610 = 16.3% (13.0%, 20.3%)	1214.8/12610 = 9.6% (7.1%, 12.9%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	4700.6/12610 = 37.3% (32.5%, 42.3%)	7773.1/12610 = 61.6% (56.5%, 66.5%)	5866.2/12610 = 46.5% (41.5%, 51.7%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	3526.3/12610 = 28.0% (23.6%, 32.8%)	10248.8/12610 = 81.3% (76.9%, 85.0%)	7528.4/12610 = 59.7% (54.6%, 64.6%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	86.8/1360 = 6.4% (3.1%, 12.7%)	359.7/1360 = 26.4% (19.1%, 35.4%)	181.7/1360 = 13.4% (8.2%, 21.1%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	763.2/1360 = 56.1% (47.0%, 64.9%)	1085.3/1360 = 79.8% (72.1%, 85.8%)	866.3/1360 = 63.7% (54.5%, 72.0%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	556.9/1360 = 40.9% (32.2%, 50.3%)	1187.9/1360 = 87.3% (79.7%, 92.4%)	1018.5/1360 = 74.9% (66.4%, 81.8%)
Age 18 - 59	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	54	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)	0/12433 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	139	0/1340 = 0.0% (0.0%, 0.0%)	84.3/1340 = 6.3% (3.2%, 11.9%)	42.1/1340 = 3.1% (1.1%, 8.6%)
Age 18 - 59	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	139	296/1340 = 22.1% (15.9%, 29.9%)	784.7/1340 = 58.6% (49.1%, 67.5%)	436.2/1340 = 32.6% (25.1%, 41.0%)
Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	139	142.8/1340 = 10.7% (6.3%, 17.4%)	874.9/1340 = 65.3% (56.0%, 73.5%)	581.2/1340 = 43.4% (34.5%, 52.7%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	448	602.9/6690 = 9.0% (6.5%, 12.3%)	2727.3/6690 = 40.8% (35.9%, 45.8%)	1621.8/6690 = 24.2% (20.1%, 28.9%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	5147.2/6690 = 76.9% (72.6%, 80.8%)	6130.3/6690 = 91.6% (88.6%, 93.9%)	5494.4/6690 = 82.1% (78.1%, 85.5%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	4735.1/6690 = 70.8% (66.0%, 75.1%)	6558.2/6690 = 98.0% (96.0%, 99.0%)	6228.5/6690 = 93.1% (90.2%, 95.2%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age \geq 60	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	136.9/715 = 19.2% (12.5%, 28.1%)	379.3/715 = 53.0% (43.2%, 62.7%)	266.6/715 = 37.3% (28.3%, 47.3%)
Age \geq 60	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	594.3/715 = 83.1% (74.1%, 89.4%)	704.2/715 = 98.5% (94.0%, 99.6%)	636.6/715 = 89.0% (80.3%, 94.2%)
Age \geq 60	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	633.8/715 = 88.6% (82.6%, 92.8%)	711.3/715 = 99.5% (96.3%, 99.9%)	695.8/715 = 97.3% (93.5%, 98.9%)
Age \geq 60	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0/6775 = 0.0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)
Age \geq 60	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0/6775 = 0.0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)
Age \geq 60	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0/6775 = 0.0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)	0/6775 = 0.0% (0.0%, 0.0%)
Age \geq 60	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	143	75/718 = 10.4% (5.9%, 17.9%)	249.1/718 = 34.7% (26.2%, 44.3%)	171.2/718 = 23.8% (16.7%, 32.8%)
Age \geq 60	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	143	511.5/718 = 71.2% (62.2%, 78.8%)	616.7/718 = 85.9% (77.3%, 91.6%)	557.5/718 = 77.6% (68.8%, 84.5%)
Age \geq 60	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	143	403.3/718 = 56.2% (46.7%, 65.2%)	692.4/718 = 96.4% (92.1%, 98.4%)	587/718 = 81.7% (72.8%, 88.2%)

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 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)	451	542.1/7697 = 7.0% (4.8%, 10.2%)	1992.3/7697 = 25.9% (21.7%, 30.6%)	1177.9/7697 = 15.3% (12.0%, 19.3%)
At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	451	3671.5/7697 = 47.7% (42.7%, 52.7%)	5432.5/7697 = 70.6% (65.6%, 75.1%)	4463.7/7697 = 58.0% (52.9%, 62.9%)
At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	451	3235.1/7697 = 42.0% (37.3%, 47.0%)	6711.5/7697 = 87.2% (83.2%, 90.4%)	5381.4/7697 = 69.9% (64.9%, 74.5%)
At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	74/820 = 9.0% (5.2%, 15.2%)	299/820 = 36.5% (28.0%, 45.8%)	148.4/820 = 18.1% (12.2%, 26.0%)
At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	566.9/820 = 69.1% (59.4%, 77.4%)	664.6/820 = 81.1% (71.8%, 87.8%)	614.7/820 = 75.0% (65.4%, 82.6%)
At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	433.3/820 = 52.8% (43.7%, 61.8%)	735.9/820 = 89.7% (81.3%, 94.6%)	665.4/820 = 81.1% (72.1%, 87.7%)
At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)	0/7705 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	141	29.3/792 = 3.7% (1.8%, 7.4%)	148.2/792 = 18.7% (12.8%, 26.5%)	100.3/792 = 12.7% (7.8%, 19.9%)
At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	141	339/792 = 42.8% (34.3%, 51.8%)	586.7/792 = 74.1% (64.3%, 81.9%)	450.1/792 = 56.8% (47.3%, 65.9%)
At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	141	217.2/792 = 27.4% (21.2%, 34.6%)	608.9/792 = 76.9% (67.9%, 83.9%)	479.7/792 = 60.6% (50.9%, 69.5%)
Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	445	591.4/11603 = 5.1% (3.4%, 7.7%)	2795.3/11603 = 24.1% (20.4%, 28.2%)	1658.7/11603 = 14.3% (11.4%, 17.8%)
Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	445	6176.3/11603 = 53.2% (48.3%, 58.1%)	8470.8/11603 = 73.0% (68.0%, 77.4%)	6896.9/11603 = 59.4% (54.4%, 64.3%)
Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	445	5026.2/11603 = 43.3% (38.7%, 48.0%)	10095.4/11603 = 87.0% (82.8%, 90.3%)	8375.5/11603 = 72.2% (67.2%, 76.7%)

(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)	139	149.8/1255 = 11.9% (7.2%, 19.1%)	439.9/1255 = 35.1% (26.8%, 44.3%)	300/1255 = 23.9% (17.1%, 32.3%)
Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	139	790.6/1255 = 63.0% (53.6%, 71.5%)	1124.9/1255 = 89.6% (82.8%, 94.0%)	888.2/1255 = 70.8% (61.4%, 78.7%)
Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	139	757.4/1255 = 60.3% (51.6%, 68.5%)	1163.3/1255 = 92.7% (85.2%, 96.6%)	1049/1255 = 83.6% (75.5%, 89.4%)
Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	54	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)	0/11503 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	141	45.7/1266 = 3.6% (1.6%, 8.0%)	185.1/1266 = 14.6% (10.0%, 20.8%)	113/1266 = 8.9% (5.4%, 14.4%)
Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	141	468.5/1266 = 37.0% (30.3%, 44.3%)	814.8/1266 = 64.4% (54.8%, 72.9%)	543.7/1266 = 42.9% (35.5%, 50.7%)
Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	141	328.8/1266 = 26.0% (19.8%, 33.3%)	958.4/1266 = 75.7% (66.7%, 82.9%)	688.4/1266 = 54.4% (45.3%, 63.1%)

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)	224	276.6/4999 = 5.5% (2.9%, 10.3%)	1038.3/4999 = 20.8% (15.5%, 27.3%)	587.5/4999 = 11.8% (7.8%, 17.4%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	1781.3/4999 = 35.6% (29.1%, 42.8%)	2993.9/4999 = 59.9% (52.7%, 66.6%)	2377.2/4999 = 47.6% (40.5%, 54.7%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	1452.9/4999 = 29.1% (23.0%, 36.0%)	4066.4/4999 = 81.3% (75.3%, 86.2%)	2912.2/4999 = 58.3% (51.1%, 65.1%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	25.2/562 = 4.5% (1.3%, 14.7%)	157.8/562 = 28.1% (17.8%, 41.2%)	55.9/562 = 10.0% (4.2%, 21.8%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	351.9/562 = 62.6% (49.5%, 74.1%)	412/562 = 73.3% (60.3%, 83.2%)	373.5/562 = 66.5% (53.3%, 77.5%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	218.8/562 = 38.9% (27.3%, 51.9%)	477.9/562 = 85.0% (72.9%, 92.3%)	414.1/562 = 73.7% (61.0%, 83.3%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)	0/4990 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	69	0/528 = 0.0% (0.0%, 0.0%)	54.5/528 = 10.3% (4.5%, 22.1%)	30.7/528 = 5.8% (1.7%, 18.2%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	69	158.1/528 = 29.9% (19.5%, 43.0%)	344.3/528 = 65.2% (51.5%, 76.8%)	243.1/528 = 46.0% (33.4%, 59.2%)

(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)	69	53/528 = 10.0% (4.5%, 20.9%)	353.8/528 = 67.0% (54.4%, 77.6%)	249.3/528 = 47.2% (34.3%, 60.5%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	224	254.1/7611 = 3.3% (1.6%, 6.8%)	1021.9/7611 = 13.4% (9.4%, 18.7%)	627.3/7611 = 8.2% (5.3%, 12.6%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	2919.3/7611 = 38.4% (31.7%, 45.4%)	4779.2/7611 = 62.8% (55.6%, 69.5%)	3489/7611 = 45.8% (38.9%, 53.0%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	2073.4/7611 = 27.2% (21.4%, 34.0%)	6182.4/7611 = 81.2% (74.9%, 86.2%)	4616.3/7611 = 60.7% (53.5%, 67.4%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	61.6/798 = 7.7% (3.2%, 17.7%)	201.9/798 = 25.3% (15.6%, 38.2%)	125.8/798 = 15.8% (8.5%, 27.3%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	411.3/798 = 51.5% (38.9%, 64.0%)	673.4/798 = 84.4% (73.9%, 91.2%)	492.9/798 = 61.8% (48.8%, 73.3%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	338.1/798 = 42.4% (30.2%, 55.5%)	710/798 = 89.0% (77.3%, 95.0%)	604.5/798 = 75.8% (63.5%, 84.9%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	28	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	28	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	28	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)	0/7443 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	70	0/812 = 0.0% (0.0%, 0.0%)	29.8/812 = 3.7% (1.1%, 11.1%)	11.4/812 = 1.4% (0.2%, 9.7%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	70	137.9/812 = 17.0% (10.0%, 27.4%)	440.5/812 = 54.2% (41.2%, 66.7%)	193.2/812 = 23.8% (15.1%, 35.4%)

(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)	70	89.8/812 = 11.1% (5.5%, 21.1%)	521.1/812 = 64.2% (50.9%, 75.6%)	331.8/812 = 40.9% (29.1%, 53.8%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	227	265.6/2698 = 9.8% (6.6%, 14.5%)	953.9/2698 = 35.4% (29.0%, 42.3%)	590.4/2698 = 21.9% (16.7%, 28.1%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	227	1890.2/2698 = 70.1% (63.3%, 76.0%)	2438.7/2698 = 90.4% (85.2%, 93.9%)	2086.5/2698 = 77.3% (71.0%, 82.6%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	227	1782.2/2698 = 66.1% (59.1%, 72.4%)	2645.1/2698 = 98.0% (95.0%, 99.2%)	2469.2/2698 = 91.5% (86.8%, 94.6%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	48.8/258 = 18.9% (11.1%, 30.3%)	141.2/258 = 54.7% (42.2%, 66.7%)	92.4/258 = 35.8% (24.7%, 48.7%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	215/258 = 83.3% (71.3%, 91.0%)	252.7/258 = 97.9% (86.1%, 99.7%)	241.2/258 = 93.5% (84.0%, 97.5%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	214.5/258 = 83.1% (70.7%, 91.0%)	258/258 = 100.0% (100.0%, 100.0%)	251.3/258 = 97.4% (89.2%, 99.4%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)	0/2715 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	72	29.3/264 = 11.1% (5.3%, 21.7%)	93.7/264 = 35.5% (24.7%, 48.1%)	69.6/264 = 26.4% (16.9%, 38.7%)
Age ≥ 60 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	72	180.9/264 = 68.5% (56.1%, 78.8%)	242.4/264 = 91.8% (81.4%, 96.6%)	207/264 = 78.4% (66.5%, 86.9%)

(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)	72	164.2/264 = 62.2% (49.5%, 73.4%)	255.1/264 = 96.6% (86.7%, 99.2%)	230.4/264 = 87.3% (76.0%, 93.7%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	221	337.3/3992 = 8.4% (5.2%, 13.5%)	1773.4/3992 = 44.4% (37.5%, 51.5%)	1031.4/3992 = 25.8% (20.0%, 32.6%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	3257/3992 = 81.6% (75.7%, 86.3%)	3691.6/3992 = 92.5% (88.3%, 95.2%)	3407.9/3992 = 85.4% (79.9%, 89.5%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	2952.9/3992 = 74.0% (67.3%, 79.7%)	3913.1/3992 = 98.0% (94.6%, 99.3%)	3759.3/3992 = 94.2% (89.8%, 96.7%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	69	88.2/457 = 19.3% (10.5%, 32.7%)	238/457 = 52.1% (38.3%, 65.5%)	174.2/457 = 38.1% (25.8%, 52.2%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	69	379.4/457 = 83.0% (69.6%, 91.3%)	451.5/457 = 98.8% (91.6%, 99.8%)	395.3/457 = 86.5% (73.0%, 93.8%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	69	419.3/457 = 91.8% (84.1%, 95.9%)	453.3/457 = 99.2% (94.2%, 99.9%)	444.5/457 = 97.3% (91.6%, 99.1%)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)	0/4060 = 0.0% (0.0%, 0.0%)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	71	45.7/454 = 10.1% (4.3%, 21.6%)	155.3/454 = 34.2% (22.7%, 47.9%)	101.6/454 = 22.4% (13.2%, 35.4%)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	71	330.6/454 = 72.8% (59.9%, 82.7%)	374.3/454 = 82.4% (69.6%, 90.6%)	350.5/454 = 77.2% (64.4%, 86.4%)

(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)	71	239.1/454 = 52.7% (39.6%, 65.3%)	437.3/454 = 96.3% (90.3%, 98.7%)	356.6/454 = 78.5% (65.3%, 87.7%)

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 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)	895	1133.5/19281.1 = 5.9% (4.4%, 7.8%)	4787.6/19281.1 = 24.8% (22.0%, 27.9%)	2836.6/19281.1 = 14.7% (12.5%, 17.3%)
Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	895	9828.8/19281.1 = 51.0% (47.4%, 54.5%)	13884.4/19281.1 = 72.0% (68.5%, 75.3%)	11341.6/19281.1 = 58.8% (55.2%, 62.4%)
Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	895	8242.4/19281.1 = 42.7% (39.4%, 46.2%)	16788/19281.1 = 87.1% (84.2%, 89.5%)	13738/19281.1 = 71.3% (67.7%, 74.5%)
Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	280	223.7/2075 = 10.8% (7.4%, 15.5%)	738.9/2075 = 35.6% (29.5%, 42.2%)	448.4/2075 = 21.6% (16.8%, 27.4%)
Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	280	1357.5/2075 = 65.4% (58.7%, 71.6%)	1789.5/2075 = 86.2% (81.0%, 90.2%)	1502.9/2075 = 72.4% (65.8%, 78.2%)
Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	280	1190.7/2075 = 57.4% (51.0%, 63.5%)	1899.1/2075 = 91.5% (86.4%, 94.8%)	1714.4/2075 = 82.6% (76.9%, 87.2%)
Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	63	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	63	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	63	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)	0/11157 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	112	10.4/813.9 = 1.3% (0.3%, 5.0%)	111.6/813.9 = 13.7% (8.3%, 21.7%)	71.8/813.9 = 8.8% (4.8%, 15.6%)
Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	112	358.6/813.9 = 44.1% (34.3%, 54.3%)	588.5/813.9 = 72.3% (61.2%, 81.2%)	401/813.9 = 49.3% (39.1%, 59.5%)
Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	112	222.6/813.9 = 27.4% (19.9%, 36.4%)	668.5/813.9 = 82.1% (72.3%, 89.0%)	479.3/813.9 = 58.9% (47.9%, 69.1%)
Female	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1	0/18.9 = 0.0%	0/18.9 = 0.0%	0/18.9 = 0.0%
Female	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%
Female	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%
Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	44	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 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	Negative	Anti RBD IgG (IU/ml)	44	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	44	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 0.0% (0.0%, 0.0%)	0/8051 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	170	64.6/1244.1 = 5.2% (2.8%, 9.5%)	221.8/1244.1 = 17.8%	141.5/1244.1 = 11.4% (7.4%, 17.2%)
Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	170	448.9/1244.1 = 36.1% (29.2%, 43.6%)	813/1244.1 = 65.3%	592.7/1244.1 = 47.6% (39.7%, 55.7%)
Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	170	323.4/1244.1 = 26.0% (19.9%, 33.2%)	898.7/1244.1 = 72.2%	688.8/1244.1 = 55.4% (46.6%, 63.8%)

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)	23	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	23	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	23	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)	0/5393.9 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	84	0/815 = 0.0% (0.0%, 0.0%)	51.4/815 = 6.3% (2.7%, 14.2%)	26.5/815 = 3.3% (0.8%, 11.9%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	84	124.4/815 = 15.3% (8.7%, 25.3%)	444.8/815 = 54.6% (42.4%, 66.2%)	245.2/815 = 30.1% (20.8%, 41.4%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	84	77.4/815 = 9.5% (4.4%, 19.3%)	481.6/815 = 59.1% (46.9%, 70.3%)	332.4/815 = 40.8% (29.6%, 53.0%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	448	530.6/12610 = 4.2% (2.6%, 6.8%)	2060.3/12610 = 16.3% (13.0%, 20.3%)	1214.8/12610 = 9.6% (7.1%, 12.9%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	4700.6/12610 = 37.3% (32.5%, 42.3%)	7773.1/12610 = 61.6% (56.5%, 66.5%)	5866.2/12610 = 46.5% (41.5%, 51.7%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	3526.3/12610 = 28.0% (23.6%, 32.8%)	10248.8/12610 = 81.3% (76.9%, 85.0%)	7528.4/12610 = 59.7% (54.6%, 64.6%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	86.8/1360 = 6.4% (3.1%, 12.7%)	359.7/1360 = 26.4% (19.1%, 35.4%)	181.7/1360 = 13.4% (8.2%, 21.1%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	763.2/1360 = 56.1% (47.0%, 64.9%)	1085.3/1360 = 79.8% (72.1%, 85.8%)	866.3/1360 = 63.7% (54.5%, 72.0%)

(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)	140	556.9/1360 = 40.9% (32.2%, 50.3%)	1187.9/1360 = 87.3% (79.7%, 92.4%)	1018.5/1360 = 74.9% (66.4%, 81.8%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	31	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	31	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	31	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)	0/7039.1 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	55	0/525 = 0.0% (0.0%, 0.0%)	32.8/525 = 6.3% (2.1%, 16.9%)	15.6/525 = 3.0% (0.6%, 13.3%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	171.6/525 = 32.7% (21.2%, 46.7%)	339.9/525 = 64.7% (49.4%, 77.5%)	191/525 = 36.4% (24.3%, 50.5%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	55	65.4/525 = 12.5% (6.0%, 24.1%)	393.3/525 = 74.9% (60.6%, 85.3%)	248.8/525 = 47.4% (33.2%, 62.1%)
Age ≥ 60 Female	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1	0/18.9 = 0.0%	0/18.9 = 0.0%	0/18.9 = 0.0%
Age ≥ 60 Female	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%
Age ≥ 60 Female	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%	18.9/18.9 = 100.0%
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	21	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)	0/2657 = 0.0% (0.0%, 0.0%)

(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 N IgG (IU/ml)	86	64.6/429.2 = 15.0% (8.0%, 26.4%)	170.3/429.2 = 39.7% (28.2%, 52.4%)	115/429.2 = 26.8% (17.3%, 39.1%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	86	324.5/429.2 = 75.6% (63.5%, 84.7%)	368.2/429.2 = 85.8% (73.4%, 93.0%)	347.4/429.2 = 81.0% (68.8%, 89.1%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	86	246.1/429.2 = 57.3% (44.7%, 69.0%)	417.1/429.2 = 97.2% (91.2%, 99.1%)	356.4/429.2 = 83.1% (70.8%, 90.8%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	447	602.9/6671.1 = 9.0% (6.5%, 12.4%)	2727.3/6671.1 = 40.9% (36.0%, 46.0%)	1621.8/6671.1 = 24.3% (20.2%, 29.0%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	447	5128.3/6671.1 = 76.9% (72.5%, 80.7%)	6111.3/6671.1 = 91.6% (88.5%, 93.9%)	5475.4/6671.1 = 82.1% (78.1%, 85.5%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	447	4716.1/6671.1 = 70.7% (65.9%, 75.0%)	6539.2/6671.1 = 98.0% (96.0%, 99.0%)	6209.5/6671.1 = 93.1% (90.1%, 95.2%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	136.9/715 = 19.2% (12.5%, 28.1%)	379.3/715 = 53.0% (43.2%, 62.7%)	266.6/715 = 37.3% (28.3%, 47.3%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	594.3/715 = 83.1% (74.1%, 89.4%)	704.2/715 = 98.5% (94.0%, 99.6%)	636.6/715 = 89.0% (80.3%, 94.2%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	633.8/715 = 88.6% (82.6%, 92.8%)	711.3/715 = 99.5% (96.3%, 99.9%)	695.8/715 = 97.3% (93.5%, 98.9%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	32	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	32	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	32	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)	0/4118 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	57	10.4/288.8 = 3.6% (0.9%, 13.6%)	78.7/288.8 = 27.3% (15.9%, 42.6%)	56.2/288.8 = 19.5% (10.2%, 33.8%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	57	187/288.8 = 64.7% (50.3%, 76.9%)	248.5/288.8 = 86.1% (71.7%, 93.7%)	210.1/288.8 = 72.7% (58.4%, 83.5%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	57	157.2/288.8 = 54.4% (39.6%, 68.5%)	275.3/288.8 = 95.3% (85.5%, 98.6%)	230.5/288.8 = 79.8% (64.3%, 89.7%)

(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 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)	371	596.1/10188.1 = 5.9% (3.8%, 8.9%)	2384.2/10188.1 = 23.4% (19.3%, 28.1%)	1375.9/10188.1 = 13.5% (10.4%, 17.4%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	371	5168.1/10188.1 = 50.7% (45.2%, 56.2%)	7418.4/10188.1 = 72.8% (67.3%, 77.7%)	6095.9/10188.1 = 59.8% (54.2%, 65.3%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	371	4297.5/10188.1 = 42.2% (37.0%, 47.6%)	8915.4/10188.1 = 87.5% (82.9%, 91.0%)	7377.2/10188.1 = 72.4% (66.9%, 77.4%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	114	146.9/1085 = 13.5% (8.2%, 21.6%)	417.8/1085 = 38.5% (29.0%, 49.0%)	253.3/1085 = 23.3% (15.9%, 32.9%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	114	763.7/1085 = 70.4% (59.7%, 79.2%)	985.1/1085 = 90.8% (83.7%, 95.0%)	842.2/1085 = 77.6% (67.0%, 85.6%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	114	678.6/1085 = 62.5% (52.5%, 71.6%)	1018.4/1085 = 93.9% (85.6%, 97.5%)	977.6/1085 = 90.1% (81.0%, 95.1%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	43	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	43	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	43	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)	0/9868.3 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	112	44.9/1063.7 = 4.2% (1.8%, 9.3%)	174.7/1063.7 = 16.4% (11.0%, 23.9%)	126.5/1063.7 = 11.9% (7.2%, 19.0%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	112	411.9/1063.7 = 38.7% (31.0%, 47.1%)	688.3/1063.7 = 64.7% (53.8%, 74.3%)	489.7/1063.7 = 46.0% (37.2%, 55.1%)

(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)	112	237.8/1063.7 = 22.4% (15.9%, 30.5%)	814.9/1063.7 = 76.6% (66.3%, 84.5%)	557.1/1063.7 = 52.4% (42.0%, 62.5%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	480	529.2/8229 = 6.4% (4.4%, 9.2%)	2176.8/8229 = 26.5% (22.6%, 30.7%)	1327.9/8229 = 16.1% (12.9%, 19.9%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	480	4169.9/8229 = 50.7% (46.0%, 55.4%)	5805/8229 = 70.5% (65.8%, 74.9%)	4718.6/8229 = 57.3% (52.5%, 62.0%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	480	3496.1/8229 = 42.5% (38.1%, 47.0%)	7124.3/8229 = 86.6% (82.5%, 89.8%)	5823.5/8229 = 70.8% (66.0%, 75.1%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	156	76.9/935.3 = 8.2% (4.7%, 13.9%)	295.3/935.3 = 31.6% (24.2%, 40.0%)	181/935.3 = 19.4% (13.6%, 26.9%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	156	568/935.3 = 60.7% (51.8%, 69.0%)	774.2/935.3 = 82.8% (74.3%, 88.9%)	630.5/935.3 = 67.4% (58.5%, 75.2%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	156	491.6/935.3 = 52.6% (44.3%, 60.7%)	826.1/935.3 = 88.3% (80.0%, 93.5%)	682.1/935.3 = 72.9% (64.0%, 80.3%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	60	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	60	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	60	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)	0/8738.3 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	157	30.1/896.7 = 3.4% (1.6%, 6.8%)	158.7/896.7 = 17.7% (12.4%, 24.6%)	86.9/896.7 = 9.7% (6.1%, 15.1%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	157	353.3/896.7 = 39.4% (31.8%, 47.6%)	624.7/896.7 = 69.7% (60.8%, 77.3%)	458/896.7 = 51.1% (42.7%, 59.4%)

(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)	157	258.7/896.7 = 28.8% (22.9%, 35.6%)	667.1/896.7 = 74.4% (65.9%, 81.4%)	544.4/896.7 = 60.7% (52.0%, 68.8%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	45	8.1/882.9 = 0.9% (0.1%, 6.8%)	226.6/882.9 = 25.7% (14.2%, 41.8%)	132.8/882.9 = 15.0% (6.6%, 30.6%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	45	509.8/882.9 = 57.7% (41.7%, 72.3%)	680/882.9 = 77.0% (61.0%, 87.8%)	546/882.9 = 61.8% (45.6%, 75.8%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	45	467.8/882.9 = 53.0% (37.3%, 68.1%)	767.3/882.9 = 86.9% (70.9%, 94.8%)	556.2/882.9 = 63.0% (46.5%, 76.9%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	10	0/54.7 = 0.0% (0.0%, 0.0%)	25.8/54.7 = 47.3% (10.0%, 87.9%)	14.1/54.7 = 25.8% (3.5%, 76.9%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	10	25.8/54.7 = 47.3% (10.0%, 87.9%)	30.2/54.7 = 55.3% (12.2%, 91.7%)	30.2/54.7 = 55.3% (12.2%, 91.7%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	10	20.5/54.7 = 37.5% (7.1%, 82.4%)	54.7/54.7 = 100.0% (100.0%, 100.0%)	54.7/54.7 = 100.0% (100.0%, 100.0%)
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0/601.4 = 0.0%	0/601.4 = 0.0%	0/601.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0/601.4 = 0.0%	0/601.4 = 0.0%	0/601.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0/601.4 = 0.0%	0/601.4 = 0.0%	0/601.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	13	0/97.6 = 0.0% (0.0%, 0.0%)	0/97.6 = 0.0% (0.0%, 0.0%)	0/97.6 = 0.0% (0.0%, 0.0%)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	13	42.3/97.6 = 43.3% (10.1%, 84.0%)	88.4/97.6 = 90.6% (25.0%, 99.6%)	46/97.6 = 47.1% (11.3%, 86.2%)
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	13	49.6/97.6 = 50.8% (12.0%, 88.6%)	85.2/97.6 = 87.3% (30.8%, 99.1%)	66.6/97.6 = 68.2% (16.1%, 96.0%)

(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)	189	357.9/3947.8 = 9.1% (5.6%, 14.4%)	1106.2/3947.8 = 28.0% (22.0%, 34.9%)	741.8/3947.8 = 18.8% (13.7%, 25.2%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	189	2127.4/3947.8 = 53.9% (46.6%, 61.0%)	2846.9/3947.8 = 72.1% (64.8%, 78.4%)	2405.2/3947.8 = 60.9% (53.5%, 67.9%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	189	1741/3947.8 = 44.1% (37.2%, 51.2%)	3393.4/3947.8 = 86.0% (79.5%, 90.6%)	2776/3947.8 = 70.3% (62.9%, 76.8%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	58	48/414.4 = 11.6% (5.4%, 23.0%)	121.4/414.4 = 29.3% (18.2%, 43.6%)	90.6/414.4 = 21.9% (12.6%, 35.2%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	58	237.7/414.4 = 57.3% (43.1%, 70.5%)	357.5/414.4 = 86.3% (71.9%, 93.9%)	277.9/414.4 = 67.1% (52.4%, 79.0%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	58	201.4/414.4 = 48.6% (35.5%, 61.9%)	365/414.4 = 88.1% (73.7%, 95.1%)	291.2/414.4 = 70.3% (55.4%, 81.8%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	24	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	24	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	24	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)	0/3889.1 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	55	19/389.1 = 4.9% (1.8%, 12.8%)	58.9/389.1 = 15.1% (8.1%, 26.5%)	32.2/389.1 = 8.3% (3.9%, 16.6%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	154.4/389.1 = 39.7% (27.6%, 53.2%)	263.7/389.1 = 67.8% (52.5%, 80.0%)	203.6/389.1 = 52.3% (38.2%, 66.1%)

(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)	55	130.2/389.1 = 33.5% (23.5%, 45.1%)	291.7/389.1 = 75.0% (59.9%, 85.7%)	239.7/389.1 = 61.6% (46.8%, 74.5%)
Black or African American	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	312	172.4/4736 = 3.6% (2.0%, 6.5%)	1283.1/4736 = 27.1% (22.0%, 32.9%)	721.1/4736 = 15.2% (11.2%, 20.4%)
Black or African American	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	312	2388/4736 = 50.4% (44.5%, 56.3%)	3377.6/4736 = 71.3% (65.3%, 76.7%)	2755.2/4736 = 58.2% (52.1%, 64.0%)
Black or African American	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	312	2037.2/4736 = 43.0% (37.4%, 48.8%)	4178.6/4736 = 88.2% (83.5%, 91.7%)	3422.7/4736 = 72.3% (66.6%, 77.3%)
Black or African American	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	105	47.8/538.7 = 8.9% (4.7%, 16.2%)	181.9/538.7 = 33.8% (24.9%, 43.9%)	98.1/538.7 = 18.2% (11.6%, 27.5%)
Black or African American	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	105	316.3/538.7 = 58.7% (48.2%, 68.5%)	429.9/538.7 = 79.8% (69.6%, 87.2%)	361.7/538.7 = 67.1% (56.5%, 76.3%)
Black or African American	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	105	317.7/538.7 = 59.0% (48.3%, 68.9%)	505.4/538.7 = 93.8% (86.5%, 97.3%)	449.4/538.7 = 83.4% (74.0%, 89.9%)
Black or African American	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	38	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 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)	38	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 0.0% (0.0%, 0.0%)	0/5015.2 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	109	22.4/543.2 = 4.1% (1.4%, 11.7%)	90.5/543.2 = 16.7% (10.8%, 24.8%)	57.1/543.2 = 10.5% (6.0%, 17.8%)
Black or African American	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	109	202.4/543.2 = 37.3% (28.5%, 46.9%)	366.1/543.2 = 67.4% (56.7%, 76.5%)	264/543.2 = 48.6% (38.7%, 58.6%)
Black or African American	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	109	173.4/543.2 = 31.9% (23.6%, 41.6%)	388.8/543.2 = 71.6% (61.3%, 80.0%)	323.3/543.2 = 59.5% (49.0%, 69.2%)
Asian	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	21	31.1/431.7 = 7.2% (1.9%, 24.2%)	130.9/431.7 = 30.3% (12.1%, 57.9%)	103.8/431.7 = 24.0% (8.6%, 51.6%)
Asian	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	21	199.9/431.7 = 46.3% (22.9%, 71.4%)	357.6/431.7 = 82.8% (52.3%, 95.5%)	199.9/431.7 = 46.3% (22.9%, 71.4%)
Asian	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	21	197/431.7 = 45.6% (22.7%, 70.6%)	346.1/431.7 = 80.2% (48.8%, 94.5%)	302/431.7 = 70.0% (40.6%, 88.8%)
Asian	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	11	9/94.4 = 9.5% (0.9%, 53.8%)	42.2/94.4 = 44.7% (10.5%, 84.7%)	27/94.4 = 28.5% (5.0%, 75.2%)
Asian	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	68.1/94.4 = 72.1% (19.4%, 96.5%)	87/94.4 = 92.1% (37.7%, 99.6%)	68.1/94.4 = 72.1% (19.4%, 96.5%)
Asian	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	39.9/94.4 = 42.3% (9.5%, 83.6%)	68.1/94.4 = 72.1% (19.4%, 96.5%)	68.1/94.4 = 72.1% (19.4%, 96.5%)
Asian	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/168.1 = 0.0%	0/168.1 = 0.0%	0/168.1 = 0.0%
Asian	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/168.1 = 0.0%	0/168.1 = 0.0%	0/168.1 = 0.0%
Asian	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/168.1 = 0.0%	0/168.1 = 0.0%	0/168.1 = 0.0%
Asian	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	10	0/84 = 0.0% (0.0%, 0.0%)	11.7/84 = 14.0% (1.1%, 71.1%)	0/84 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Asian	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	10	19.8/84 = 23.6% (3.2%, 74.5%)	40.7/84 = 48.5% (8.5%, 90.5%)	25.6/84 = 30.5% (4.9%, 78.9%)
Asian	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	10	11.8/84 = 14.1% (1.5%, 63.5%)	51.4/84 = 61.1% (12.4%, 94.6%)	32.7/84 = 39.0% (6.4%, 85.6%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	132	262.4/4654.5 = 5.6% (2.7%, 11.4%)	1112.7/4654.5 = 23.9% (17.6%, 31.5%)	565.2/4654.5 = 12.1% (7.7%, 18.7%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	132	2333.2/4654.5 = 50.1% (41.2%, 59.0%)	3181/4654.5 = 68.3% (59.0%, 76.4%)	2577.4/4654.5 = 55.4% (46.2%, 64.2%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	132	1810.2/4654.5 = 38.9% (30.8%, 47.7%)	4034.7/4654.5 = 86.7% (78.3%, 92.1%)	3310.4/4654.5 = 71.1% (61.8%, 79.0%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	44	56.9/535.7 = 10.6% (4.3%, 24.1%)	217.8/535.7 = 40.7% (26.0%, 57.2%)	112.3/535.7 = 21.0% (10.9%, 36.5%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	44	411.2/535.7 = 76.8% (59.6%, 88.1%)	485.5/535.7 = 90.6% (75.6%, 96.8%)	421.9/535.7 = 78.8% (61.3%, 89.7%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	44	367.9/535.7 = 68.7% (52.3%, 81.4%)	503.8/535.7 = 94.0% (77.6%, 98.6%)	484.8/535.7 = 90.5% (73.5%, 97.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	21	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 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	Negative	Anti RBD IgG (IU/ml)	21	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 0.0% (0.0%, 0.0%)	0/6032.1 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	43	16.5/502.5 = 3.3% (0.7%, 14.0%)	68/502.5 = 13.5% (6.4%, 26.3%)	40.2/502.5 = 8.0% (3.0%, 19.9%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	43	193.5/502.5 = 38.5% (25.4%, 53.5%)	368.6/502.5 = 73.3% (55.3%, 86.0%)	230.6/502.5 = 45.9% (31.0%, 61.5%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	43	85.8/502.5 = 17.1% (8.3%, 31.8%)	409.6/502.5 = 81.5% (63.5%, 91.8%)	273.8/502.5 = 54.5% (37.8%, 70.2%)
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/144 = 0.0%	0/144 = 0.0%	0/144 = 0.0%
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/144 = 0.0%	0/144 = 0.0%	0/144 = 0.0%
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/144 = 0.0%	0/144 = 0.0%	0/144 = 0.0%
Multiracial	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	25	28.2/548.4 = 5.1% (1.3%, 17.7%)	47.1/548.4 = 8.6% (2.5%, 25.3%)	28.2/548.4 = 5.1% (1.3%, 17.7%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Multiracial	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	212.3/548.4 = 38.7% (19.6%, 62.1%)	301.8/548.4 = 55.0% (29.9%, 77.8%)	269.2/548.4 = 49.1% (25.7%, 72.8%)
Multiracial	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	238.2/548.4 = 43.4% (21.7%, 68.0%)	448.3/548.4 = 81.7% (54.7%, 94.3%)	391.3/548.4 = 71.3% (44.7%, 88.5%)
Multiracial	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	11	7.6/87.5 = 8.7% (0.2%, 78.6%)	30.5/87.5 = 34.9% (3.3%, 89.5%)	23.1/87.5 = 26.4% (2.2%, 84.9%)
Multiracial	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	82/87.5 = 93.7% (13.3%, 99.9%)	82/87.5 = 93.7% (13.3%, 99.9%)	82/87.5 = 93.7% (13.3%, 99.9%)
Multiracial	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	60.4/87.5 = 69.1% (8.2%, 98.2%)	87.5/87.5 = 100.0% (100.0%, 100.0%)	87.5/87.5 = 100.0% (100.0%, 100.0%)
Multiracial	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0/1128.4 = 0.0%	0/1128.4 = 0.0%	0/1128.4 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0/1128.4 = 0.0%	0/1128.4 = 0.0%	0/1128.4 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0/1128.4 = 0.0%	0/1128.4 = 0.0%	0/1128.4 = 0.0%
Multiracial	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	5	0/48 = 0.0%	5.8/48 = 12.0%	5.8/48 = 12.0%
Multiracial	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	8.1/48 = 16.9%	16.1/48 = 33.6%	16.1/48 = 33.6%
Multiracial	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	2.3/48 = 4.9%	48/48 = 100.0%	26.7/48 = 55.7%
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	11	8.1/152.6 = 5.3% (0.3%, 51.3%)	32.5/152.6 = 21.3% (3.7%, 65.5%)	19.3/152.6 = 12.7% (1.6%, 57.1%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	11	128.2/152.6 = 84.0% (36.4%, 98.0%)	128.2/152.6 = 84.0% (36.4%, 98.0%)	128.2/152.6 = 84.0% (36.4%, 98.0%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	11	75.2/152.6 = 49.3% (13.9%, 85.4%)	139.3/152.6 = 91.3% (35.8%, 99.5%)	139.3/152.6 = 91.3% (35.8%, 99.5%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	4	0/32.8 = 0.0%	0/32.8 = 0.0%	0/32.8 = 0.0%
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	4	21.3/32.8 = 64.8%	32.8/32.8 = 100.0%	21.3/32.8 = 64.8%
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	4	2.3/32.8 = 7.0%	32.8/32.8 = 100.0%	9.7/32.8 = 29.7%
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/61.4 = 0.0%	0/61.4 = 0.0%	0/61.4 = 0.0%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/61.4 = 0.0%	0/61.4 = 0.0%	0/61.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/61.4 = 0.0%	0/61.4 = 0.0%	0/61.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	5	0/42.8 = 0.0%	11.4/42.8 = 26.7%	11.4/42.8 = 26.7%
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	18.4/42.8 = 42.9%	42.8/42.8 = 100.0%	22.6/42.8 = 52.8%
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	0/42.8 = 0.0%	38.5/42.8 = 90.1%	27.1/42.8 = 63.4%

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 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)	651	717.1/14304.4 = 5.0% (3.5%, 7.2%)	3474/14304.4 = 24.3% (21.0%, 27.9%)	1918.8/14304.4 = 13.4% (10.9%, 16.4%)
URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	651	7163.3/14304.4 = 50.1% (45.8%, 54.3%)	10270/14304.4 = 71.8% (67.5%, 75.7%)	8362.1/14304.4 = 58.5% (54.1%, 62.7%)
URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	651	6085/14304.4 = 42.5% (38.5%, 46.7%)	12498.8/14304.4 = 87.4% (83.8%, 90.2%)	10281.6/14304.4 = 71.9% (67.6%, 75.8%)
URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	203	164.5/1552.5 = 10.6% (6.7%, 16.4%)	561.5/1552.5 = 36.2% (28.9%, 44.1%)	321/1552.5 = 20.7% (15.1%, 27.7%)
URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	203	1035.1/1552.5 = 66.7% (58.6%, 73.9%)	1331.4/1552.5 = 85.8% (79.6%, 90.3%)	1135.9/1552.5 = 73.2% (65.1%, 79.9%)
URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	203	940.7/1552.5 = 60.6% (52.9%, 67.8%)	1433.6/1552.5 = 92.3% (86.1%, 95.9%)	1345.6/1552.5 = 86.7% (79.9%, 91.4%)
URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	78	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	78	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	78	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)	0/14235.1 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	208	56/1536.6 = 3.6% (1.8%, 7.1%)	245.5/1536.6 = 16.0% (11.7%, 21.4%)	163.9/1536.6 = 10.7% (7.1%, 15.6%)
URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	208	587.3/1536.6 = 38.2% (32.2%, 44.6%)	1016.8/1536.6 = 66.2% (57.9%, 73.5%)	702.6/1536.6 = 45.7% (39.0%, 52.6%)
URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	208	380.8/1536.6 = 24.8% (19.5%, 30.9%)	1166.8/1536.6 = 75.9% (68.3%, 82.2%)	839.2/1536.6 = 54.6% (46.7%, 62.3%)
Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	245	416.4/4995.6 = 8.3% (5.4%, 12.6%)	1313.6/4995.6 = 26.3% (21.1%, 32.2%)	917.8/4995.6 = 18.4% (13.9%, 23.9%)
Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	245	2684.5/4995.6 = 53.7% (47.3%, 60.0%)	3633.3/4995.6 = 72.7% (66.4%, 78.3%)	2998.4/4995.6 = 60.0% (53.5%, 66.2%)

(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)	245	2176.3/4995.6 = 43.6% (37.6%, 49.7%)	4308.2/4995.6 = 86.2% (80.7%, 90.4%)	3475.3/4995.6 = 69.6% (63.1%, 75.3%)
Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	77	59.2/522.5 = 11.3% (5.9%, 20.7%)	177.4/522.5 = 33.9% (23.7%, 45.9%)	127.4/522.5 = 24.4% (15.9%, 35.5%)
Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	77	322.4/522.5 = 61.7% (49.2%, 72.8%)	458.1/522.5 = 87.7% (75.9%, 94.2%)	367/522.5 = 70.2% (57.7%, 80.3%)
Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	77	250/522.5 = 47.8% (37.0%, 58.9%)	465.6/522.5 = 89.1% (77.3%, 95.2%)	368.7/522.5 = 70.6% (57.9%, 80.7%)
Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	29	0/4972.9 = 0.0% (0.0%, 0.0%)	0/4972.9 = 0.0% (0.0%, 0.0%)	0/4972.9 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	29	0/4972.9 = 0.0% (0.0%, 0.0%)	0/4972.9 = 0.0% (0.0%, 0.0%)	0/4972.9 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	29	0/4972.9 = 0.0% (0.0%, 0.0%)	0/4972.9 = 0.0% (0.0%, 0.0%)	0/4972.9 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	74	19/521.4 = 3.6% (1.3%, 9.6%)	87.8/521.4 = 16.8% (9.8%, 27.3%)	49.4/521.4 = 9.5% (4.7%, 18.3%)
Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	74	220.2/521.4 = 42.2% (31.2%, 54.0%)	384.6/521.4 = 73.8% (60.9%, 83.5%)	291.1/521.4 = 55.8% (43.7%, 67.3%)
Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	74	165.2/521.4 = 31.7% (22.8%, 42.1%)	400.4/521.4 = 76.8% (64.3%, 85.9%)	329/521.4 = 63.1% (50.6%, 74.0%)

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 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)	328	357/9442.9 = 3.8% (2.1%, 6.8%)	1526.2/9442.9 = 16.2% (12.4%, 20.9%)	813.4/9442.9 = 8.6% (5.9%, 12.4%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	328	3461.1/9442.9 = 36.7% (31.0%, 42.7%)	5861.7/9442.9 = 62.1% (55.9%, 67.9%)	4432/9442.9 = 46.9% (40.9%, 53.1%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	328	2678.5/9442.9 = 28.4% (23.2%, 34.2%)	7732.9/9442.9 = 81.9% (76.6%, 86.2%)	5758.5/9442.9 = 61.0% (54.8%, 66.8%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	103	61.2/1016.7 = 6.0% (2.4%, 14.1%)	270.5/1016.7 = 26.6% (18.0%, 37.4%)	126.4/1016.7 = 12.4% (6.7%, 21.9%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	103	587.3/1016.7 = 57.8% (46.8%, 68.0%)	806.4/1016.7 = 79.3% (70.2%, 86.2%)	664/1016.7 = 65.3% (54.3%, 74.9%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	103	456.1/1016.7 = 44.9% (34.2%, 56.0%)	901.5/1016.7 = 88.7% (79.3%, 94.1%)	819.6/1016.7 = 80.6% (70.5%, 87.9%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	39	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)	0/9122.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	102	0/991.9 = 0.0% (0.0%, 0.0%)	53.4/991.9 = 5.4% (2.4%, 11.8%)	30.7/991.9 = 3.1% (0.9%, 10.0%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	102	200/991.9 = 20.2% (13.5%, 29.1%)	556.5/991.9 = 56.1% (44.8%, 66.8%)	284.6/991.9 = 28.7% (20.5%, 38.6%)

(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)	102	96/991.9 = 9.7% (5.0%, 17.8%)	644.1/991.9 = 64.9% (53.8%, 74.7%)	408.6/991.9 = 41.2% (30.8%, 52.4%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	120	173.6/3167.1 = 5.5% (2.4%, 11.9%)	534/3167.1 = 16.9% (10.9%, 25.2%)	401.4/3167.1 = 12.7% (7.5%, 20.5%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	120	1239.5/3167.1 = 39.1% (30.5%, 48.5%)	1911.4/3167.1 = 60.4% (51.1%, 68.9%)	1434.2/3167.1 = 45.3% (36.3%, 54.6%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	120	847.8/3167.1 = 26.8% (19.3%, 35.8%)	2515.9/3167.1 = 79.4% (71.0%, 85.9%)	1770/3167.1 = 55.9% (46.5%, 64.8%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	25.6/343.3 = 7.5% (2.2%, 22.6%)	89.2/343.3 = 26.0% (13.8%, 43.6%)	55.4/343.3 = 16.1% (7.0%, 33.0%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	175.9/343.3 = 51.2% (34.5%, 67.7%)	279/343.3 = 81.3% (63.9%, 91.4%)	202.3/343.3 = 58.9% (41.6%, 74.3%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	100.8/343.3 = 29.3% (16.2%, 47.2%)	286.4/343.3 = 83.4% (66.0%, 92.9%)	199/343.3 = 58.0% (40.3%, 73.8%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	15	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	15	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	15	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)	0/3310.5 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	37	0/348.1 = 0.0% (0.0%, 0.0%)	30.8/348.1 = 8.9% (2.7%, 25.7%)	11.4/348.1 = 3.3% (0.4%, 21.7%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	37	96/348.1 = 27.6% (14.8%, 45.6%)	228.2/348.1 = 65.6% (47.6%, 80.0%)	151.6/348.1 = 43.6% (27.8%, 60.7%)

(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)	37	46.8/348.1 = 13.5% (5.3%, 30.1%)	230.8/348.1 = 66.3% (48.6%, 80.4%)	172.6/348.1 = 49.6% (32.9%, 66.4%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	323	360/4861.5 = 7.4% (4.8%, 11.4%)	1947.8/4861.5 = 40.1% (34.3%, 46.1%)	1105.4/4861.5 = 22.7% (17.9%, 28.4%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	323	3702.2/4861.5 = 76.2% (70.9%, 80.7%)	4408.4/4861.5 = 90.7% (86.8%, 93.5%)	3930.1/4861.5 = 80.8% (75.9%, 85.0%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	323	3406.5/4861.5 = 70.1% (64.3%, 75.3%)	4765.9/4861.5 = 98.0% (95.5%, 99.2%)	4523.2/4861.5 = 93.0% (89.4%, 95.5%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	100	103.4/535.8 = 19.3% (11.5%, 30.6%)	291.1/535.8 = 54.3% (42.2%, 66.0%)	194.6/535.8 = 36.3% (25.5%, 48.7%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	100	447.9/535.8 = 83.6% (72.1%, 90.9%)	525/535.8 = 98.0% (92.1%, 99.5%)	471.9/535.8 = 88.1% (76.6%, 94.3%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	100	484.6/535.8 = 90.4% (83.4%, 94.7%)	532.1/535.8 = 99.3% (95.1%, 99.9%)	526.1/535.8 = 98.2% (94.4%, 99.4%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	39	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)	0/5112.6 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	106	56/544.7 = 10.3% (5.1%, 19.6%)	192.1/544.7 = 35.3% (25.2%, 46.8%)	133.2/544.7 = 24.5% (16.1%, 35.3%)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	106	387.3/544.7 = 71.1% (60.3%, 80.0%)	460.3/544.7 = 84.5% (73.6%, 91.4%)	418/544.7 = 76.8% (65.9%, 85.0%)

(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)	106	284.9/544.7 = 52.3% (41.1%, 63.3%)	522.8/544.7 = 96.0% (90.4%, 98.4%)	430.6/544.7 = 79.1% (67.8%, 87.1%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	125	242.8/1828.5 = 13.3% (8.3%, 20.6%)	779.5/1828.5 = 42.6% (33.9%, 51.9%)	516.4/1828.5 = 28.2% (20.7%, 37.2%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	125	1445/1828.5 = 79.0% (70.7%, 85.5%)	1721.9/1828.5 = 94.2% (88.0%, 97.3%)	1564.2/1828.5 = 85.5% (78.0%, 90.8%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	125	1328.6/1828.5 = 72.7% (64.0%, 79.9%)	1792.3/1828.5 = 98.0% (92.3%, 99.5%)	1705.3/1828.5 = 93.3% (87.2%, 96.6%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	40	33.6/179.2 = 18.7% (9.1%, 34.7%)	88.2/179.2 = 49.2% (33.4%, 65.2%)	72/179.2 = 40.2% (25.7%, 56.7%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	40	146.5/179.2 = 81.7% (65.3%, 91.4%)	179.2/179.2 = 100.0% (100.0%, 100.0%)	164.7/179.2 = 91.9% (76.6%, 97.5%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	40	149.2/179.2 = 83.3% (67.6%, 92.2%)	179.2/179.2 = 100.0% (100.0%, 100.0%)	169.7/179.2 = 94.7% (79.9%, 98.8%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	14	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	14	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	14	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)	0/1662.4 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	37	19/173.3 = 11.0% (3.8%, 27.5%)	57/173.3 = 32.9% (18.8%, 50.9%)	38/173.3 = 21.9% (10.7%, 39.7%)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	37	124.2/173.3 = 71.6% (54.2%, 84.3%)	156.4/173.3 = 90.2% (75.3%, 96.6%)	139.4/173.3 = 80.4% (64.3%, 90.4%)

(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)	37	118.4/173.3 = 68.3% (50.6%, 81.9%)	169.6/173.3 = 97.9% (85.2%, 99.7%)	156.4/173.3 = 90.2% (75.3%, 96.6%)

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.

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)	449	578/8467 = 6.8% (4.8%, 9.6%)	2067/8467 = 24.4% (20.7%, 28.5%)	1314.6/8467 = 15.5% (12.4%, 19.3%)
United States	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	449	4397.3/8467 = 51.9% (47.2%, 56.7%)	6167.4/8467 = 72.8% (68.2%, 77.0%)	4922.3/8467 = 58.1% (53.3%, 62.8%)
United States	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	449	3819.9/8467 = 45.1% (40.6%, 49.7%)	7258.3/8467 = 85.7% (81.7%, 89.0%)	5952.8/8467 = 70.3% (65.6%, 74.7%)
United States	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	104.7/910 = 11.5% (7.2%, 17.9%)	300.5/910 = 33.0% (25.4%, 41.6%)	186.1/910 = 20.4% (14.5%, 28.0%)
United States	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	544.3/910 = 59.8% (50.8%, 68.2%)	769.1/910 = 84.5% (76.3%, 90.3%)	653.4/910 = 71.8% (62.9%, 79.3%)
United States	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	472.4/910 = 51.9% (43.6%, 60.1%)	830.9/910 = 91.3% (83.9%, 95.5%)	718.5/910 = 79.0% (70.5%, 85.5%)
United States	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	55	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)	0/8513 = 0.0% (0.0%, 0.0%)
United States	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	142	30.9/923 = 3.3% (1.6%, 7.0%)	148.7/923 = 16.1% (11.1%, 22.8%)	86.8/923 = 9.4% (5.8%, 14.8%)
United States	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	142	390.7/923 = 42.3% (34.5%, 50.6%)	643.5/923 = 69.7% (60.7%, 77.4%)	496.7/923 = 53.8% (45.3%, 62.2%)
United States	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	142	293.7/923 = 31.8% (25.2%, 39.3%)	700.6/923 = 75.9% (67.2%, 82.9%)	546.2/923 = 59.2% (50.4%, 67.4%)
Argentina	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	46	65.8/1512.6 = 4.3% (1.0%, 16.7%)	548.9/1512.6 = 36.3% (22.8%, 52.3%)	322.5/1512.6 = 21.3% (11.4%, 36.2%)
Argentina	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	46	796.6/1512.6 = 52.7% (37.0%, 67.9%)	1210.8/1512.6 = 80.0% (63.0%, 90.4%)	1022/1512.6 = 67.6% (50.4%, 81.0%)
Argentina	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	46	691.9/1512.6 = 45.7% (30.8%, 61.5%)	1341.9/1512.6 = 88.7% (70.2%, 96.3%)	1154.6/1512.6 = 76.3% (58.6%, 88.0%)

(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)	11	10.7/123.8 = 8.6% (1.5%, 37.1%)	68.4/123.8 = 55.2% (19.8%, 86.1%)	36.5/123.8 = 29.5% (7.6%, 67.9%)
Argentina	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	86.6/123.8 = 69.9% (28.1%, 93.3%)	110.9/123.8 = 89.5% (40.7%, 99.1%)	91.9/123.8 = 74.2% (29.3%, 95.3%)
Argentina	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	91.9/123.8 = 74.2% (29.3%, 95.3%)	110.9/123.8 = 89.5% (40.7%, 99.1%)	91.9/123.8 = 74.2% (29.3%, 95.3%)
Argentina	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	6	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	6	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)	0/1747.2 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	15	0/167.4 = 0.0% (0.0%, 0.0%)	28.9/167.4 = 17.3% (4.9%, 45.8%)	28.9/167.4 = 17.3% (4.9%, 45.8%)
Argentina	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	15	58/167.4 = 34.6% (12.7%, 65.9%)	95.1/167.4 = 56.8% (25.8%, 83.2%)	58/167.4 = 34.6% (12.7%, 65.9%)
Argentina	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	15	47.5/167.4 = 28.4% (8.9%, 61.8%)	130.2/167.4 = 77.8% (38.5%, 95.1%)	89.8/167.4 = 53.7% (23.8%, 81.2%)
Brazil	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	80	236/3029.5 = 7.8% (3.5%, 16.3%)	632.8/3029.5 = 20.9% (13.7%, 30.4%)	444.4/3029.5 = 14.7% (8.7%, 23.7%)
Brazil	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	80	1559.5/3029.5 = 51.5% (40.0%, 62.8%)	2050.2/3029.5 = 67.7% (55.4%, 77.9%)	1729.3/3029.5 = 57.1% (45.2%, 68.2%)
Brazil	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	80	1182.2/3029.5 = 39.0% (28.9%, 50.2%)	2670.7/3029.5 = 88.2% (76.9%, 94.3%)	1936.4/3029.5 = 63.9% (51.7%, 74.6%)
Brazil	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	30	44/403.8 = 10.9% (3.8%, 27.7%)	117.7/403.8 = 29.2% (15.3%, 48.4%)	68.3/403.8 = 16.9% (6.8%, 36.3%)
Brazil	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	30	237.5/403.8 = 58.8% (38.5%, 76.5%)	333/403.8 = 82.5% (63.1%, 92.8%)	237.5/403.8 = 58.8% (38.5%, 76.5%)
Brazil	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	30	180.6/403.8 = 44.7% (28.1%, 62.7%)	340/403.8 = 84.2% (62.9%, 94.4%)	340/403.8 = 84.2% (62.9%, 94.4%)

(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)	14	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	14	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	14	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)	0/4146.6 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	24	5.2/280.9 = 1.9% (0.2%, 13.8%)	44.3/280.9 = 15.8% (6.0%, 35.5%)	27.8/280.9 = 9.9% (2.8%, 29.6%)
Brazil	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	24	107.9/280.9 = 38.4% (21.5%, 58.6%)	187.4/280.9 = 66.7% (42.5%, 84.4%)	113.1/280.9 = 40.3% (22.9%, 60.4%)
Brazil	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	24	66/280.9 = 23.5% (11.0%, 43.3%)	243.8/280.9 = 86.8% (61.2%, 96.5%)	155.5/280.9 = 55.4% (33.3%, 75.5%)
Chile	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	11	0/424.5 = 0.0% (0.0%, 0.0%)	65.8/424.5 = 15.5% (2.7%, 54.8%)	0/424.5 = 0.0% (0.0%, 0.0%)
Chile	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	11	123.4/424.5 = 29.1% (7.4%, 67.6%)	234.9/424.5 = 55.3% (20.6%, 85.5%)	234.9/424.5 = 55.3% (20.6%, 85.5%)
Chile	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	11	84.7/424.5 = 20.0% (4.5%, 56.9%)	310.7/424.5 = 73.2% (29.5%, 94.7%)	254.6/424.5 = 60.0% (23.2%, 88.1%)
Chile	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	3	0/23.6 = 0.0%	10.7/23.6 = 45.2%	5.3/23.6 = 22.6%
Chile	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	3	23.6/23.6 = 100.0%	23.6/23.6 = 100.0%	23.6/23.6 = 100.0%
Chile	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	3	18.3/23.6 = 77.4%	23.6/23.6 = 100.0%	23.6/23.6 = 100.0%
Chile	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0/37.2 = 0.0%	0/37.2 = 0.0%	0/37.2 = 0.0%
Chile	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	0/37.2 = 0.0%	18.6/37.2 = 50.0%	0/37.2 = 0.0%
Chile	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0/37.2 = 0.0%	18.6/37.2 = 50.0%	0/37.2 = 0.0%
Columbia	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	59	140.8/1954.6 = 7.2% (2.8%, 17.1%)	510.6/1954.6 = 26.1% (16.0%, 39.7%)	244.5/1954.6 = 12.5% (6.3%, 23.4%)
Columbia	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	59	1087.7/1954.6 = 55.7% (41.5%, 68.9%)	1420/1954.6 = 72.6% (58.4%, 83.4%)	1230/1954.6 = 62.9% (48.4%, 75.4%)
Columbia	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	59	936.1/1954.6 = 47.9% (34.3%, 61.8%)	1757.5/1954.6 = 89.9% (77.2%, 95.9%)	1569/1954.6 = 80.3% (66.3%, 89.4%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Columbia	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	19	31.8/237.5 = 13.4% (2.8%, 45.2%)	107/237.5 = 45.1% (22.4%, 70.0%)	75.8/237.5 = 31.9% (13.1%, 59.3%)
Columbia	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	19	200.3/237.5 = 84.4% (54.5%, 96.0%)	232.1/237.5 = 97.8% (82.9%, 99.7%)	219.2/237.5 = 92.3% (67.9%, 98.6%)
Columbia	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	19	182/237.5 = 76.6% (49.4%, 91.7%)	237.5/237.5 = 100.0%	237.5/237.5 = 100.0% (100.0%, 100.0%)
Columbia	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0/1199.2 = 0.0%	0/1199.2 = 0.0%	0/1199.2 = 0.0%
Columbia	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0/1199.2 = 0.0%	0/1199.2 = 0.0%	0/1199.2 = 0.0%
Columbia	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0/1199.2 = 0.0%	0/1199.2 = 0.0%	0/1199.2 = 0.0%
Columbia	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	21	27.8/253.8 = 10.9% (3.0%, 32.5%)	52.3/253.8 = 20.6% (7.8%, 44.3%)	41/253.8 = 16.2% (5.3%, 40.0%)
Columbia	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	21	101.8/253.8 = 40.1% (21.6%, 61.9%)	165.5/253.8 = 65.2% (39.3%, 84.4%)	146.9/253.8 = 57.9% (33.6%, 78.9%)
Columbia	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	21	49.5/253.8 = 19.5% (7.9%, 40.6%)	190.1/253.8 = 74.9% (47.4%, 90.8%)	122.4/253.8 = 48.2% (26.1%, 71.1%)
Mexico	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	5	0/170.2 = 0.0%	76.2/170.2 = 44.7%	28.6/170.2 = 16.8%
Mexico	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	5	113.3/170.2 = 66.6%	113.3/170.2 = 66.6%	113.3/170.2 = 66.6%
Mexico	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	5	76.2/170.2 = 44.7%	133.1/170.2 = 78.2%	133.1/170.2 = 78.2%
Mexico	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0/31.9 = 0.0%	0/31.9 = 0.0%	0/31.9 = 0.0%
Mexico	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	13.2/31.9 = 41.6%	31.9/31.9 = 100.0%	13.2/31.9 = 41.6%
Mexico	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0/31.9 = 0.0%	13.2/31.9 = 41.6%	13.2/31.9 = 41.6%
Peru	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	25	0/848.6 = 0.0% (0.0%, 0.0%)	197.4/848.6 = 23.3% (10.1%, 45.1%)	65.8/848.6 = 7.8% (1.7%, 28.6%)
Peru	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	376.9/848.6 = 44.4% (24.8%, 65.9%)	556/848.6 = 65.5% (41.8%, 83.4%)	442.6/848.6 = 52.2% (31.0%, 72.6%)
Peru	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	368.3/848.6 = 43.4% (24.1%, 64.9%)	755.3/848.6 = 89.0% (68.2%, 96.8%)	661.2/848.6 = 77.9% (54.1%, 91.4%)
Peru	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	6	0/68.4 = 0.0% (0.0%, 0.0%)	24.3/68.4 = 35.5% (0.9%, 97.2%)	5.3/68.4 = 7.8% (0.1%, 90.9%)
Peru	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	63/68.4 = 92.2% (9.1%, 99.9%)	68.4/68.4 = 100.0% (100.0%, 100.0%)	68.4/68.4 = 100.0% (100.0%, 100.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Peru	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	50.1/68.4 = 73.3% (4.5%, 99.4%)	68.4/68.4 = 100.0% (100.0%, 100.0%)	55.4/68.4 = 81.1% (3.3%, 99.8%)
Peru	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	2	0/685 = 0.0%	0/685 = 0.0%	0/685 = 0.0%
Peru	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0/685 = 0.0%	0/685 = 0.0%	0/685 = 0.0%
Peru	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0/685 = 0.0%	0/685 = 0.0%	0/685 = 0.0%
Peru	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	6	0/72.9 = 0.0% (0.0%, 0.0%)	11.3/72.9 = 15.5% (0.2%, 95.6%)	0/72.9 = 0.0% (0.0%, 0.0%)
Peru	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	6	16.5/72.9 = 22.6% (0.6%, 93.7%)	43/72.9 = 59.0% (3.0%, 98.5%)	16.5/72.9 = 22.6% (0.6%, 93.7%)
Peru	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	6	11.3/72.9 = 15.5% (0.2%, 95.6%)	72.9/72.9 = 100.0% (100.0%, 100.0%)	61.6/72.9 = 84.5% (4.4%, 99.8%)
South Africa	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	221	112.9/2893 = 3.9% (2.0%, 7.5%)	689/2893 = 23.8% (18.4%, 30.2%)	416.1/2893 = 14.4% (10.2%, 19.9%)
South Africa	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	1393.1/2893 = 48.2% (41.6%, 54.8%)	2150.7/2893 = 74.3% (67.7%, 80.0%)	1666/2893 = 57.6% (50.7%, 64.2%)
South Africa	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	1102.1/2893 = 38.1% (32.2%, 44.4%)	2579.5/2893 = 89.2% (83.7%, 93.0%)	2095.2/2893 = 72.4% (65.8%, 78.2%)
South Africa	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	32.5/308 = 10.5% (4.9%, 21.3%)	110.4/308 = 35.8% (25.2%, 48.1%)	71/308 = 23.0% (14.2%, 35.2%)
South Africa	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	202.2/308 = 65.7% (52.7%, 76.7%)	252.4/308 = 81.9% (69.5%, 90.0%)	208.9/308 = 67.8% (54.7%, 78.6%)
South Africa	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	195.5/308 = 63.5% (50.5%, 74.8%)	288/308 = 93.5% (83.1%, 97.7%)	247.5/308 = 80.3% (67.7%, 88.9%)
South Africa	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)	0/2917 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	70	11.1/291 = 3.8% (1.4%, 10.0%)	47.9/291 = 16.5% (9.7%, 26.6%)	28.8/291 = 9.9% (5.3%, 17.6%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
South Africa	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	70	119.4/291 = 41.0% (29.5%, 53.6%)	216.6/291 = 74.4% (61.1%, 84.4%)	149.2/291 = 51.3% (38.8%, 63.6%)
South Africa	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	70	78/291 = 26.8% (17.9%, 38.2%)	197.9/291 = 68.0% (54.7%, 78.9%)	179.3/291 = 61.6% (48.6%, 73.2%)

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)	896	0.05 (0.05, 0.05)
	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	896	0.80 (0.80, 0.80)
	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	896	0.15 (0.15, 0.15)
	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	280	0.05 (0.05, 0.05)
	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	280	0.80 (0.79, 0.80)
	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	280	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)	282	0.05 (0.05, 0.05)
	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	282	0.80 (0.80, 0.81)
	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	282	0.15 (0.15, 0.15)
	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	896	1.21 (1.06, 1.38)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	896	14.34 (12.82, 16.05)
	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	896	8.46 (7.70, 9.30)
	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	280	2.26 (1.76, 2.89)
	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	280	24.42 (19.98, 29.86)
	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	280	12.88 (10.94, 15.17)
	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	107	0.05 (0.05, 0.05)
	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	107	0.80 (0.80, 0.80)
	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	107	0.15 (0.15, 0.15)
	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	282	0.68 (0.55, 0.85)
	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	282	10.27 (8.53, 12.37)
	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	282	4.53 (3.82, 5.36)

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)	448	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	0.80 (0.80, 0.80)
Age 18 - 59	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	0.15 (0.15, 0.15)
Age 18 - 59	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	140	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	0.80 (0.79, 0.81)
Age 18 - 59	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	0.15 (0.15, 0.15)
Age 18 - 59	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	54	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0.80 (0.80, 0.80)
Age 18 - 59	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0.15 (0.15, 0.15)
Age 18 - 59	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	139	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	139	0.80 (0.80, 0.80)
Age 18 - 59	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	139	0.15 (0.15, 0.15)
Age 18 - 59	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	448	0.79 (0.66, 0.94)
Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	8.54 (7.32, 9.96)
Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	5.18 (4.55, 5.89)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	1.57 (1.14, 2.16)
Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	15.95 (12.24, 20.79)
Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	8.13 (6.51, 10.15)
Age 18 - 59	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	54	0.05 (0.05, 0.05)
Age 18 - 59	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0.80 (0.80, 0.80)
Age 18 - 59	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0.15 (0.15, 0.15)
Age 18 - 59	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	139	0.38 (0.29, 0.50)
Age 18 - 59	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	139	5.57 (4.45, 6.99)
Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	139	2.59 (2.06, 3.25)
Age ≥ 60	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	448	0.05 (0.05, 0.05)
Age ≥ 60	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	0.80 (0.80, 0.80)
Age ≥ 60	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	0.15 (0.15, 0.15)
Age ≥ 60	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	140	0.05 (0.05, 0.05)
Age ≥ 60	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	0.80 (0.80, 0.80)
Age ≥ 60	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	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)	53	0.05 (0.05, 0.05)
Age \geq 60	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)
Age \geq 60	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)
Age \geq 60	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	143	0.05 (0.05, 0.05)
Age \geq 60	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	143	0.81 (0.79, 0.82)
Age \geq 60	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	143	0.15 (0.15, 0.15)
Age \geq 60	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	448	2.72 (2.31, 3.21)
Age \geq 60	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	38.11 (33.03, 43.97)
Age \geq 60	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	21.33 (18.98, 23.97)
Age \geq 60	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	4.50 (3.08, 6.57)
Age \geq 60	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	54.93 (41.38, 72.93)
Age \geq 60	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	30.93 (25.28, 37.83)
Age \geq 60	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0.05 (0.05, 0.05)
Age \geq 60	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)
Age \geq 60	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	143	2.01 (1.43, 2.82)
Age \geq 60	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	143	32.12 (23.61, 43.70)
Age \geq 60	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	143	12.86 (10.36, 15.96)

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)	451	0.05 (0.05, 0.05)
At-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	451	0.80 (0.80, 0.80)
At-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	451	0.15 (0.15, 0.15)
At-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)
At-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.80, 0.80)
At-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.15)
At-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	53	0.05 (0.05, 0.05)
At-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)
At-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)
At-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)
At-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	141	0.81 (0.79, 0.82)
At-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.15)
At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	451	1.27 (1.05, 1.54)
At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	451	13.86 (11.77, 16.32)
At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	451	8.47 (7.38, 9.71)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	2.19 (1.57, 3.06)
At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	26.56 (19.02, 37.09)
At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	11.74 (9.15, 15.07)
At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0.05 (0.05, 0.05)
At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)
At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)
At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	141	0.85 (0.63, 1.16)
At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	141	11.39 (8.76, 14.82)
At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	141	5.02 (4.08, 6.17)
Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	445	0.05 (0.05, 0.05)
Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	445	0.80 (0.80, 0.80)
Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	445	0.15 (0.15, 0.15)
Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	139	0.05 (0.05, 0.05)
Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	139	0.80 (0.79, 0.81)
Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	139	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)	54	0.05 (0.05, 0.05)
Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0.80 (0.80, 0.80)
Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0.15 (0.15, 0.15)
Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)
Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.80, 0.80)
Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.15)
Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	445	1.17 (0.98, 1.39)
Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	445	14.68 (12.60, 17.10)
Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	445	8.46 (7.44, 9.61)
Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	139	2.30 (1.62, 3.24)
Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	139	23.12 (18.00, 29.70)
Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	139	13.69 (11.03, 16.98)
Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	54	0.05 (0.05, 0.05)
Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0.80 (0.80, 0.80)
Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	54	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)	141	0.59 (0.44, 0.79)
Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	141	9.62 (7.47, 12.40)
Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	141	4.24 (3.33, 5.41)

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)	224	0.05 (0.05, 0.05)
Age 18 - 59 At-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	0.80 (0.80, 0.80)
Age 18 - 59 At-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	0.15 (0.15, 0.15)
Age 18 - 59 At-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	70	0.05 (0.04, 0.05)
Age 18 - 59 At-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.80, 0.80)
Age 18 - 59 At-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	0.15 (0.15, 0.15)
Age 18 - 59 At-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	26	0.05 (0.05, 0.05)
Age 18 - 59 At-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0.80 (0.80, 0.80)
Age 18 - 59 At-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0.15 (0.15, 0.15)
Age 18 - 59 At-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	69	0.05 (0.05, 0.05)
Age 18 - 59 At-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	69	0.80 (0.80, 0.80)
Age 18 - 59 At-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	69	0.15 (0.15, 0.15)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	224	0.91 (0.70, 1.19)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	8.37 (6.70, 10.46)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	5.30 (4.40, 6.40)

(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)	70	1.54 (0.99, 2.40)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	17.63 (11.20, 27.76)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	7.84 (5.62, 10.93)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0.05 (0.05, 0.05)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0.80 (0.80, 0.80)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0.15 (0.15, 0.15)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	69	0.51 (0.34, 0.77)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	69	7.16 (5.06, 10.12)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	69	2.83 (2.19, 3.66)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	224	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	0.80 (0.80, 0.80)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	0.15 (0.15, 0.15)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	70	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.79, 0.82)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	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)	28	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	28	0.80 (0.80, 0.80)
Age 18 - 59 Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	28	0.15 (0.15, 0.15)
Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	70	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.80, 0.80)
Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	70	0.15 (0.15, 0.15)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	224	0.72 (0.56, 0.91)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	8.66 (7.02, 10.67)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	5.10 (4.28, 6.08)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	1.59 (1.02, 2.48)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	14.86 (10.81, 20.44)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	8.33 (6.19, 11.22)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	28	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	28	0.80 (0.80, 0.80)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	28	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)	70	0.31 (0.21, 0.45)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	70	4.74 (3.52, 6.37)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	70	2.44 (1.74, 3.41)
Age \geq 60 At-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	227	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	227	0.80 (0.80, 0.80)
Age \geq 60 At-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	227	0.15 (0.15, 0.15)
Age \geq 60 At-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	71	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	0.80 (0.80, 0.80)
Age \geq 60 At-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	0.15 (0.15, 0.15)
Age \geq 60 At-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Age \geq 60 At-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
Age \geq 60 At-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	72	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	72	0.82 (0.79, 0.87)
Age \geq 60 At-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	72	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)	227	2.36 (1.85, 3.01)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	227	35.25 (28.46, 43.67)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	227	20.13 (16.88, 24.01)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	4.75 (3.14, 7.19)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	64.86 (45.19, 93.10)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	28.27 (21.00, 38.06)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	72	2.37 (1.52, 3.67)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	72	28.87 (20.37, 40.93)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	72	15.73 (11.60, 21.33)
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)	69	0.05 (0.05, 0.05)
Age ≥ 60 Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	69	0.80 (0.80, 0.80)
Age ≥ 60 Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	69	0.15 (0.15, 0.15)
Age ≥ 60 Not at-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	26	0.05 (0.05, 0.05)
Age ≥ 60 Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0.80 (0.80, 0.80)
Age ≥ 60 Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0.15 (0.15, 0.15)
Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	71	0.05 (0.05, 0.05)
Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	71	0.80 (0.80, 0.80)
Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	71	0.15 (0.15, 0.15)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	221	3.00 (2.40, 3.74)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	40.17 (33.18, 48.62)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	22.18 (19.00, 25.89)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	69	4.36 (2.53, 7.51)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	69	50.02 (33.75, 74.12)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	69	32.53 (24.91, 42.49)

(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)	26	0.05 (0.05, 0.05)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0.80 (0.80, 0.80)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0.15 (0.15, 0.15)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	71	1.83 (1.14, 2.93)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	71	34.18 (21.96, 53.20)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	71	11.44 (8.55, 15.31)

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)	895	0.05 (0.05, 0.05)
Male	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	895	0.80 (0.80, 0.80)
Male	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	895	0.15 (0.15, 0.15)
Male	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	280	0.05 (0.05, 0.05)
Male	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	280	0.80 (0.79, 0.80)
Male	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	280	0.15 (0.15, 0.15)
Male	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	63	0.05 (0.05, 0.05)
Male	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	63	0.80 (0.80, 0.80)
Male	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	63	0.15 (0.15, 0.15)
Male	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	112	0.05 (0.05, 0.05)
Male	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	112	0.80 (0.79, 0.81)
Male	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	112	0.15 (0.15, 0.15)
Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	895	1.21 (1.06, 1.38)
Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	895	14.33 (12.81, 16.04)
Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	895	8.45 (7.69, 9.29)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	280	2.26 (1.76, 2.89)
Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	280	24.42 (19.98, 29.86)
Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	280	12.88 (10.94, 15.17)
Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	63	0.05 (0.05, 0.05)
Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	63	0.80 (0.80, 0.80)
Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	63	0.15 (0.15, 0.15)
Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	112	0.66 (0.47, 0.93)
Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	112	10.38 (7.79, 13.84)
Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	112	5.00 (3.88, 6.44)
Female	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Female	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Female	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Female	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	44	0.05 (0.05, 0.05)
Female	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	44	0.80 (0.80, 0.80)
Female	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	44	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Female	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	170	0.05 (0.05, 0.05)
Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	170	0.80 (0.79, 0.81)
Female	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	170	0.15 (0.15, 0.15)
Female	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1	1.46 (1.46, 1.46)
Female	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	29.69 (29.69, 29.69)
Female	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	27.93 (27.93, 27.93)
Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	44	0.05 (0.05, 0.05)
Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	44	0.80 (0.80, 0.80)
Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	44	0.15 (0.15, 0.15)
Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	170	0.69 (0.51, 0.94)
Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	170	10.20 (7.79, 13.34)
Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	170	4.24 (3.33, 5.40)

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)	23	0.05 (0.05, 0.05)
Age 18 - 59 Female	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	23	0.80 (0.80, 0.80)
Age 18 - 59 Female	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	23	0.15 (0.15, 0.15)
Age 18 - 59 Female	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	84	0.05 (0.05, 0.05)
Age 18 - 59 Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	84	0.80 (0.80, 0.80)
Age 18 - 59 Female	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	84	0.15 (0.15, 0.15)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	23	0.05 (0.05, 0.05)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	23	0.80 (0.80, 0.80)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	23	0.15 (0.15, 0.15)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	84	0.35 (0.24, 0.50)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	84	5.01 (3.71, 6.78)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	84	2.26 (1.67, 3.07)
Age 18 - 59 Male	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	448	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	0.80 (0.80, 0.80)
Age 18 - 59 Male	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	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)	140	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	0.80 (0.79, 0.81)
Age 18 - 59 Male	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	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)	55	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)
Age 18 - 59 Male	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	448	0.79 (0.66, 0.94)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	8.54 (7.32, 9.96)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	5.18 (4.55, 5.89)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	1.57 (1.14, 2.16)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	15.95 (12.24, 20.79)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	8.13 (6.51, 10.15)

(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)	55	0.43 (0.28, 0.68)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	6.57 (4.73, 9.12)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	55	3.18 (2.31, 4.38)
Age ≥ 60 Female	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Age ≥ 60 Female	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Age ≥ 60 Female	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Age ≥ 60 Female	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	21	0.05 (0.05, 0.05)
Age ≥ 60 Female	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0.80 (0.80, 0.80)
Age ≥ 60 Female	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)
Age ≥ 60 Female	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	86	0.05 (0.05, 0.05)
Age ≥ 60 Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	86	0.81 (0.79, 0.82)
Age ≥ 60 Female	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	86	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age ≥ 60 Female	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1	1.46 (1.46, 1.46)
Age ≥ 60 Female	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	29.69 (29.69, 29.69)
Age ≥ 60 Female	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	27.93 (27.93, 27.93)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	21	0.05 (0.05, 0.05)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0.80 (0.80, 0.80)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	86	2.53 (1.57, 4.08)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	86	39.24 (25.68, 59.95)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	86	13.96 (10.33, 18.87)
Age ≥ 60 Male	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	447	0.05 (0.05, 0.05)
Age ≥ 60 Male	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	447	0.80 (0.80, 0.80)
Age ≥ 60 Male	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	447	0.15 (0.15, 0.15)
Age ≥ 60 Male	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	140	0.05 (0.05, 0.05)
Age ≥ 60 Male	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	0.80 (0.80, 0.80)
Age ≥ 60 Male	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60 Male	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	32	0.05 (0.05, 0.05)
Age \geq 60 Male	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	32	0.80 (0.80, 0.80)
Age \geq 60 Male	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	32	0.15 (0.15, 0.15)
Age \geq 60 Male	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	57	0.05 (0.05, 0.05)
Age \geq 60 Male	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	57	0.81 (0.79, 0.83)
Age \geq 60 Male	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	57	0.15 (0.15, 0.15)
Age \geq 60 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	447	2.73 (2.31, 3.22)
Age \geq 60 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	447	38.14 (33.04, 44.02)
Age \geq 60 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	447	21.31 (18.96, 23.96)
Age \geq 60 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	140	4.50 (3.08, 6.57)
Age \geq 60 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	54.93 (41.38, 72.93)
Age \geq 60 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	30.93 (25.28, 37.83)
Age \geq 60 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	32	0.05 (0.05, 0.05)
Age \geq 60 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	32	0.80 (0.80, 0.80)
Age \geq 60 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	32	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	57	1.42 (0.91, 2.23)
Age \geq 60 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	57	23.86 (15.45, 36.87)
Age \geq 60 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	57	11.38 (8.43, 15.37)

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)	371	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	371	0.80 (0.80, 0.80)
Hispanic or Latino	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	371	0.15 (0.15, 0.15)
Hispanic or Latino	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	114	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	114	0.80 (0.80, 0.80)
Hispanic or Latino	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	114	0.15 (0.15, 0.15)
Hispanic or Latino	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	43	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	43	0.80 (0.80, 0.80)
Hispanic or Latino	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	43	0.15 (0.15, 0.15)
Hispanic or Latino	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	112	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	112	0.80 (0.79, 0.81)
Hispanic or Latino	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	112	0.15 (0.15, 0.15)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	371	1.17 (0.96, 1.42)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	371	14.49 (12.18, 17.23)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	371	8.60 (7.44, 9.94)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	114	2.62 (1.77, 3.87)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	114	29.01 (21.53, 39.08)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	114	15.45 (12.07, 19.79)
Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	43	0.05 (0.05, 0.05)
Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	43	0.80 (0.80, 0.80)
Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	43	0.15 (0.15, 0.15)
Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	112	0.65 (0.46, 0.91)
Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	112	10.20 (7.58, 13.73)
Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	112	4.14 (3.20, 5.36)
Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	480	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	480	0.80 (0.80, 0.80)
Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	480	0.15 (0.15, 0.15)
Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	156	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	156	0.80 (0.79, 0.81)
Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	156	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)	157	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	157	0.80 (0.79, 0.81)
Not Hispanic or Latino	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	157	0.15 (0.15, 0.15)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	480	1.25 (1.05, 1.50)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	480	14.04 (12.03, 16.39)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	480	8.24 (7.25, 9.37)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	156	1.90 (1.40, 2.58)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	156	20.59 (15.63, 27.14)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	156	10.55 (8.46, 13.16)
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	0.15 (0.15, 0.15)

(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)	157	0.74 (0.55, 0.99)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	157	10.23 (8.02, 13.04)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	157	4.80 (3.79, 6.07)
Not reported and unknown	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	45	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	45	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	45	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	10	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	10	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	10	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	13	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	13	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	13	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)	45	1.34 (0.80, 2.23)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	45	15.58 (9.47, 25.62)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	45	8.96 (5.41, 14.84)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	10	2.21 (0.90, 5.45)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	10	14.92 (3.47, 64.05)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	10	10.53 (6.32, 17.54)
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	13	0.54 (0.25, 1.18)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	13	11.39 (5.88, 22.07)
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	13	6.97 (3.65, 13.31)

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)	189	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	189	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	189	0.15 (0.15, 0.15)
White Non-Hispanic	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	58	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	58	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	58	0.15 (0.15, 0.15)
White Non-Hispanic	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	24	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	24	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	24	0.15 (0.15, 0.15)
White Non-Hispanic	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	189	1.32 (0.98, 1.76)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	189	15.40 (12.02, 19.74)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	189	8.43 (6.88, 10.34)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
White Non-Hispanic	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	58	1.73 (1.03, 2.93)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	58	19.90 (12.57, 31.51)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	58	9.67 (6.75, 13.86)
White Non-Hispanic	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	24	0.05 (0.05, 0.05)
White Non-Hispanic	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	24	0.80 (0.80, 0.80)
White Non-Hispanic	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	24	0.15 (0.15, 0.15)
White Non-Hispanic	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	55	0.62 (0.39, 0.99)
White Non-Hispanic	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	55	10.34 (6.71, 15.94)
White Non-Hispanic	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	55	4.99 (3.39, 7.36)
Black or African American	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	312	0.05 (0.05, 0.05)
Black or African American	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	312	0.80 (0.80, 0.80)
Black or African American	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	312	0.15 (0.15, 0.15)
Black or African American	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	105	0.05 (0.05, 0.05)
Black or African American	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	105	0.81 (0.79, 0.83)
Black or African American	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	105	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)	38	0.05 (0.05, 0.05)
Black or African American	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0.80 (0.80, 0.80)
Black or African American	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0.15 (0.15, 0.15)
Black or African American	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	109	0.05 (0.05, 0.05)
Black or African American	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	109	0.80 (0.79, 0.82)
Black or African American	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	109	0.15 (0.15, 0.15)
Black or African American	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	312	1.23 (0.98, 1.53)
Black or African American	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	312	14.21 (11.58, 17.44)
Black or African American	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	312	8.16 (6.91, 9.63)
Black or African American	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	105	2.07 (1.44, 3.00)
Black or African American	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	105	20.07 (14.70, 27.40)
Black or African American	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	105	12.75 (10.07, 16.13)
Black or African American	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	38	0.05 (0.05, 0.05)
Black or African American	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0.80 (0.80, 0.80)
Black or African American	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	38	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)	109	0.80 (0.56, 1.15)
Black or African American	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	109	9.86 (7.23, 13.44)
Black or African American	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	109	4.96 (3.73, 6.59)
Asian	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	21	0.05 (0.05, 0.05)
Asian	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	21	0.80 (0.80, 0.80)
Asian	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)
Asian	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	11	0.05 (0.05, 0.05)
Asian	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)
Asian	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	0.15 (0.15, 0.15)
Asian	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Asian	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Asian	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Asian	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	10	0.05 (0.05, 0.05)
Asian	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	10	0.80 (0.80, 0.80)
Asian	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
Asian	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	21	1.27 (0.49, 3.26)
Asian	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	21	16.56 (7.47, 36.71)
Asian	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	21	9.83 (4.79, 20.18)
Asian	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	11	4.03 (1.65, 9.83)
Asian	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	31.30 (12.76, 76.79)
Asian	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	8.25 (3.18, 21.44)
Asian	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Asian	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Asian	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Asian	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	10	0.29 (0.07, 1.15)
Asian	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	10	5.09 (1.81, 14.33)
Asian	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	10	2.30 (0.85, 6.22)
American Indian or Alaska Native	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	132	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	132	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	132	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)	44	0.05 (0.04, 0.05)
American Indian or Alaska Native	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	44	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	44	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	21	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	43	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	43	0.80 (0.79, 0.82)
American Indian or Alaska Native	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	43	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	132	1.10 (0.80, 1.53)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	132	13.14 (9.90, 17.46)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	132	8.22 (6.44, 10.48)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	44	2.62 (1.53, 4.46)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	44	32.20 (19.95, 51.99)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	44	16.58 (11.18, 24.58)

(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)	21	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	21	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	43	0.74 (0.45, 1.21)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	43	10.35 (6.44, 16.62)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	43	3.75 (2.42, 5.83)
Native Hawaiian or Other Pacific Islander	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Native Hawaiian or Other Pacific Islander	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Native Hawaiian or Other Pacific Islander	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Multiracial	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	25	0.05 (0.05, 0.05)
Multiracial	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	0.80 (0.80, 0.80)
Multiracial	Day 1	Vaccine	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
Multiracial	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	11	0.05 (0.04, 0.05)
Multiracial	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)
Multiracial	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	0.15 (0.15, 0.15)
Multiracial	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Multiracial	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Multiracial	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	4	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)	25	1.03 (0.53, 2.03)
Multiracial	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	8.33 (4.22, 16.43)
Multiracial	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	7.27 (3.78, 13.98)
Multiracial	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	11	1.67 (0.31, 8.86)
Multiracial	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	31.95 (16.66, 61.26)
Multiracial	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	15.82 (9.32, 26.83)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Multiracial	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Multiracial	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Multiracial	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)
Multiracial	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	5	0.41 (0.13, 1.27)
Multiracial	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	4.72 (1.50, 14.85)
Multiracial	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	3.88 (2.27, 6.64)
Not reported and unknown	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	11	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	11	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	4	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)	5	0.06 (0.04, 0.09)
Not reported and unknown	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	11	1.60 (0.80, 3.17)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	11	28.83 (12.32, 67.51)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	11	11.34 (5.06, 25.41)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	4	0.51 (0.20, 1.29)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	4	18.78 (8.39, 42.02)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	4	4.05 (2.14, 7.68)
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)	5	1.02 (0.15, 7.11)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	10.71 (6.63, 17.32)
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	4.35 (2.53, 7.48)

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)	651	0.05 (0.05, 0.05)
URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	651	0.80 (0.80, 0.80)
URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	651	0.15 (0.15, 0.15)
URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	203	0.05 (0.05, 0.05)
URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	203	0.80 (0.79, 0.81)
URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	203	0.15 (0.15, 0.15)
URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	78	0.05 (0.05, 0.05)
URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	78	0.80 (0.80, 0.80)
URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	78	0.15 (0.15, 0.15)
URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	208	0.05 (0.05, 0.05)
URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	208	0.80 (0.79, 0.81)
URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	208	0.15 (0.15, 0.15)
URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	651	1.17 (1.01, 1.36)
URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	651	13.97 (12.22, 15.97)
URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	651	8.48 (7.58, 9.49)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	203	2.39 (1.78, 3.21)
URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	203	25.05 (19.80, 31.70)
URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	203	14.08 (11.59, 17.09)
URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	78	0.05 (0.05, 0.05)
URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	78	0.80 (0.80, 0.80)
URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	78	0.15 (0.15, 0.15)
URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	208	0.66 (0.51, 0.85)
URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	208	9.96 (7.99, 12.43)
URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	208	4.37 (3.59, 5.32)
Non-URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	245	0.05 (0.05, 0.05)
Non-URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	245	0.80 (0.80, 0.80)
Non-URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	245	0.15 (0.15, 0.15)
Non-URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	77	0.05 (0.05, 0.05)
Non-URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	77	0.80 (0.80, 0.80)
Non-URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	77	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)	29	0.05 (0.05, 0.05)
Non-URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	29	0.80 (0.80, 0.80)
Non-URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	29	0.15 (0.15, 0.15)
Non-URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	74	0.05 (0.05, 0.05)
Non-URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	74	0.80 (0.80, 0.80)
Non-URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	74	0.15 (0.15, 0.15)
Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	245	1.33 (1.04, 1.71)
Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	245	15.46 (12.54, 19.06)
Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	245	8.40 (7.07, 9.98)
Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	77	1.90 (1.21, 2.96)
Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	77	22.65 (15.47, 33.16)
Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	77	9.89 (7.34, 13.33)
Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	29	0.05 (0.05, 0.05)
Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	29	0.80 (0.80, 0.80)
Non-URM	Day 29	Placebo	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
Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	74	0.75 (0.50, 1.13)
Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	74	11.22 (8.01, 15.71)
Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	74	5.02 (3.60, 6.99)

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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)	328	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	328	0.80 (0.80, 0.80)
Age 18 - 59 URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	328	0.15 (0.15, 0.15)
Age 18 - 59 URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	103	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	103	0.80 (0.79, 0.81)
Age 18 - 59 URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	103	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)	102	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	102	0.80 (0.80, 0.80)
Age 18 - 59 URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	102	0.15 (0.15, 0.15)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	328	0.78 (0.63, 0.95)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	328	8.69 (7.25, 10.43)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	328	5.35 (4.58, 6.24)

(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)	103	1.74 (1.19, 2.53)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	103	16.70 (12.27, 22.75)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	103	9.23 (7.07, 12.04)
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)	102	0.35 (0.26, 0.49)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	102	5.31 (4.07, 6.93)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	102	2.50 (1.92, 3.24)
Age 18 - 59 Non-URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	120	0.05 (0.05, 0.05)
Age 18 - 59 Non-URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	120	0.80 (0.80, 0.80)
Age 18 - 59 Non-URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	120	0.15 (0.15, 0.15)
Age 18 - 59 Non-URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	37	0.05 (0.05, 0.05)
Age 18 - 59 Non-URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)
Age 18 - 59 Non-URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	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)	15	0.05 (0.05, 0.05)
Age 18 - 59 Non-URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	15	0.80 (0.80, 0.80)
Age 18 - 59 Non-URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	15	0.15 (0.15, 0.15)
Age 18 - 59 Non-URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	37	0.05 (0.05, 0.05)
Age 18 - 59 Non-URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)
Age 18 - 59 Non-URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	37	0.15 (0.15, 0.15)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	120	0.82 (0.59, 1.16)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	120	8.11 (6.10, 10.78)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	120	4.71 (3.73, 5.94)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	1.16 (0.64, 2.11)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	13.91 (8.32, 23.25)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	5.58 (3.77, 8.27)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	15	0.05 (0.05, 0.05)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	15	0.80 (0.80, 0.80)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	15	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)	37	0.47 (0.27, 0.80)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	37	6.41 (4.18, 9.82)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	37	2.86 (1.81, 4.53)
Age \geq 60 URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	323	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	323	0.80 (0.80, 0.80)
Age \geq 60 URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	323	0.15 (0.15, 0.15)
Age \geq 60 URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	100	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	100	0.80 (0.80, 0.80)
Age \geq 60 URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	100	0.15 (0.15, 0.15)
Age \geq 60 URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	39	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0.80 (0.80, 0.80)
Age \geq 60 URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0.15 (0.15, 0.15)
Age \geq 60 URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	106	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	106	0.81 (0.79, 0.83)
Age \geq 60 URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	106	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	323	2.61 (2.15, 3.16)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	323	35.15 (29.70, 41.60)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	323	20.76 (18.09, 23.83)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	100	4.39 (2.78, 6.95)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	100	54.05 (38.50, 75.88)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	100	31.39 (24.89, 39.59)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	39	0.05 (0.05, 0.05)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	39	0.80 (0.80, 0.80)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	39	0.15 (0.15, 0.15)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	106	2.03 (1.35, 3.06)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	106	31.39 (21.62, 45.56)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	106	12.13 (9.33, 15.76)
Age ≥ 60 Non-URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	125	0.05 (0.05, 0.05)
Age ≥ 60 Non-URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	125	0.80 (0.80, 0.80)
Age ≥ 60 Non-URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	125	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)	40	0.05 (0.05, 0.05)
Age \geq 60 Non-URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)
Age \geq 60 Non-URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)
Age \geq 60 Non-URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	14	0.05 (0.05, 0.05)
Age \geq 60 Non-URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	14	0.80 (0.80, 0.80)
Age \geq 60 Non-URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	14	0.15 (0.15, 0.15)
Age \geq 60 Non-URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	37	0.05 (0.04, 0.05)
Age \geq 60 Non-URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)
Age \geq 60 Non-URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	37	0.15 (0.15, 0.15)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	125	3.06 (2.23, 4.20)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	125	47.25 (36.11, 61.83)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	125	22.91 (18.40, 28.54)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	40	4.82 (2.56, 9.08)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	40	57.66 (34.97, 95.06)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	40	29.57 (19.69, 44.42)

(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)	14	0.05 (0.05, 0.05)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	14	0.80 (0.80, 0.80)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	14	0.15 (0.15, 0.15)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	37	1.95 (1.10, 3.45)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	37	34.55 (20.85, 57.24)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	37	15.46 (10.91, 21.91)

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)	449	0.05 (0.05, 0.05)
United States	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	449	0.80 (0.80, 0.80)
United States	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	449	0.15 (0.15, 0.15)
United States	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)
United States	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.80, 0.80)
United States	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.15)
United States	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)
United States	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)
United States	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)
United States	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	142	0.05 (0.05, 0.05)
United States	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	142	0.80 (0.79, 0.81)
United States	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	142	0.15 (0.15, 0.15)
United States	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	449	1.20 (1.00, 1.44)
United States	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	449	14.64 (12.57, 17.05)
United States	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	449	8.40 (7.37, 9.58)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
United States	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	1.98 (1.42, 2.75)
United States	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	21.38 (16.30, 28.05)
United States	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	11.36 (9.20, 14.03)
United States	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)
United States	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)
United States	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)
United States	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	142	0.76 (0.57, 1.02)
United States	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	142	10.43 (8.16, 13.32)
United States	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	142	5.08 (4.02, 6.44)
Argentina	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	46	0.05 (0.05, 0.05)
Argentina	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	46	0.80 (0.80, 0.80)
Argentina	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	46	0.15 (0.15, 0.15)
Argentina	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	11	0.06 (0.04, 0.09)
Argentina	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)
Argentina	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	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)	6	0.05 (0.05, 0.05)
Argentina	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)
Argentina	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)
Argentina	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	15	0.05 (0.05, 0.05)
Argentina	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	15	0.80 (0.80, 0.80)
Argentina	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	15	0.15 (0.15, 0.15)
Argentina	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	46	1.74 (1.01, 3.01)
Argentina	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	46	17.45 (10.46, 29.10)
Argentina	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	46	10.40 (6.73, 16.09)
Argentina	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	11	2.93 (1.06, 8.10)
Argentina	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	31.15 (9.21, 105.32)
Argentina	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	15.65 (5.88, 41.66)
Argentina	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)
Argentina	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)
Argentina	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	6	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)	15	0.53 (0.19, 1.48)
Argentina	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	15	8.81 (3.71, 20.93)
Argentina	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	15	3.35 (1.33, 8.49)
Brazil	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	80	0.05 (0.05, 0.05)
Brazil	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	80	0.80 (0.80, 0.80)
Brazil	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	80	0.15 (0.15, 0.15)
Brazil	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	30	0.05 (0.05, 0.05)
Brazil	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	30	0.80 (0.80, 0.80)
Brazil	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	30	0.15 (0.15, 0.15)
Brazil	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	14	0.05 (0.05, 0.05)
Brazil	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	14	0.80 (0.80, 0.80)
Brazil	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	14	0.15 (0.15, 0.15)
Brazil	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	24	0.05 (0.05, 0.05)
Brazil	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	24	0.81 (0.78, 0.83)
Brazil	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	24	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)	80	0.99 (0.64, 1.52)
Brazil	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	80	12.90 (8.91, 18.68)
Brazil	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	80	7.69 (5.60, 10.55)
Brazil	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	30	1.86 (0.88, 3.91)
Brazil	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	30	17.77 (10.40, 30.35)
Brazil	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	30	11.16 (6.82, 18.26)
Brazil	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	14	0.05 (0.05, 0.05)
Brazil	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	14	0.80 (0.80, 0.80)
Brazil	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	14	0.15 (0.15, 0.15)
Brazil	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	24	0.76 (0.38, 1.52)
Brazil	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	24	10.05 (5.32, 18.95)
Brazil	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	24	5.21 (3.18, 8.54)
Chile	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	11	0.05 (0.05, 0.05)
Chile	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)
Chile	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	11	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)	3	0.05 (0.05, 0.05)
Chile	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	3	0.80 (0.80, 0.80)
Chile	Day 1	Vaccine	Positive	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)	11	0.74 (0.32, 1.73)
Chile	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	11	7.26 (3.66, 14.40)
Chile	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	11	5.26 (2.74, 10.10)
Chile	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	3	3.19 (1.03, 9.86)
Chile	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	3	25.42 (15.73, 41.09)
Chile	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	3	21.76 (11.02, 42.95)
Chile	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)
Chile	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	2.26 (0.51, 9.96)
Chile	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	1.17 (0.54, 2.52)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Columbia	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)
Columbia	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)
Columbia	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)
Columbia	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	19	0.05 (0.05, 0.05)
Columbia	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	19	0.80 (0.80, 0.80)
Columbia	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	19	0.15 (0.15, 0.15)
Columbia	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Columbia	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Columbia	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)
Columbia	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	21	0.05 (0.05, 0.05)
Columbia	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	21	0.80 (0.80, 0.80)
Columbia	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)
Columbia	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	59	1.56 (0.99, 2.46)
Columbia	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	59	17.82 (11.24, 28.27)
Columbia	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	59	10.64 (7.49, 15.11)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Columbia	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	19	4.74 (2.37, 9.48)
Columbia	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	19	45.25 (26.28, 77.90)
Columbia	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	19	17.01 (10.73, 26.95)
Columbia	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Columbia	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Columbia	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)
Columbia	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	21	0.77 (0.35, 1.73)
Columbia	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	21	13.01 (5.79, 29.27)
Columbia	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	21	4.18 (2.52, 6.93)
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	Placebo	Positive	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)
Mexico	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)
Mexico	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Mexico	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	5	0.71 (0.08, 6.14)
Mexico	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	5	17.06 (3.18, 91.61)
Mexico	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	5	10.60 (3.74, 30.04)
Mexico	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0.20 (0.02, 2.10)
Mexico	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	14.67 (2.74, 78.62)
Mexico	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0.71 (0.06, 8.51)
Peru	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	25	0.05 (0.05, 0.05)
Peru	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	0.80 (0.80, 0.80)
Peru	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	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)	2	0.05 (0.05, 0.05)
Peru	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)
Peru	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Peru	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)
Peru	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)
Peru	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)
Peru	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	25	0.88 (0.43, 1.81)
Peru	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	12.54 (7.00, 22.47)
Peru	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	8.78 (4.93, 15.63)
Peru	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	6	1.52 (0.50, 4.64)
Peru	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	74.59 (34.44, 161.55)
Peru	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	19.42 (6.12, 61.60)
Peru	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)
Peru	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)
Peru	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)
Peru	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	6	0.34 (0.07, 1.52)
Peru	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	6	8.15 (2.40, 27.64)
Peru	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	6	5.56 (2.69, 11.47)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
South Africa	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	221	0.05 (0.05, 0.05)
South Africa	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	0.80 (0.80, 0.80)
South Africa	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	0.15 (0.15, 0.15)
South Africa	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	70	0.05 (0.05, 0.05)
South Africa	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	0.81 (0.78, 0.85)
South Africa	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	0.15 (0.15, 0.15)
South Africa	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	26	0.05 (0.05, 0.05)
South Africa	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0.80 (0.80, 0.80)
South Africa	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0.15 (0.15, 0.15)
South Africa	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	70	0.05 (0.05, 0.05)
South Africa	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.80, 0.80)
South Africa	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	70	0.15 (0.15, 0.15)
South Africa	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	221	1.30 (1.04, 1.63)
South Africa	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	13.39 (11.00, 16.31)
South Africa	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	7.67 (6.61, 8.89)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
South Africa	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	2.31 (1.39, 3.82)
South Africa	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	24.09 (16.68, 34.77)
South Africa	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	14.74 (10.84, 20.05)
South Africa	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0.05 (0.05, 0.05)
South Africa	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0.80 (0.80, 0.80)
South Africa	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0.15 (0.15, 0.15)
South Africa	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	70	0.83 (0.53, 1.28)
South Africa	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	70	10.98 (8.11, 14.86)
South Africa	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	70	4.81 (3.43, 6.77)

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)	896	0.05 (0.05, 0.05)	1.21 (1.06, 1.38)	1.55 (1.46, 1.65)
	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	896	0.80 (0.80, 0.80)	14.34 (12.82, 16.05)	6.16 (5.56, 6.82)
	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	896	0.15 (0.15, 0.15)	8.46 (7.70, 9.30)	9.27 (8.46, 10.15)
	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	280	0.05 (0.05, 0.05)	2.26 (1.76, 2.89)	2.02 (1.74, 2.34)
	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	280	0.80 (0.79, 0.80)	24.42 (19.98, 29.86)	10.05 (8.31, 12.17)
	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	280	0.15 (0.15, 0.15)	12.88 (10.94, 15.17)	13.66 (11.51, 16.21)
	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, 0.15)	1.00 (1.00, 1.00)
	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	282	0.05 (0.05, 0.05)	0.68 (0.55, 0.85)	1.33 (1.23, 1.44)
	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	282	0.80 (0.80, 0.81)	10.27 (8.53, 12.37)	4.53 (3.85, 5.32)
	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	282	0.15 (0.15, 0.15)	4.53 (3.82, 5.36)	5.26 (4.56, 6.08)

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)	448	0.05 (0.05, 0.05)	0.79 (0.66, 0.94)	1.34 (1.25, 1.45)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	0.80 (0.80, 0.80)	8.54 (7.32, 9.96)	3.80 (3.31, 4.37)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	0.15 (0.15, 0.15)	5.18 (4.55, 5.89)	5.72 (5.05, 6.47)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	140	0.05 (0.05, 0.05)	1.57 (1.14, 2.16)	1.64 (1.37, 1.97)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	0.80 (0.79, 0.81)	15.95 (12.24, 20.79)	6.70 (5.23, 8.57)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	0.15 (0.15, 0.15)	8.13 (6.51, 10.15)	8.53 (6.74, 10.78)
Age 18 - 59	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	54	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)	54	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)	54	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)	139	0.05 (0.05, 0.05)	0.38 (0.29, 0.50)	1.09 (1.03, 1.15)
Age 18 - 59	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	139	0.80 (0.80, 0.80)	5.57 (4.45, 6.99)	2.61 (2.19, 3.12)
Age 18 - 59	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	139	0.15 (0.15, 0.15)	2.59 (2.06, 3.25)	3.15 (2.63, 3.77)
Age ≥ 60	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	448	0.05 (0.05, 0.05)	2.72 (2.31, 3.21)	2.05 (1.84, 2.28)
Age ≥ 60	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	0.80 (0.80, 0.80)	38.11 (33.03, 43.97)	15.27 (13.28, 17.57)
Age ≥ 60	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	0.15 (0.15, 0.15)	21.33 (18.98, 23.97)	23.01 (20.45, 25.89)

(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)	140	0.05 (0.05, 0.05)	4.50 (3.08, 6.57)	3.00 (2.34, 3.85)
Age \geq 60	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	0.80 (0.80, 0.80)	54.93 (41.38, 72.93)	21.77 (16.38, 28.95)
Age \geq 60	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	0.15 (0.15, 0.15)	30.93 (25.28, 37.83)	33.47 (27.34, 40.98)
Age \geq 60	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)
Age \geq 60	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)
Age \geq 60	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age \geq 60	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	143	0.05 (0.05, 0.05)	2.01 (1.43, 2.82)	1.93 (1.59, 2.34)
Age \geq 60	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	143	0.81 (0.79, 0.82)	32.12 (23.61, 43.70)	12.64 (9.24, 17.29)
Age \geq 60	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	143	0.15 (0.15, 0.15)	12.86 (10.36, 15.96)	13.72 (11.01, 17.11)

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)	451	0.05 (0.05, 0.05)	1.27 (1.05, 1.54)	1.61 (1.46, 1.78)
At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	451	0.80 (0.80, 0.80)	13.86 (11.77, 16.32)	5.98 (5.16, 6.94)
At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	451	0.15 (0.15, 0.15)	8.47 (7.38, 9.71)	9.24 (8.09, 10.55)
At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)	2.19 (1.57, 3.06)	1.93 (1.59, 2.34)
At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.80, 0.80)	26.56 (19.02, 37.09)	11.42 (8.47, 15.39)
At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.15)	11.74 (9.15, 15.07)	12.51 (9.68, 16.17)
At-risk	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)
At-risk	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)
At-risk	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
At-risk	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)	0.85 (0.63, 1.16)	1.38 (1.23, 1.56)
At-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	141	0.81 (0.79, 0.82)	11.39 (8.76, 14.82)	5.02 (4.02, 6.27)
At-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.15)	5.02 (4.08, 6.17)	5.50 (4.52, 6.68)
Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	445	0.05 (0.05, 0.05)	1.17 (0.98, 1.39)	1.52 (1.40, 1.64)
Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	445	0.80 (0.80, 0.80)	14.68 (12.60, 17.10)	6.28 (5.46, 7.22)
Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	445	0.15 (0.15, 0.15)	8.46 (7.44, 9.61)	9.28 (8.21, 10.50)

(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)	139	0.05 (0.05, 0.05)	2.30 (1.62, 3.24)	2.08 (1.69, 2.57)
Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	139	0.80 (0.79, 0.81)	23.12 (18.00, 29.70)	9.25 (7.22, 11.85)
Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	139	0.15 (0.15, 0.15)	13.69 (11.03, 16.98)	14.47 (11.52, 18.17)
Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	54	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)	54	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)	54	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)	141	0.05 (0.05, 0.05)	0.59 (0.44, 0.79)	1.30 (1.17, 1.44)
Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.80, 0.80)	9.62 (7.47, 12.40)	4.25 (3.40, 5.31)
Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.15)	4.24 (3.33, 5.41)	5.12 (4.20, 6.25)

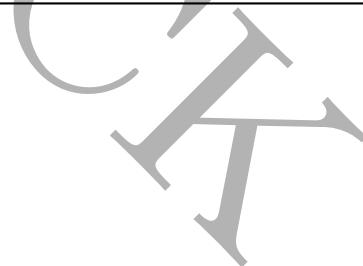


Table 8d. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age, Risk for Severe Covid-19

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)	224	0.05 (0.05, 0.05)	0.91 (0.70, 1.19)	1.45 (1.28, 1.64)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	0.80 (0.80, 0.80)	8.37 (6.70, 10.46)	3.79 (3.11, 4.61)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	0.15 (0.15, 0.15)	5.30 (4.40, 6.40)	5.83 (4.88, 6.98)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	70	0.05 (0.04, 0.05)	1.54 (0.99, 2.40)	1.59 (1.24, 2.05)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.80, 0.80)	17.63 (11.20, 27.76)	7.87 (5.28, 11.72)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	0.15 (0.15, 0.15)	7.84 (5.62, 10.93)	8.28 (5.88, 11.68)
Age 18 - 59 At-risk	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	26	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)	26	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)	26	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)	69	0.05 (0.05, 0.05)	0.51 (0.34, 0.77)	1.15 (1.02, 1.29)
Age 18 - 59 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	69	0.80 (0.80, 0.80)	7.16 (5.06, 10.12)	3.30 (2.49, 4.36)
Age 18 - 59 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	69	0.15 (0.15, 0.15)	2.83 (2.19, 3.66)	3.15 (2.50, 3.98)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	224	0.05 (0.05, 0.05)	0.72 (0.56, 0.91)	1.28 (1.16, 1.40)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	0.80 (0.80, 0.80)	8.66 (7.02, 10.67)	3.82 (3.16, 4.60)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	0.15 (0.15, 0.15)	5.10 (4.28, 6.08)	5.65 (4.78, 6.67)

(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)	70	0.05 (0.05, 0.05)	1.59 (1.02, 2.48)	1.68 (1.29, 2.17)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.79, 0.82)	14.86 (10.81, 20.44)	5.97 (4.37, 8.18)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	0.15 (0.15, 0.15)	8.33 (6.19, 11.22)	8.70 (6.33, 11.96)
Age 18 - 59 Not 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 18 - 59 Not 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 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	28	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)	70	0.05 (0.05, 0.05)	0.31 (0.21, 0.45)	1.05 (0.99, 1.11)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.80, 0.80)	4.74 (3.52, 6.37)	2.25 (1.79, 2.82)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	70	0.15 (0.15, 0.15)	2.44 (1.74, 3.41)	3.15 (2.44, 4.07)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	227	0.05 (0.05, 0.05)	2.36 (1.85, 3.01)	1.97 (1.69, 2.29)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	227	0.80 (0.80, 0.80)	35.25 (28.46, 43.67)	13.97 (11.31, 17.26)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	227	0.15 (0.15, 0.15)	20.13 (16.88, 24.01)	21.65 (18.10, 25.90)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	71	0.05 (0.05, 0.05)	4.75 (3.14, 7.19)	2.92 (2.18, 3.90)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	0.80 (0.80, 0.80)	64.86 (45.19, 93.10)	25.65 (17.79, 36.98)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	0.15 (0.15, 0.15)	28.27 (21.00, 38.06)	30.68 (22.79, 41.30)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age \geq 60 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 \geq 60 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 \geq 60 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 \geq 60 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	72	0.05 (0.05, 0.05)	2.37 (1.52, 3.67)	2.01 (1.54, 2.61)
Age \geq 60 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	72	0.82 (0.79, 0.87)	28.87 (20.37, 40.93)	11.61 (8.24, 16.34)
Age \geq 60 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	72	0.15 (0.15, 0.15)	15.73 (11.60, 21.33)	16.70 (12.18, 22.92)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	221	0.05 (0.05, 0.05)	3.00 (2.40, 3.74)	2.10 (1.82, 2.43)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	0.80 (0.80, 0.80)	40.17 (33.18, 48.62)	16.22 (13.46, 19.54)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	0.15 (0.15, 0.15)	22.18 (19.00, 25.89)	23.97 (20.50, 28.03)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	69	0.05 (0.05, 0.05)	4.36 (2.53, 7.51)	3.05 (2.14, 4.35)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	69	0.80 (0.80, 0.80)	50.02 (33.75, 74.12)	19.85 (13.38, 29.45)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	69	0.15 (0.15, 0.15)	32.53 (24.91, 42.49)	35.16 (26.88, 45.99)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	26	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	26	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)	71	0.05 (0.05, 0.05)	1.83 (1.14, 2.93)	1.88 (1.45, 2.45)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	71	0.80 (0.80, 0.80)	34.18 (21.96, 53.20)	13.29 (8.44, 20.91)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	71	0.15 (0.15, 0.15)	11.44 (8.55, 15.31)	12.24 (9.11, 16.45)

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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)	895	0.05 (0.05, 0.05)	1.21 (1.06, 1.38)	1.55 (1.46, 1.65)
Male	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	895	0.80 (0.80, 0.80)	14.33 (12.81, 16.04)	6.15 (5.55, 6.82)
Male	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	895	0.15 (0.15, 0.15)	8.45 (7.69, 9.29)	9.26 (8.45, 10.14)
Male	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	280	0.05 (0.05, 0.05)	2.26 (1.76, 2.89)	2.02 (1.74, 2.34)
Male	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	280	0.80 (0.79, 0.80)	24.42 (19.98, 29.86)	10.05 (8.31, 12.17)
Male	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	280	0.15 (0.15, 0.15)	12.88 (10.94, 15.17)	13.66 (11.51, 16.21)
Male	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	63	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)	63	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)	63	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)	112	0.05 (0.05, 0.05)	0.66 (0.47, 0.93)	1.25 (1.12, 1.39)
Male	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	112	0.80 (0.79, 0.81)	10.38 (7.79, 13.84)	4.42 (3.41, 5.74)
Male	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	112	0.15 (0.15, 0.15)	5.00 (3.88, 6.44)	5.67 (4.49, 7.15)
Female	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)	1.46 (1.46, 1.46)	1.00 (1.00, 1.00)
Female	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)	29.69 (29.69, 29.69)	11.82 (11.82, 11.82)
Female	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)	27.93 (27.93, 27.93)	30.31 (30.31, 30.31)

(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	Negative	Anti N IgG (IU/ml)	44	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)	44	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)	44	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Female	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	170	0.05 (0.05, 0.05)	0.69 (0.51, 0.94)	1.39 (1.24, 1.55)
Female	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	170	0.80 (0.79, 0.81)	10.20 (7.79, 13.34)	4.60 (3.64, 5.82)
Female	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	170	0.15 (0.15, 0.15)	4.24 (3.33, 5.40)	5.02 (4.11, 6.13)

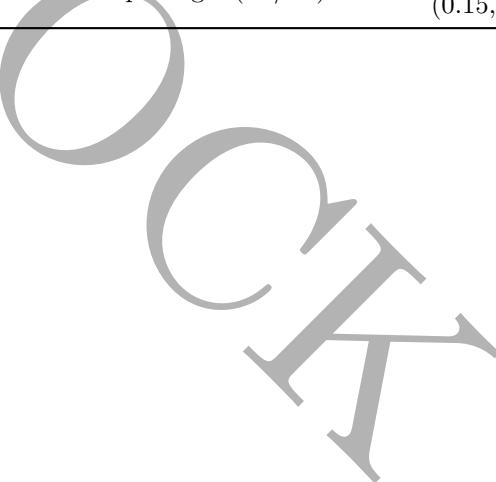


Table 8f. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age, sex

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)	23	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)	23	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)	23	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)	84	0.05 (0.05, 0.05)	0.35 (0.24, 0.50)	1.08 (1.01, 1.16)
Age 18 - 59 Female	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	84	0.80 (0.80, 0.80)	5.01 (3.71, 6.78)	2.44 (1.93, 3.08)
Age 18 - 59 Female	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	84	0.15 (0.15, 0.15)	2.26 (1.67, 3.07)	2.83 (2.25, 3.56)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	448	0.05 (0.05, 0.05)	0.79 (0.66, 0.94)	1.34 (1.25, 1.45)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	448	0.80 (0.80, 0.80)	8.54 (7.32, 9.96)	3.80 (3.31, 4.37)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	448	0.15 (0.15, 0.15)	5.18 (4.55, 5.89)	5.72 (5.05, 6.47)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	140	0.05 (0.05, 0.05)	1.57 (1.14, 2.16)	1.64 (1.37, 1.97)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	0.80 (0.79, 0.81)	15.95 (12.24, 20.79)	6.70 (5.23, 8.57)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	0.15 (0.15, 0.15)	8.13 (6.51, 10.15)	8.53 (6.74, 10.78)
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)	55	0.05 (0.05, 0.05)	0.43 (0.28, 0.68)	1.10 (1.00, 1.20)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)	6.57 (4.73, 9.12)	2.91 (2.22, 3.82)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)	3.18 (2.31, 4.38)	3.73 (2.81, 4.94)
Age \geq 60 Female	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)	1.46 (1.46, 1.46)	1.00 (1.00, 1.00)
Age \geq 60 Female	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)	29.69 (29.69, 29.69)	11.82 (11.82, 11.82)
Age \geq 60 Female	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)	27.93 (27.93, 27.93)	30.31 (30.31, 30.31)
Age \geq 60 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 \geq 60 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 \geq 60 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 \geq 60 Female	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	86	0.05 (0.05, 0.05)	2.53 (1.57, 4.08)	2.21 (1.67, 2.91)
Age \geq 60 Female	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	86	0.81 (0.79, 0.82)	39.24 (25.68, 59.95)	15.37 (9.98, 23.67)
Age \geq 60 Female	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	86	0.15 (0.15, 0.15)	13.96 (10.33, 18.87)	14.92 (10.99, 20.26)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	447	0.05 (0.05, 0.05)	2.73 (2.31, 3.22)	2.05 (1.85, 2.28)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	447	0.80 (0.80, 0.80)	38.14 (33.04, 44.02)	15.28 (13.28, 17.59)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	447	0.15 (0.15, 0.15)	21.31 (18.96, 23.96)	22.99 (20.42, 25.88)

(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	Vaccine	Positive	Anti N IgG (IU/ml)	140	0.05 (0.05, 0.05)	4.50 (3.08, 6.57)	3.00 (2.34, 3.85)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	140	0.80 (0.80, 0.80)	54.93 (41.38, 72.93)	21.77 (16.38, 28.95)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	140	0.15 (0.15, 0.15)	30.93 (25.28, 37.83)	33.47 (27.34, 40.98)
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	32	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)	32	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)	32	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)	57	0.05 (0.05, 0.05)	1.42 (0.91, 2.23)	1.57 (1.25, 1.98)
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	57	0.81 (0.79, 0.83)	23.86 (15.45, 36.87)	9.46 (6.10, 14.67)
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	57	0.15 (0.15, 0.15)	11.38 (8.43, 15.37)	12.11 (8.88, 16.53)

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)	371	0.05 (0.05, 0.05)	1.17 (0.96, 1.42)	1.52 (1.39, 1.66)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	371	0.80 (0.80, 0.80)	14.49 (12.18, 17.23)	6.14 (5.23, 7.21)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	371	0.15 (0.15, 0.15)	8.60 (7.44, 9.94)	9.40 (8.17, 10.82)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	114	0.05 (0.05, 0.05)	2.62 (1.77, 3.87)	2.17 (1.71, 2.76)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	114	0.80 (0.80, 0.80)	29.01 (21.53, 39.08)	11.80 (8.87, 15.69)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	114	0.15 (0.15, 0.15)	15.45 (12.07, 19.79)	16.33 (12.60, 21.16)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	43	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)	43	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)	43	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)	112	0.05 (0.05, 0.05)	0.65 (0.46, 0.91)	1.36 (1.20, 1.54)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	112	0.80 (0.79, 0.81)	10.20 (7.58, 13.73)	4.46 (3.42, 5.80)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	112	0.15 (0.15, 0.15)	4.14 (3.20, 5.36)	4.86 (3.91, 6.03)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	480	0.05 (0.05, 0.05)	1.25 (1.05, 1.50)	1.60 (1.47, 1.75)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	480	0.80 (0.80, 0.80)	14.04 (12.03, 16.39)	6.10 (5.31, 7.00)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	480	0.15 (0.15, 0.15)	8.24 (7.25, 9.37)	8.99 (7.94, 10.18)

(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)	156	0.05 (0.05, 0.05)	1.90 (1.40, 2.58)	1.86 (1.55, 2.24)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	156	0.80 (0.79, 0.81)	20.59 (15.63, 27.14)	8.52 (6.55, 11.09)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	156	0.15 (0.15, 0.15)	10.55 (8.46, 13.16)	11.22 (8.90, 14.14)
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)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	157	0.05 (0.05, 0.05)	0.74 (0.55, 0.99)	1.34 (1.21, 1.48)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	157	0.80 (0.79, 0.81)	10.23 (8.02, 13.04)	4.56 (3.72, 5.60)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	157	0.15 (0.15, 0.15)	4.80 (3.79, 6.07)	5.55 (4.54, 6.79)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	45	0.05 (0.05, 0.05)	1.34 (0.80, 2.23)	1.50 (1.20, 1.89)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	45	0.80 (0.80, 0.80)	15.58 (9.47, 25.62)	6.99 (4.46, 10.96)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	45	0.15 (0.15, 0.15)	8.96 (5.41, 14.84)	10.45 (6.55, 16.66)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	10	0.05 (0.05, 0.05)	2.21 (0.90, 5.45)	1.89 (1.20, 2.97)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	10	0.80 (0.80, 0.80)	14.92 (3.47, 64.05)	7.07 (1.93, 25.86)

(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)	10	0.15 (0.15, 0.15)	10.53 (6.32, 17.54)	11.43 (6.86, 19.04)
Not reported and unknown	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	4	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)	4	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)	4	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)	13	0.05 (0.05, 0.05)	0.54 (0.25, 1.18)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	13	0.80 (0.80, 0.80)	11.39 (5.88, 22.07)	5.05 (2.94, 8.68)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	13	0.15 (0.15, 0.15)	6.97 (3.65, 13.31)	7.80 (4.22, 14.41)



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)	189	0.05 (0.05, 0.05)	1.32 (0.98, 1.76)	1.72 (1.49, 2.00)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	189	0.80 (0.80, 0.80)	15.40 (12.02, 19.74)	6.92 (5.58, 8.60)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	189	0.15 (0.15, 0.15)	8.43 (6.88, 10.34)	9.26 (7.62, 11.26)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	58	0.05 (0.05, 0.05)	1.73 (1.03, 2.93)	1.91 (1.42, 2.57)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	58	0.80 (0.80, 0.80)	19.90 (12.57, 31.51)	8.74 (5.81, 13.15)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	58	0.15 (0.15, 0.15)	9.67 (6.75, 13.86)	10.35 (7.19, 14.90)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	24	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)	24	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)	24	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	55	0.05 (0.05, 0.05)	0.62 (0.39, 0.99)	1.31 (1.11, 1.53)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	55	0.80 (0.80, 0.80)	10.34 (6.71, 15.94)	4.86 (3.39, 6.98)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)	4.99 (3.39, 7.36)	5.79 (4.10, 8.19)
Black or African American	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	312	0.05 (0.05, 0.05)	1.23 (0.98, 1.53)	1.55 (1.41, 1.72)
Black or African American	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	312	0.80 (0.80, 0.80)	14.21 (11.58, 17.44)	6.12 (5.06, 7.40)

(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)	312	0.15 (0.15, 0.15)	8.16 (6.91, 9.63)	9.10 (7.79, 10.62)
Black or African American	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	105	0.05 (0.05, 0.05)	2.07 (1.44, 3.00)	1.88 (1.50, 2.34)
Black or African American	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	105	0.81 (0.79, 0.83)	20.07 (14.70, 27.40)	8.25 (6.14, 11.07)
Black or African American	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	105	0.15 (0.15, 0.15)	12.75 (10.07, 16.13)	13.81 (10.93, 17.44)
Black or African American	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)
Black or African American	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)
Black or African American	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)
Black or African American	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	109	0.05 (0.05, 0.05)	0.80 (0.56, 1.15)	1.34 (1.17, 1.55)
Black or African American	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	109	0.80 (0.79, 0.82)	9.86 (7.23, 13.44)	4.29 (3.26, 5.64)
Black or African American	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	109	0.15 (0.15, 0.15)	4.96 (3.73, 6.59)	5.53 (4.26, 7.19)
Asian	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	21	0.05 (0.05, 0.05)	1.27 (0.49, 3.26)	1.84 (1.22, 2.76)
Asian	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	21	0.80 (0.80, 0.80)	16.56 (7.47, 36.71)	7.16 (3.57, 14.40)
Asian	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)	9.83 (4.79, 20.18)	10.38 (5.03, 21.41)

(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)	11	0.05 (0.05, 0.05)	4.03 (1.65, 9.83)	2.30 (1.16, 4.55)
Asian	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)	31.30 (12.76, 76.79)	12.61 (5.19, 30.64)
Asian	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	0.15 (0.15, 0.15)	8.25 (3.18, 21.44)	8.05 (2.70, 24.00)
Asian	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)
Asian	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)
Asian	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)
Asian	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	10	0.05 (0.05, 0.05)	0.29 (0.07, 1.15)	1.18 (0.93, 1.51)
Asian	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	10	0.80 (0.80, 0.80)	5.09 (1.81, 14.33)	2.67 (1.26, 5.66)
Asian	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	10	0.15 (0.15, 0.15)	2.30 (0.85, 6.22)	3.22 (1.55, 6.68)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	132	0.05 (0.05, 0.05)	1.10 (0.80, 1.53)	1.52 (1.31, 1.77)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	132	0.80 (0.80, 0.80)	13.14 (9.90, 17.46)	5.57 (4.29, 7.23)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	132	0.15 (0.15, 0.15)	8.22 (6.44, 10.48)	9.06 (7.19, 11.42)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	44	0.05 (0.04, 0.05)	2.62 (1.53, 4.46)	2.10 (1.49, 2.94)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	44	0.80 (0.80, 0.80)	32.20 (19.95, 51.99)	13.24 (8.38, 20.92)

(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)	44	0.15 (0.15, 0.15)	16.58 (11.18, 24.58)	17.55 (11.61, 26.53)
American Indian or Alaska Native	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)
American Indian or Alaska Native	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)
American Indian or Alaska Native	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)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	43	0.05 (0.05, 0.05)	0.74 (0.45, 1.21)	1.26 (1.06, 1.51)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	43	0.80 (0.79, 0.82)	10.35 (6.44, 16.62)	4.65 (3.11, 6.94)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	43	0.15 (0.15, 0.15)	3.75 (2.42, 5.83)	4.79 (3.49, 6.57)
Native Hawaiian or Other Pacific Islander	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)
Native Hawaiian or Other Pacific Islander	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)
Native Hawaiian or Other Pacific Islander	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)
Multiracial	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	25	0.05 (0.05, 0.05)	1.03 (0.53, 2.03)	1.25 (0.98, 1.59)
Multiracial	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	0.80 (0.80, 0.80)	8.33 (4.22, 16.43)	3.94 (2.21, 7.03)
Multiracial	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	0.15 (0.15, 0.15)	7.27 (3.78, 13.98)	8.59 (4.72, 15.63)

(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)	11	0.05 (0.04, 0.05)	1.67 (0.31, 8.86)	1.86 (1.08, 3.21)
Multiracial	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)	31.95 (16.66, 61.26)	12.52 (6.46, 24.27)
Multiracial	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	0.15 (0.15, 0.15)	15.82 (9.32, 26.83)	17.16 (10.12, 29.12)
Multiracial	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	4	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)	4	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)	4	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)	0.41 (0.13, 1.27)	1.21 (0.83, 1.75)
Multiracial	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)	4.72 (1.50, 14.85)	2.08 (0.85, 5.10)
Multiracial	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)	3.88 (2.27, 6.64)	4.21 (2.46, 7.20)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	11	0.05 (0.05, 0.05)	1.60 (0.80, 3.17)	1.39 (0.96, 2.02)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)	28.83 (12.32, 67.51)	12.29 (5.83, 25.92)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	11	0.15 (0.15, 0.15)	11.34 (5.06, 25.41)	12.60 (5.79, 27.44)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)	0.51 (0.20, 1.29)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)	18.78 (8.39, 42.02)	7.48 (3.34, 16.73)

(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)	4	0.15 (0.15, 0.15)	4.05 (2.14, 7.68)	4.40 (2.32, 8.34)
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)	5	0.06 (0.04, 0.09)	1.02 (0.15, 7.11)	1.58 (0.75, 3.36)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)	10.71 (6.63, 17.32)	4.26 (2.64, 6.89)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)	4.35 (2.53, 7.48)	4.60 (2.61, 8.10)

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)	651	0.05 (0.05, 0.05)	1.17 (1.01, 1.36)	1.51 (1.41, 1.62)
URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	651	0.80 (0.80, 0.80)	13.97 (12.22, 15.97)	5.93 (5.25, 6.71)
URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	651	0.15 (0.15, 0.15)	8.48 (7.58, 9.49)	9.28 (8.32, 10.35)
URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	203	0.05 (0.05, 0.05)	2.39 (1.78, 3.21)	2.02 (1.69, 2.41)
URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	203	0.80 (0.79, 0.81)	25.05 (19.80, 31.70)	10.15 (8.09, 12.74)
URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	203	0.15 (0.15, 0.15)	14.08 (11.59, 17.09)	14.87 (12.11, 18.25)
URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	78	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)	78	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)	78	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)	208	0.05 (0.05, 0.05)	0.66 (0.51, 0.85)	1.33 (1.21, 1.46)
URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	208	0.80 (0.79, 0.81)	9.96 (7.99, 12.43)	4.35 (3.58, 5.28)
URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	208	0.15 (0.15, 0.15)	4.37 (3.59, 5.32)	5.06 (4.28, 5.98)
Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	245	0.05 (0.05, 0.05)	1.33 (1.04, 1.71)	1.68 (1.48, 1.91)
Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	245	0.80 (0.80, 0.80)	15.46 (12.54, 19.06)	6.85 (5.69, 8.24)

(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)	245	0.15 (0.15, 0.15)	8.40 (7.07, 9.98)	9.21 (7.81, 10.87)
Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	77	0.05 (0.05, 0.05)	1.90 (1.21, 2.96)	2.03 (1.57, 2.61)
Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	77	0.80 (0.80, 0.80)	22.65 (15.47, 33.16)	9.77 (6.94, 13.75)
Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	77	0.15 (0.15, 0.15)	9.89 (7.34, 13.33)	10.62 (7.85, 14.36)
Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	29	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)	29	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)	29	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	74	0.05 (0.05, 0.05)	0.75 (0.50, 1.13)	1.32 (1.15, 1.53)
Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	74	0.80 (0.80, 0.80)	11.22 (8.01, 15.71)	5.10 (3.86, 6.75)
Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	74	0.15 (0.15, 0.15)	5.02 (3.60, 6.99)	5.91 (4.46, 7.84)



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)	328	0.05 (0.05, 0.05)	0.78 (0.63, 0.95)	1.32 (1.22, 1.44)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	328	0.80 (0.80, 0.80)	8.69 (7.25, 10.43)	3.80 (3.22, 4.48)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	328	0.15 (0.15, 0.15)	5.35 (4.58, 6.24)	5.90 (5.10, 6.84)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	103	0.05 (0.05, 0.05)	1.74 (1.19, 2.53)	1.65 (1.32, 2.07)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	103	0.80 (0.79, 0.81)	16.70 (12.27, 22.75)	6.85 (5.11, 9.19)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	103	0.15 (0.15, 0.15)	9.23 (7.07, 12.04)	9.62 (7.24, 12.78)
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)	102	0.05 (0.05, 0.05)	0.35 (0.26, 0.49)	1.07 (1.01, 1.14)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	102	0.80 (0.80, 0.80)	5.31 (4.07, 6.93)	2.45 (1.99, 3.02)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	102	0.15 (0.15, 0.15)	2.50 (1.92, 3.24)	3.02 (2.46, 3.71)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	120	0.05 (0.05, 0.05)	0.82 (0.59, 1.16)	1.40 (1.19, 1.64)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	120	0.80 (0.80, 0.80)	8.11 (6.10, 10.78)	3.81 (2.99, 4.86)

(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)	120	0.15 (0.15, 0.15)	4.71 (3.73, 5.94)	5.20 (4.17, 6.48)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	37	0.05 (0.05, 0.05)	1.16 (0.64, 2.11)	1.61 (1.20, 2.17)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)	13.91 (8.32, 23.25)	6.25 (4.00, 9.77)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	0.15 (0.15, 0.15)	5.58 (3.77, 8.27)	5.96 (4.00, 8.89)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	15	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)	15	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)	15	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)	37	0.05 (0.05, 0.05)	0.47 (0.27, 0.80)	1.13 (0.98, 1.31)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)	6.41 (4.18, 9.82)	3.13 (2.27, 4.33)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	37	0.15 (0.15, 0.15)	2.86 (1.81, 4.53)	3.54 (2.44, 5.15)
Age \geq 60 URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	323	0.05 (0.05, 0.05)	2.61 (2.15, 3.16)	1.96 (1.74, 2.21)
Age \geq 60 URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	323	0.80 (0.80, 0.80)	35.15 (29.70, 41.60)	14.10 (11.95, 16.63)
Age \geq 60 URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	323	0.15 (0.15, 0.15)	20.76 (18.09, 23.83)	22.36 (19.45, 25.72)
Age \geq 60 URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	100	0.05 (0.05, 0.05)	4.39 (2.78, 6.95)	2.96 (2.21, 3.96)
Age \geq 60 URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	100	0.80 (0.80, 0.80)	54.05 (38.50, 75.88)	21.39 (15.21, 30.09)

(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)	100	0.15 (0.15, 0.15)	31.39 (24.89, 39.59)	33.95 (26.89, 42.87)
Age ≥ 60 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 ≥ 60 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 ≥ 60 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 ≥ 60 URM	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	106	0.05 (0.05, 0.05)	2.03 (1.35, 3.06)	1.96 (1.56, 2.48)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	106	0.81 (0.79, 0.83)	31.39 (21.62, 45.56)	12.35 (8.45, 18.05)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	106	0.15 (0.15, 0.15)	12.13 (9.33, 15.76)	12.93 (9.89, 16.89)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	125	0.05 (0.05, 0.05)	3.06 (2.23, 4.20)	2.31 (1.88, 2.84)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	125	0.80 (0.80, 0.80)	47.25 (36.11, 61.83)	18.90 (14.53, 24.58)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	125	0.15 (0.15, 0.15)	22.91 (18.40, 28.54)	24.81 (19.90, 30.93)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)	4.82 (2.56, 9.08)	3.14 (1.94, 5.08)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)	57.66 (34.97, 95.06)	22.95 (13.92, 37.84)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)	29.57 (19.69, 44.42)	32.09 (21.36, 48.20)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	14	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)	14	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)	14	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age \geq 60 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	37	0.05 (0.04, 0.05)	1.95 (1.10, 3.45)	1.81 (1.31, 2.51)
Age \geq 60 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)	34.55 (20.85, 57.24)	13.60 (8.16, 22.67)
Age \geq 60 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	37	0.15 (0.15, 0.15)	15.46 (10.91, 21.91)	16.56 (11.59, 23.65)

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)	449	0.05 (0.05, 0.05)	1.20 (1.00, 1.44)	1.58 (1.45, 1.72)
United States	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	449	0.80 (0.80, 0.80)	14.64 (12.57, 17.05)	6.41 (5.60, 7.34)
United States	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	449	0.15 (0.15, 0.15)	8.40 (7.37, 9.58)	9.33 (8.25, 10.56)
United States	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)	1.98 (1.42, 2.75)	1.94 (1.61, 2.33)
United States	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.80, 0.80)	21.38 (16.30, 28.05)	9.03 (7.05, 11.58)
United States	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.15)	11.36 (9.20, 14.03)	12.32 (9.98, 15.20)
United States	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)
United States	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)
United States	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	55	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
United States	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	142	0.05 (0.05, 0.05)	0.76 (0.57, 1.02)	1.32 (1.19, 1.47)
United States	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	142	0.80 (0.79, 0.81)	10.43 (8.16, 13.32)	4.73 (3.85, 5.81)
United States	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	142	0.15 (0.15, 0.15)	5.08 (4.02, 6.44)	5.78 (4.69, 7.13)
Argentina	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	46	0.05 (0.05, 0.05)	1.74 (1.01, 3.01)	1.77 (1.36, 2.30)
Argentina	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	46	0.80 (0.80, 0.80)	17.45 (10.46, 29.10)	7.61 (4.85, 11.94)
Argentina	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	46	0.15 (0.15, 0.15)	10.40 (6.73, 16.09)	11.01 (7.01, 17.30)

(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)	11	0.06 (0.04, 0.09)	2.93 (1.06, 8.10)	2.44 (1.40, 4.25)
Argentina	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)	31.15 (9.21, 105.32)	13.98 (4.70, 41.57)
Argentina	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	0.15 (0.15, 0.15)	15.65 (5.88, 41.66)	16.91 (6.33, 45.22)
Argentina	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)
Argentina	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)
Argentina	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)
Argentina	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	15	0.05 (0.05, 0.05)	0.53 (0.19, 1.48)	1.32 (1.00, 1.75)
Argentina	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	15	0.80 (0.80, 0.80)	8.81 (3.71, 20.93)	3.67 (1.68, 8.03)
Argentina	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	15	0.15 (0.15, 0.15)	3.35 (1.33, 8.49)	4.73 (2.52, 8.87)
Brazil	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	80	0.05 (0.05, 0.05)	0.99 (0.64, 1.52)	1.54 (1.26, 1.88)
Brazil	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	80	0.80 (0.80, 0.80)	12.90 (8.91, 18.68)	5.69 (4.07, 7.96)
Brazil	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	80	0.15 (0.15, 0.15)	7.69 (5.60, 10.55)	8.72 (6.52, 11.65)
Brazil	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	30	0.05 (0.05, 0.05)	1.86 (0.88, 3.91)	1.84 (1.22, 2.78)
Brazil	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	30	0.80 (0.80, 0.80)	17.77 (10.40, 30.35)	7.17 (4.26, 12.07)
Brazil	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	30	0.15 (0.15, 0.15)	11.16 (6.82, 18.26)	11.04 (6.38, 19.09)

(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)	14	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)	14	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)	14	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)	24	0.05 (0.05, 0.05)	0.76 (0.38, 1.52)	1.28 (1.02, 1.60)
Brazil	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	24	0.81 (0.78, 0.83)	10.05 (5.32, 18.95)	4.34 (2.46, 7.66)
Brazil	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	24	0.15 (0.15, 0.15)	5.21 (3.18, 8.54)	5.89 (3.75, 9.27)
Chile	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	11	0.05 (0.05, 0.05)	0.74 (0.32, 1.73)	1.18 (0.95, 1.47)
Chile	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)	7.26 (3.66, 14.40)	2.94 (1.48, 5.86)
Chile	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	11	0.15 (0.15, 0.15)	5.26 (2.74, 10.10)	5.01 (2.32, 10.81)
Chile	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	3	0.05 (0.05, 0.05)	3.19 (1.03, 9.86)	1.88 (0.82, 4.30)
Chile	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	3	0.80 (0.80, 0.80)	25.42 (15.73, 41.09)	10.12 (6.26, 16.36)
Chile	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	3	0.15 (0.15, 0.15)	21.76 (11.02, 42.95)	23.61 (11.96, 46.62)
Chile	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	2	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	Positive	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)	2.26 (0.51, 9.96)	1.60 (0.82, 3.11)
Chile	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)	1.17 (0.54, 2.52)	1.47 (0.85, 2.56)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Columbia	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)	1.56 (0.99, 2.46)	1.60 (1.27, 2.02)
Columbia	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)	17.82 (11.24, 28.27)	7.20 (4.62, 11.21)
Columbia	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	59	0.15 (0.15, 0.15)	10.64 (7.49, 15.11)	11.06 (7.62, 16.04)
Columbia	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	19	0.05 (0.05, 0.05)	4.74 (2.37, 9.48)	2.44 (1.31, 4.52)
Columbia	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	19	0.80 (0.80, 0.80)	45.25 (26.28, 77.90)	17.89 (10.36, 30.89)
Columbia	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	19	0.15 (0.15, 0.15)	17.01 (10.73, 26.95)	18.46 (11.65, 29.25)
Columbia	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	4	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)	4	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)	4	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)	21	0.05 (0.05, 0.05)	0.77 (0.35, 1.73)	1.58 (1.07, 2.34)
Columbia	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	21	0.80 (0.80, 0.80)	13.01 (5.79, 29.27)	5.93 (2.89, 12.18)
Columbia	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)	4.18 (2.52, 6.93)	4.63 (2.83, 7.58)
Mexico	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)	0.71 (0.08, 6.14)	1.68 (0.97, 2.91)
Mexico	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)	17.06 (3.18, 91.61)	7.42 (1.55, 35.40)
Mexico	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)	10.60 (3.74, 30.04)	10.50 (3.22, 34.28)

(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	Placebo	Positive	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)	0.20 (0.02, 2.10)	1.00 (1.00, 1.00)
Mexico	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)	14.67 (2.74, 78.62)	5.84 (1.09, 31.30)
Mexico	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)	0.71 (0.06, 8.51)	2.20 (0.61, 7.88)
Peru	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	25	0.05 (0.05, 0.05)	0.88 (0.43, 1.81)	1.33 (1.07, 1.66)
Peru	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	0.80 (0.80, 0.80)	12.54 (7.00, 22.47)	4.84 (2.67, 8.75)
Peru	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	0.15 (0.15, 0.15)	8.78 (4.93, 15.63)	10.34 (6.33, 16.90)
Peru	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)	1.52 (0.50, 4.64)	1.63 (0.95, 2.81)
Peru	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)	74.59 (34.44, 161.55)	29.69 (13.71, 64.31)
Peru	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)	19.42 (6.12, 61.60)	21.08 (6.65, 66.85)
Peru	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)
Peru	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)
Peru	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)
Peru	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)	0.34 (0.07, 1.52)	1.14 (0.90, 1.45)
Peru	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)	8.15 (2.40, 27.64)	3.23 (0.97, 10.78)
Peru	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)	5.56 (2.69, 11.47)	6.03 (2.92, 12.45)

(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	Vaccine	Negative	Anti N IgG (IU/ml)	221	0.05 (0.05, 0.05)	1.30 (1.04, 1.63)	1.50 (1.34, 1.67)
South Africa	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	221	0.80 (0.80, 0.80)	13.39 (11.00, 16.31)	5.66 (4.73, 6.77)
South Africa	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	221	0.15 (0.15, 0.15)	7.67 (6.61, 8.89)	8.25 (7.11, 9.57)
South Africa	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	70	0.05 (0.05, 0.05)	2.31 (1.39, 3.82)	2.18 (1.54, 3.08)
South Africa	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	0.81 (0.78, 0.85)	24.09 (16.68, 34.77)	9.48 (6.56, 13.70)
South Africa	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	0.15 (0.15, 0.15)	14.74 (10.84, 20.05)	15.52 (11.25, 21.42)
South Africa	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	26	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)	26	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)	26	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
South Africa	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	70	0.05 (0.05, 0.05)	0.83 (0.53, 1.28)	1.34 (1.16, 1.56)
South Africa	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.80, 0.80)	10.98 (8.11, 14.86)	4.44 (3.36, 5.86)
South Africa	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	70	0.15 (0.15, 0.15)	4.81 (3.43, 6.77)	5.23 (3.77, 7.26)

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)	1.01 (0.96, 1.07)
Age ≥ 60 vs Age 18 - 59	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.79, 0.81)	1.00 (0.99, 1.00)
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)	0.99 (0.94, 1.03)

(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)	0.81 (0.79, 0.82)	0.80 (0.80, 0.80)	1.01 (1.00, 1.03)
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)	2.72 (2.31, 3.21)	0.79 (0.66, 0.94)	3.46 (2.71, 4.40)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	38.11 (33.03, 43.97)	8.54 (7.32, 9.96)	4.46 (3.62, 5.50)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	21.33 (18.98, 23.97)	5.18 (4.55, 5.89)	4.12 (3.46, 4.90)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	4.50 (3.08, 6.57)	1.57 (1.14, 2.16)	2.86 (1.75, 4.70)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	54.93 (41.38, 72.93)	15.95 (12.24, 20.79)	3.44 (2.34, 5.08)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	30.93 (25.28, 37.83)	8.13 (6.51, 10.15)	3.81 (2.82, 5.14)
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)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2.01 (1.43, 2.82)	0.38 (0.29, 0.50)	5.29 (3.41, 8.20)

(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 vs Age 18 - 59	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	32.12 (23.61, 43.70)	5.57 (4.45, 6.99)	5.76 (3.93, 8.45)
Age \geq 60 vs Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	12.86 (10.36, 15.96)	2.59 (2.06, 3.25)	4.97 (3.64, 6.80)

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)	1.03 (0.96, 1.11)
At-risk vs Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.79, 0.81)	0.99 (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)	0.95 (0.92, 0.99)
At-risk vs Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.81 (0.79, 0.82)	0.80 (0.80, 0.80)	1.01 (1.00, 1.03)
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)	1.27 (1.05, 1.54)	1.17 (0.98, 1.39)	1.09 (0.84, 1.41)
At-risk vs Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	13.86 (11.77, 16.32)	14.68 (12.60, 17.10)	0.94 (0.75, 1.18)
At-risk vs Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	8.47 (7.38, 9.71)	8.46 (7.44, 9.61)	1.00 (0.83, 1.21)

(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)	2.19 (1.57, 3.06)	2.30 (1.62, 3.24)	0.96 (0.59, 1.54)
At-risk vs Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	26.56 (19.02, 37.09)	23.12 (18.00, 29.70)	1.15 (0.76, 1.74)
At-risk vs Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11.74 (9.15, 15.07)	13.69 (11.03, 16.98)	0.86 (0.62, 1.19)
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)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
At-risk vs Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	0.85 (0.63, 1.16)	0.59 (0.44, 0.79)	1.45 (0.94, 2.23)
At-risk vs Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	11.39 (8.76, 14.82)	9.62 (7.47, 12.40)	1.18 (0.82, 1.71)
At-risk vs Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5.02 (4.08, 6.17)	4.24 (3.33, 5.41)	1.18 (0.86, 1.63)

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 (0.04, 0.05)	0.05 (0.05, 0.05)	1.05 (0.95, 1.16)
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)	0.80 (0.79, 0.82)	0.99 (0.98, 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)	0.94 (0.90, 1.00)
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)	0.91 (0.70, 1.19)	0.72 (0.56, 0.91)	1.27 (0.89, 1.82)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	8.37 (6.70, 10.46)	8.66 (7.02, 10.67)	0.97 (0.71, 1.31)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	5.30 (4.40, 6.40)	5.10 (4.28, 6.08)	1.04 (0.80, 1.34)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	1.54 (0.99, 2.40)	1.59 (1.02, 2.48)	0.97 (0.52, 1.81)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	17.63 (11.20, 27.76)	14.86 (10.81, 20.44)	1.19 (0.68, 2.07)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	7.84 (5.62, 10.93)	8.33 (6.19, 11.22)	0.94 (0.60, 1.47)
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)	0.51 (0.34, 0.77)	0.31 (0.21, 0.45)	1.64 (0.95, 2.85)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	7.16 (5.06, 10.12)	4.74 (3.52, 6.37)	1.51 (0.96, 2.39)

(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)	2.83 (2.19, 3.66)	2.44 (1.74, 3.41)	1.16 (0.76, 1.77)

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Table 9d. The ratios of GMTs/GMCs between groups by Age ≥ 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 ≥ 60, Risk for Severe Covid-19							
Age ≥ 60 At-risk vs Age ≥ 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 ≥ 60 At-risk vs Age ≥ 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 ≥ 60 At-risk vs Age ≥ 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 ≥ 60 At-risk vs Age ≥ 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)	1.00 (0.94, 1.07)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 1	Vaccine	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 At-risk vs Age ≥ 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 ≥ 60 At-risk vs Age ≥ 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 ≥ 60 At-risk vs Age ≥ 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 ≥ 60 At-risk vs Age ≥ 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 ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	0.97 (0.93, 1.01)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.82 (0.79, 0.87)	0.80 (0.80, 0.80)	1.04 (0.99, 1.09)

(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)	2.36 (1.85, 3.01)	3.00 (2.40, 3.74)	0.79 (0.57, 1.10)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	35.25 (28.46, 43.67)	40.17 (33.18, 48.62)	0.88 (0.66, 1.17)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	20.13 (16.88, 24.01)	22.18 (19.00, 25.89)	0.91 (0.72, 1.15)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	4.75 (3.14, 7.19)	4.36 (2.53, 7.51)	1.09 (0.55, 2.16)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	64.86 (45.19, 93.10)	50.02 (33.75, 74.12)	1.30 (0.76, 2.21)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	28.27 (21.00, 38.06)	32.53 (24.91, 42.49)	0.87 (0.58, 1.30)
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)	0.15 (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	Placebo	Positive	Anti N IgG (IU/ml)	2.37 (1.52, 3.67)	1.83 (1.14, 2.93)	1.29 (0.68, 2.47)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	28.87 (20.37, 40.93)	34.18 (21.96, 53.20)	0.84 (0.48, 1.48)

(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)	15.73 (11.60, 21.33)	11.44 (8.55, 15.31)	1.37 (0.90, 2.10)

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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	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)
Male vs Female	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)
Male vs Female	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)
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)	0.98 (0.94, 1.02)
Male vs Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.79, 0.81)	0.80 (0.79, 0.81)	1.00 (0.99, 1.01)
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	Vaccine	Negative	Anti N IgG (IU/ml)	1.21 (1.06, 1.38)	1.46 (1.46, 1.46)	0.83 (0.73, 0.95)
Male vs Female	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	14.33 (12.81, 16.04)	29.69 (29.69, 29.69)	0.48 (0.43, 0.54)
Male vs Female	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	8.45 (7.69, 9.29)	27.93 (27.93, 27.93)	0.30 (0.28, 0.33)
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)	0.15 (0.15, 0.15)	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
Male vs Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	0.66 (0.47, 0.93)	0.69 (0.51, 0.94)	0.96 (0.59, 1.54)
Male vs Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	10.38 (7.79, 13.84)	10.20 (7.79, 13.34)	1.02 (0.67, 1.55)
Male vs Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5.00 (3.88, 6.44)	4.24 (3.33, 5.40)	1.18 (0.82, 1.70)

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)	1.01 (0.95, 1.07)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.79, 0.81)	0.99 (0.98, 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)	0.98 (0.94, 1.03)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.79, 0.81)	0.80 (0.79, 0.81)	1.00 (0.99, 1.01)

(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)	1.17 (0.96, 1.42)	1.25 (1.05, 1.50)	0.93 (0.71, 1.22)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	14.49 (12.18, 17.23)	14.04 (12.03, 16.39)	1.03 (0.82, 1.31)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	8.60 (7.44, 9.94)	8.24 (7.25, 9.37)	1.04 (0.86, 1.27)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	2.62 (1.77, 3.87)	1.90 (1.40, 2.58)	1.38 (0.84, 2.27)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	29.01 (21.53, 39.08)	20.59 (15.63, 27.14)	1.41 (0.93, 2.12)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	15.45 (12.07, 19.79)	10.55 (8.46, 13.16)	1.46 (1.05, 2.05)
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)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	0.65 (0.46, 0.91)	0.74 (0.55, 0.99)	0.88 (0.56, 1.39)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	10.20 (7.58, 13.73)	10.23 (8.02, 13.04)	1.00 (0.68, 1.47)

(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)	4.14 (3.20, 5.36)	4.80 (3.79, 6.07)	0.86 (0.61, 1.23)

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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)	1.01 (0.96, 1.05)
URM vs Non-URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.79, 0.81)	0.80 (0.80, 0.80)	1.00 (1.00, 1.01)
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)	0.96 (0.91, 1.02)
URM vs Non-URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.79, 0.81)	0.80 (0.80, 0.80)	1.01 (1.00, 1.01)
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)	1.17 (1.01, 1.36)	1.33 (1.04, 1.71)	0.88 (0.66, 1.18)
URM vs Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	13.97 (12.22, 15.97)	15.46 (12.54, 19.06)	0.90 (0.70, 1.16)
URM vs Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	8.48 (7.58, 9.49)	8.40 (7.07, 9.98)	1.01 (0.82, 1.24)

(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)	2.39 (1.78, 3.21)	1.90 (1.21, 2.96)	1.26 (0.74, 2.15)
URM vs Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	25.05 (19.80, 31.70)	22.65 (15.47, 33.16)	1.11 (0.71, 1.73)
URM vs Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	14.08 (11.59, 17.09)	9.89 (7.34, 13.33)	1.42 (1.00, 2.03)
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)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
URM vs Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	0.66 (0.51, 0.85)	0.75 (0.50, 1.13)	0.88 (0.54, 1.43)
URM vs Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	9.96 (7.99, 12.43)	11.22 (8.01, 15.71)	0.89 (0.59, 1.33)
URM vs Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	4.37 (3.59, 5.32)	5.02 (3.60, 6.99)	0.87 (0.59, 1.28)

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)	0.06 (0.04, 0.08)	0.25 (0.22, 0.28)	0.15 (0.12, 0.17)
Vaccine vs Placebo	Negative	-	Day 29	Anti RBD IgG (IU/ml)	0.51 (0.47, 0.55)	0.72 (0.69, 0.75)	0.59 (0.55, 0.62)
Vaccine vs Placebo	Negative	-	Day 29	Anti Spike IgG (IU/ml)	0.43 (0.39, 0.46)	0.87 (0.84, 0.9)	0.71 (0.68, 0.75)
Vaccine vs Placebo	Positive	-	Day 29	Anti N IgG (IU/ml)	0.07 (0.03, 0.12)	0.19 (0.12, 0.27)	0.11 (0.05, 0.18)
Vaccine vs Placebo	Positive	-	Day 29	Anti RBD IgG (IU/ml)	0.26 (0.17, 0.34)	0.18 (0.1, 0.26)	0.24 (0.15, 0.32)
Vaccine vs Placebo	Positive	-	Day 29	Anti Spike IgG (IU/ml)	0.31 (0.23, 0.38)	0.15 (0.08, 0.23)	0.26 (0.17, 0.34)

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, 0.1)	0.11 (0.04, 0.18)	0.07 (0.01, 0.13)
Positive vs Negative	-	Placebo	Day 29	Anti N IgG (IU/ml)	0.04 (0.02, 0.06)	0.16 (0.12, 0.21)	0.1 (0.07, 0.14)
Positive vs Negative	-	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.14 (0.07, 0.22)	0.14 (0.08, 0.19)	0.14 (0.06, 0.2)
Positive vs Negative	-	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.39 (0.34, 0.45)	0.68 (0.61, 0.74)	0.48 (0.42, 0.54)
Positive vs Negative	-	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.15 (0.07, 0.22)	0.04 (-0.01, 0.09)	0.11 (0.05, 0.17)
Positive vs Negative	-	Placebo	Day 29	Anti Spike IgG (IU/ml)	0.27 (0.22, 0.32)	0.76 (0.7, 0.82)	0.57 (0.5, 0.63)

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)	0.05 (0.01, 0.08)	0.24 (0.18, 0.3)	0.15 (0.09, 0.2)
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)	0.4 (0.33, 0.46)	0.3 (0.24, 0.36)	0.36 (0.29, 0.42)
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)	0.43 (0.36, 0.49)	0.17 (0.13, 0.21)	0.33 (0.28, 0.39)
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)	0.13 (0.04, 0.22)	0.27 (0.13, 0.39)	0.24 (0.12, 0.35)
Age ≥ 60 vs Age 18 - 59	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0.1 (0.06, 0.18)	0.28 (0.18, 0.38)	0.21 (0.12, 0.3)
Age ≥ 60 vs Age 18 - 59	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.27 (0.14, 0.38)	0.19 (0.11, 0.26)	0.25 (0.13, 0.36)
Age ≥ 60 vs Age 18 - 59	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.49 (0.37, 0.59)	0.27 (0.15, 0.38)	0.45 (0.33, 0.55)
Age ≥ 60 vs Age 18 - 59	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.48 (0.37, 0.57)	0.12 (0.06, 0.2)	0.22 (0.14, 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)	0.46 (0.34, 0.56)	0.31 (0.22, 0.41)	0.38 (0.25, 0.49)

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)	0.02 (-0.01, 0.06)	0.02 (-0.04, 0.08)	0.01 (-0.04, 0.06)
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)	-0.06 (-0.12, 0.01)	-0.02 (-0.09, 0.04)	-0.01 (-0.08, 0.06)
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)	-0.01 (-0.08, 0.05)	0 (-0.05, 0.05)	-0.02 (-0.09, 0.04)
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)	-0.03 (-0.11, 0.05)	0.01 (-0.11, 0.14)	-0.06 (-0.16, 0.05)
At-risk vs Not at-risk	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0 (-0.05, 0.04)	0.04 (-0.04, 0.13)	0.04 (-0.04, 0.12)
At-risk vs Not at-risk	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.06 (-0.07, 0.19)	-0.09 (-0.19, 0.01)	0.04 (-0.08, 0.16)
At-risk vs Not at-risk	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.06 (-0.05, 0.17)	0.1 (-0.03, 0.22)	0.14 (0.02, 0.26)
At-risk vs Not at-risk	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.08 (-0.2, 0.05)	-0.03 (-0.12, 0.06)	-0.02 (-0.13, 0.08)
At-risk vs Not at-risk	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	0.01 (-0.08, 0.11)	0.01 (-0.1, 0.13)	0.06 (-0.07, 0.19)

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)	0.02 (-0.02, 0.07)	0.07 (0, 0.15)	0.04 (-0.02, 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)	-0.03 (-0.12, 0.07)	-0.03 (-0.13, 0.07)	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 (-0.07, 0.11)	0 (-0.08, 0.08)	-0.02 (-0.12, 0.08)
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)	-0.03 (-0.14, 0.08)	0.03 (-0.14, 0.19)	-0.06 (-0.19, 0.08)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0 (0, 0)	0.07 (-0.03, 0.19)	0.04 (-0.05, 0.17)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.11 (-0.07, 0.28)	-0.11 (-0.26, 0.03)	0.05 (-0.13, 0.22)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.13 (-0.02, 0.28)	0.11 (-0.08, 0.28)	0.22 (0.05, 0.38)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.03 (-0.21, 0.14)	-0.04 (-0.17, 0.1)	-0.02 (-0.18, 0.14)

(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)	-0.01 (-0.12, 0.11)	0.03 (-0.14, 0.2)	0.06 (-0.12, 0.24)

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 (-0.05, 0.07)	-0.09 (-0.19, 0.01)	-0.04 (-0.13, 0.05)
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)	-0.12 (-0.2, -0.03)	-0.02 (-0.08, 0.03)	-0.08 (-0.16, 0)
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)	-0.08 (-0.17, 0.01)	0 (-0.03, 0.04)	-0.03 (-0.08, 0.03)
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 (-0.16, 0.14)	0.03 (-0.16, 0.21)	-0.02 (-0.2, 0.16)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0.01 (-0.12, 0.13)	0.01 (-0.16, 0.18)	0.04 (-0.12, 0.19)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0 (-0.14, 0.16)	-0.01 (-0.13, 0.07)	0.07 (-0.05, 0.21)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	-0.04 (-0.2, 0.12)	0.09 (-0.04, 0.23)	0.01 (-0.14, 0.17)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.09 (-0.22, 0.02)	0.01 (0, 0.06)	0 (-0.08, 0.06)

(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)	0.1 (-0.08, 0.27)	0 (-0.1, 0.07)	0.09 (-0.06, 0.23)

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)	0.06 (NaN, NaN)	0.25 (NaN, NaN)	0.15 (NaN, NaN)
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)	-0.49 (NaN, NaN)	-0.28 (NaN, NaN)	-0.41 (NaN, NaN)
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)	-0.57 (NaN, NaN)	-0.13 (NaN, NaN)	-0.29 (NaN, NaN)
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)	-0.04 (-0.08, 0)	-0.04 (-0.13, 0.05)	-0.03 (-0.1, 0.05)
Male vs Female	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	- 0.08	- 0.07	- 0.02
Male vs Female	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.08 (-0.04, 0.2)	0.07 (-0.07, 0.2)	0.02 (-0.11, 0.15)
Male vs Female	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	- 0.01	- 0.1	- 0.04
Male vs Female	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	0.01 (-0.09, 0.12)	0.1 (-0.02, 0.21)	0.04 (-0.1, 0.17)

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 (-0.04, 0.03)	-0.03 (-0.09, 0.03)	-0.03 (-0.08, 0.02)
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 (-0.07, 0.07)	0.02 (-0.05, 0.09)	0.02 (-0.05, 0.1)
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 (-0.07, 0.07)	0.01 (-0.05, 0.06)	0.02 (-0.05, 0.09)
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)	0.05 (-0.03, 0.14)	0.07 (-0.06, 0.2)	0.04 (-0.07, 0.15)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0.01 (-0.03, 0.06)	-0.01 (-0.1, 0.08)	0.02 (-0.05, 0.1)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.1 (-0.04, 0.22)	0.08 (-0.01, 0.17)	0.1 (-0.03, 0.22)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	-0.01 (-0.12, 0.11)	-0.05 (-0.18, 0.08)	-0.05 (-0.17, 0.07)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.1 (-0.03, 0.22)	0.06 (-0.04, 0.15)	0.17 (0.05, 0.27)

(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)	-0.06 (-0.16, 0.04)	0.02 (-0.1, 0.14)	-0.08 (-0.21, 0.05)

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)	-0.03 (-0.08, 0)	-0.02 (-0.09, 0.04)	-0.05 (-0.11, 0)
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)	-0.04 (-0.11, 0.04)	-0.01 (-0.08, 0.07)	-0.02 (-0.09, 0.06)
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 (-0.08, 0.06)	0.01 (-0.04, 0.07)	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)	-0.01 (-0.11, 0.07)	0.02 (-0.12, 0.15)	-0.04 (-0.16, 0.07)
URM vs Non-URM	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0 (-0.06, 0.04)	-0.01 (-0.12, 0.08)	0.01 (-0.08, 0.08)
URM vs Non-URM	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.05 (-0.09, 0.19)	-0.02 (-0.11, 0.11)	0.03 (-0.1, 0.17)
URM vs Non-URM	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	-0.04 (-0.17, 0.09)	-0.08 (-0.2, 0.07)	-0.1 (-0.23, 0.04)
URM vs Non-URM	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.13 (-0.01, 0.26)	0.03 (-0.05, 0.16)	0.16 (0.04, 0.3)
URM vs Non-URM	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	-0.07 (-0.19, 0.04)	-0.01 (-0.13, 0.13)	-0.08 (-0.22, 0.06)

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)	896	1133.5/19300 = 5.9% (4.4%, 7.8%)	1.21 (1.06, 1.38)	107	0/19208 = 0.0% (0.0%, 0.0%)	0.05 (0.05, 0.05)	0.06 (0.04, 0.08)	25.84 (22.70, 29.41)
Day 29	Anti RBD IgG (IU/ml)	896	9847.8/19300 = 51.0% (47.5%, 54.6%)	14.34 (12.82, 16.05)	107	0/19208 = 0.0% (0.0%, 0.0%)	0.80 (0.80, 0.80)	0.51 (0.47, 0.55)	18.00 (16.09, 20.15)
Day 29	Anti Spike IgG (IU/ml)	896	8261.3/19300 = 42.8% (39.4%, 46.2%)	8.46 (7.70, 9.30)	107	0/19208 = 0.0% (0.0%, 0.0%)	0.15 (0.15, 0.15)	0.43 (0.39, 0.46)	55.00 (50.06, 60.44)

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	Baseline SARS-CoV-2 Positive						Comparison	
		N	Resp rate	Vaccine	Placebo	N	Resp rate	GMT/GMC	Resp Rate Difference
Day 29	Anti N IgG (IU/ml)	280	223.7/2075 = 10.8% (7.4%, 15.5%)	2.26 (1.76, 2.89)	282	75/2058 = 3.6% (2.1%, 6.3%)	0.68 (0.55, 0.85)	0.07 (0.03, 0.12)	3.32 (2.39, 4.62)
Day 29	Anti RBD IgG (IU/ml)	280	1357.5/2075 = 65.4% (58.7%, 71.6%)	24.42 (19.98, 29.86)	282	807.5/2058 = 39.2% (33.9%, 44.8%)	10.27 (8.53, 12.37)	0.26 (0.17, 0.34)	2.38 (1.81, 3.13)
Day 29	Anti Spike IgG (IU/ml)	280	1190.7/2075 = 57.4% (51.0%, 63.5%)	12.88 (10.94, 15.17)	282	546/2058 = 26.5% (21.9%, 31.7%)	4.53 (3.82, 5.36)	0.31 (0.23, 0.38)	2.85 (2.25, 3.60)

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 Difference	GMTR/GMCR	
			Resp rate	GMT/GMC	N	Resp rate	GMT/GMC		
Day 29	Anti N IgG (IU/ml)	280	223.7/2075 = 10.8% (7.4%, 15.5%)	2.26 (1.76, 2.89)	896	1133.5/19300 = 5.9% (4.4%, 7.8%)	1.21 (1.06, 1.38)	0.05 (0.01, 0.1)	1.86 (1.41, 2.46)
Day 29	Anti RBD IgG (IU/ml)	280	1357.5/2075 = 65.4% (58.7%, 71.6%)	24.42 (19.98, 29.86)	896	9847.8/19300 = 51.0% (47.5%, 54.6%)	14.34 (12.82, 16.05)	0.14 (0.07, 0.22)	1.70 (1.35, 2.14)
Day 29	Anti Spike IgG (IU/ml)	280	1190.7/2075 = 57.4% (51.0%, 63.5%)	12.88 (10.94, 15.17)	896	8261.3/19300 = 42.8% (39.4%, 46.2%)	8.46 (7.70, 9.30)	0.15 (0.07, 0.22)	1.52 (1.26, 1.84)

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	Placebo Recipients							
		Baseline SARS-CoV-2 Positive				Baseline SARS-CoV-2 Negative			
N	Resp rate	GMT/GMC	N	Resp rate	GMT/GMC	Resp Rate Difference	GMTR/GMCR		
Day 29	Anti N IgG (IU/ml)	282	75/2058 = 3.6% (2.1%, 6.3%)	0.68 (0.55, 0.85)	107	0/19208 = 0.0% (0.0%, 0.0%)	0.05 (0.05, 0.05)	0.04 (0.02, 0.06)	14.50 (11.65, 18.04)
Day 29	Anti RBD IgG (IU/ml)	282	807.5/2058 = 39.2% (33.9%, 44.8%)	10.27 (8.53, 12.37)	107	0/19208 = 0.0% (0.0%, 0.0%)	0.80 (0.80, 0.80)	0.39 (0.34, 0.45)	12.89 (10.70, 15.52)
Day 29	Anti Spike IgG (IU/ml)	282	546/2058 = 26.5% (21.9%, 31.7%)	4.53 (3.82, 5.36)	107	0/19208 = 0.0% (0.0%, 0.0%)	0.15 (0.15, 0.15)	0.27 (0.22, 0.32)	29.43 (24.85, 34.85)

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

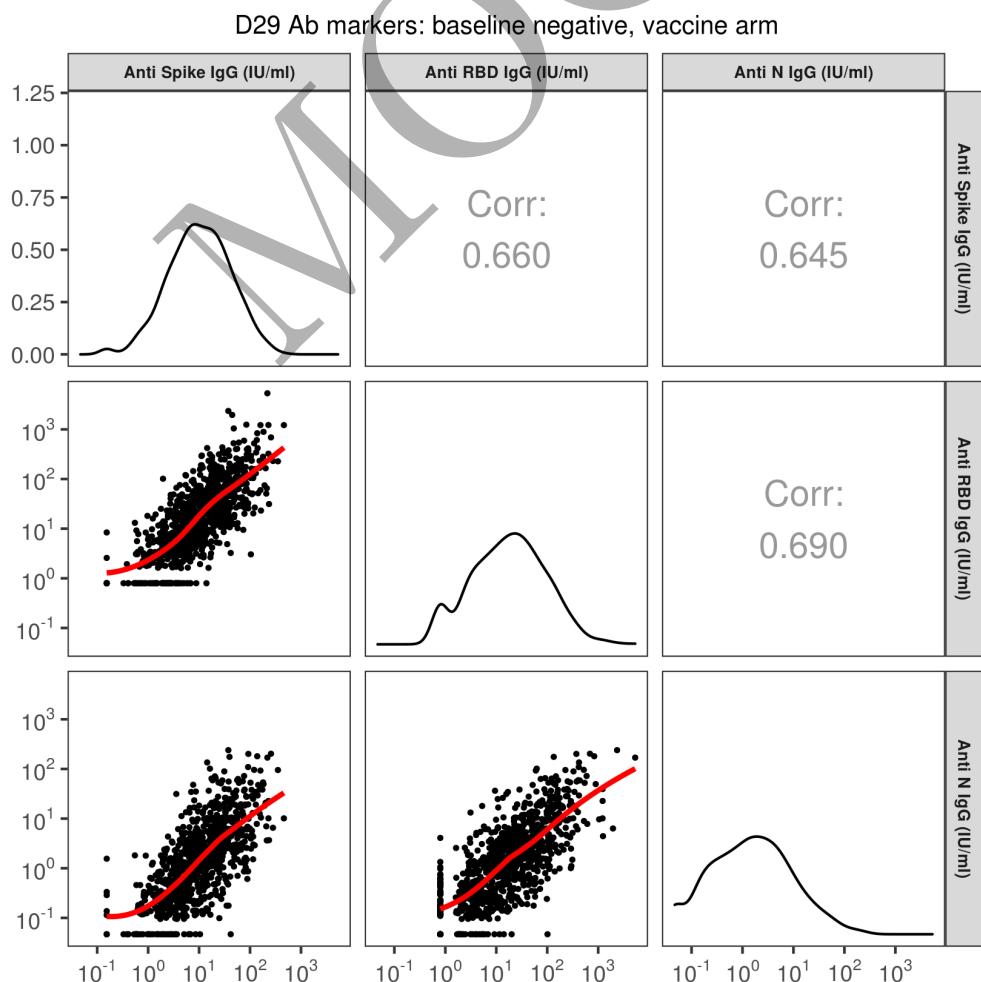


Figure 2.1: Pair plots of D29 Ab markers: baseline negative vaccine arm

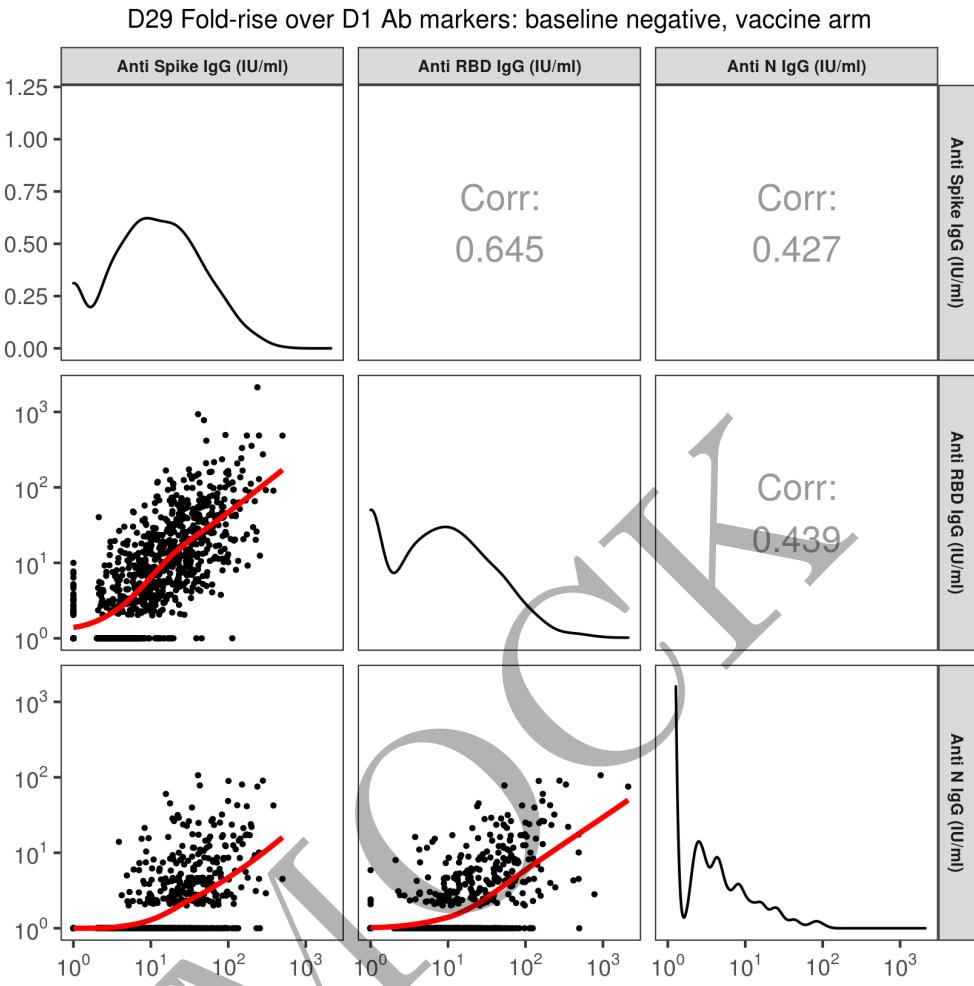


Figure 2.2: Pair plots of D29 fold-rise over D1 Ab markers: baseline negative vaccine arm

2.1.2 Baseline SARS-CoV-2 Positive

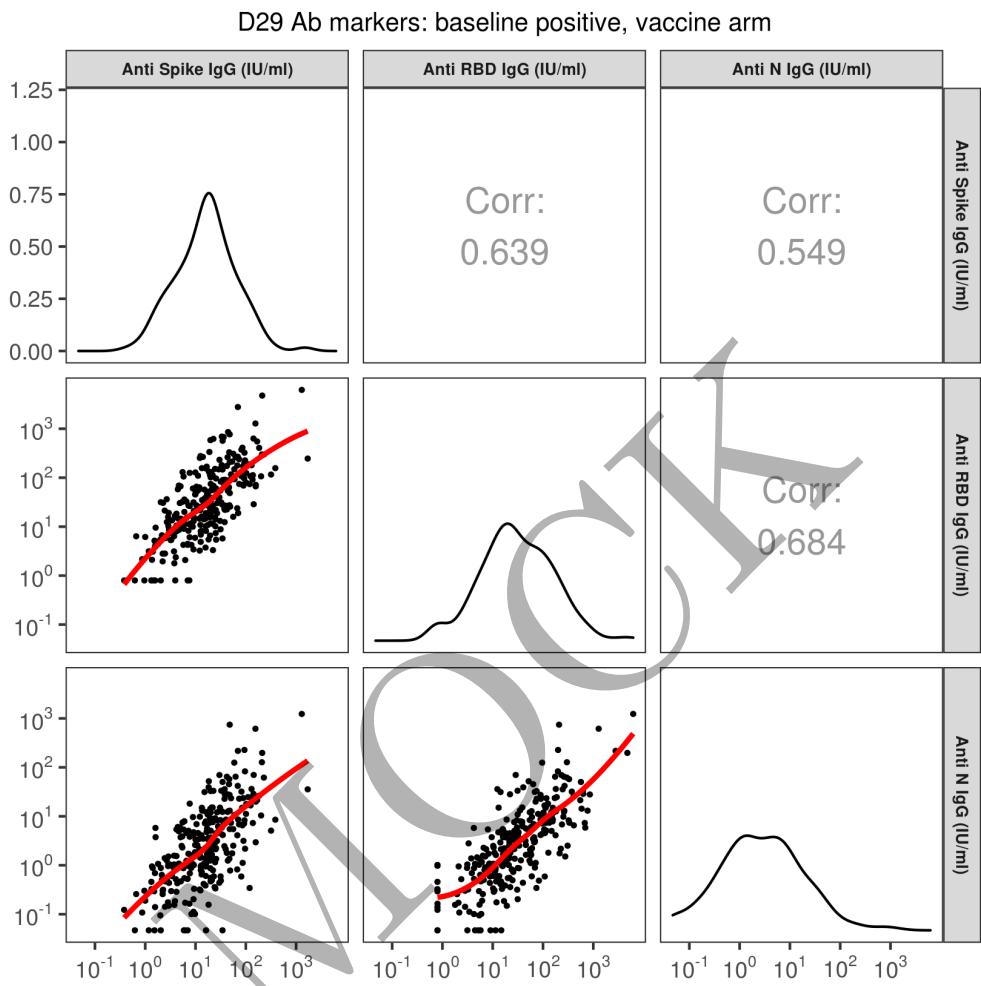


Figure 2.3: Pair plots of D29 Ab markers: baseline positive vaccine arm

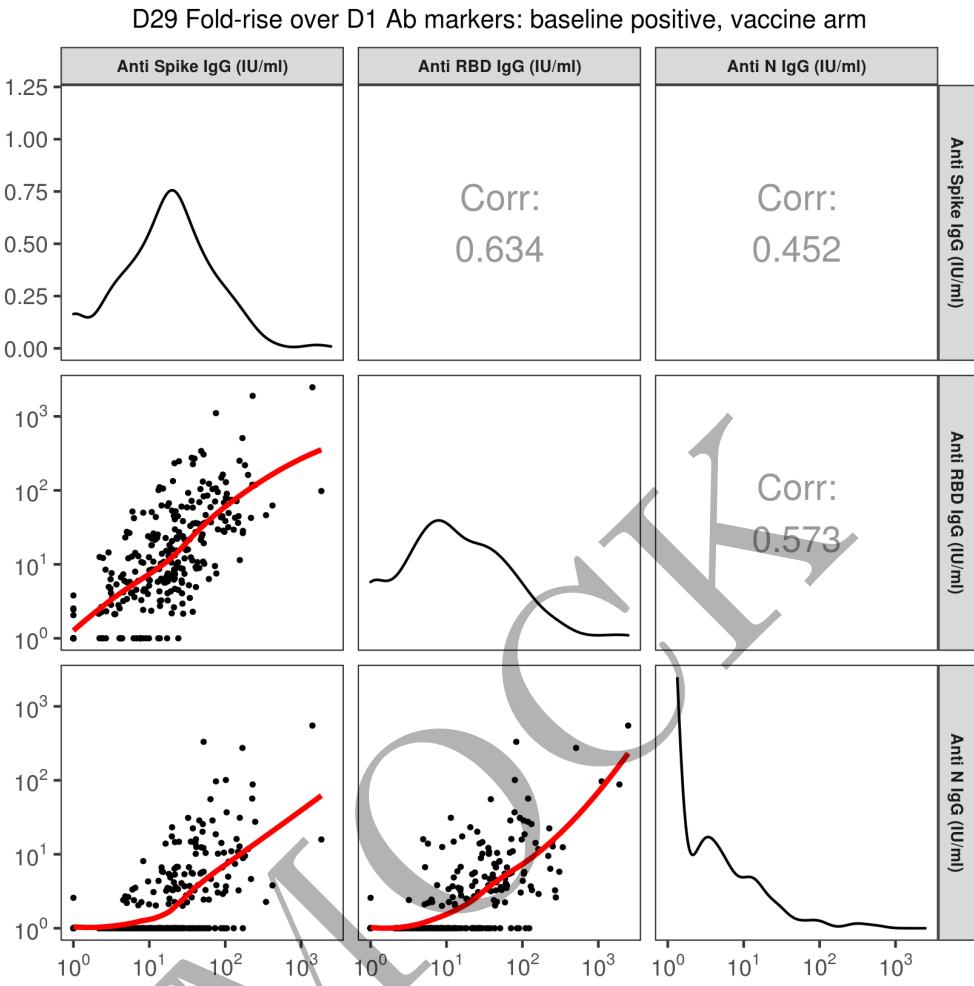


Figure 2.4: Pair plots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm

2.1.3 Baseline SARS-CoV-2 Positive Placebo Arm

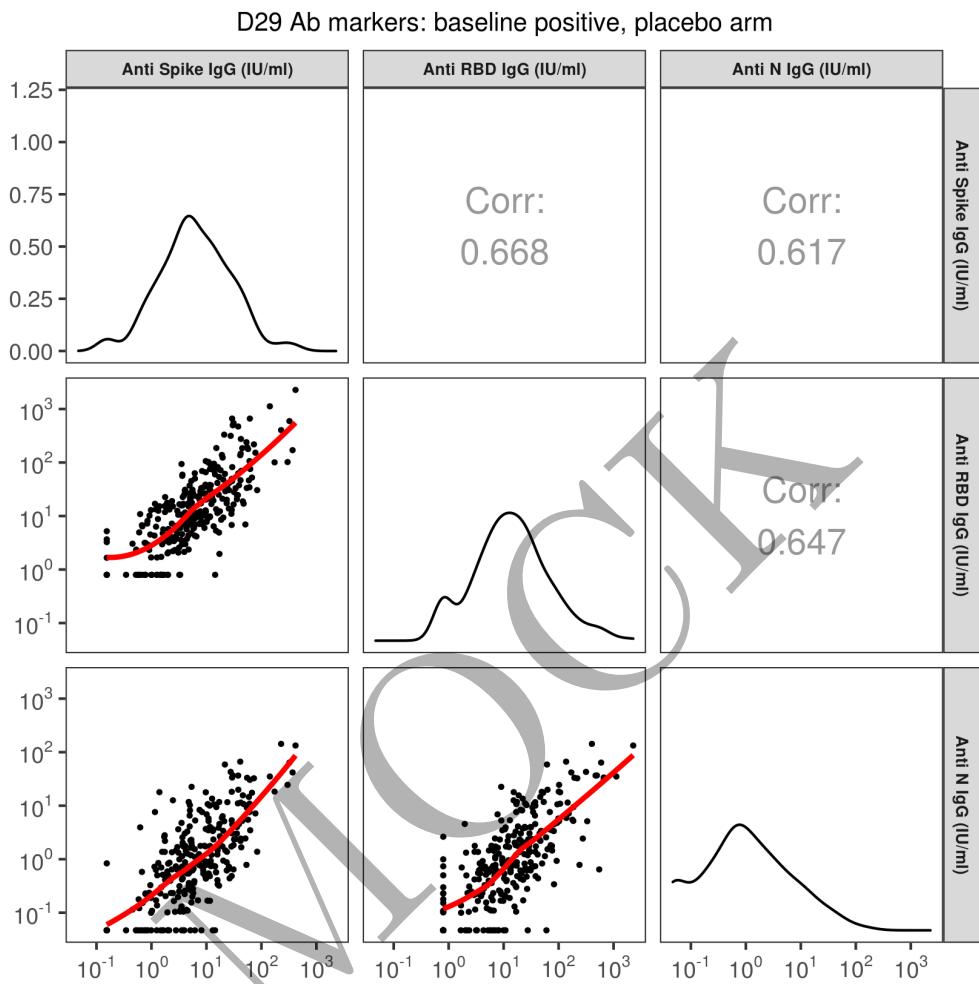


Figure 2.5: Pair plots of D29 Ab markers: baseline positive placebo arm

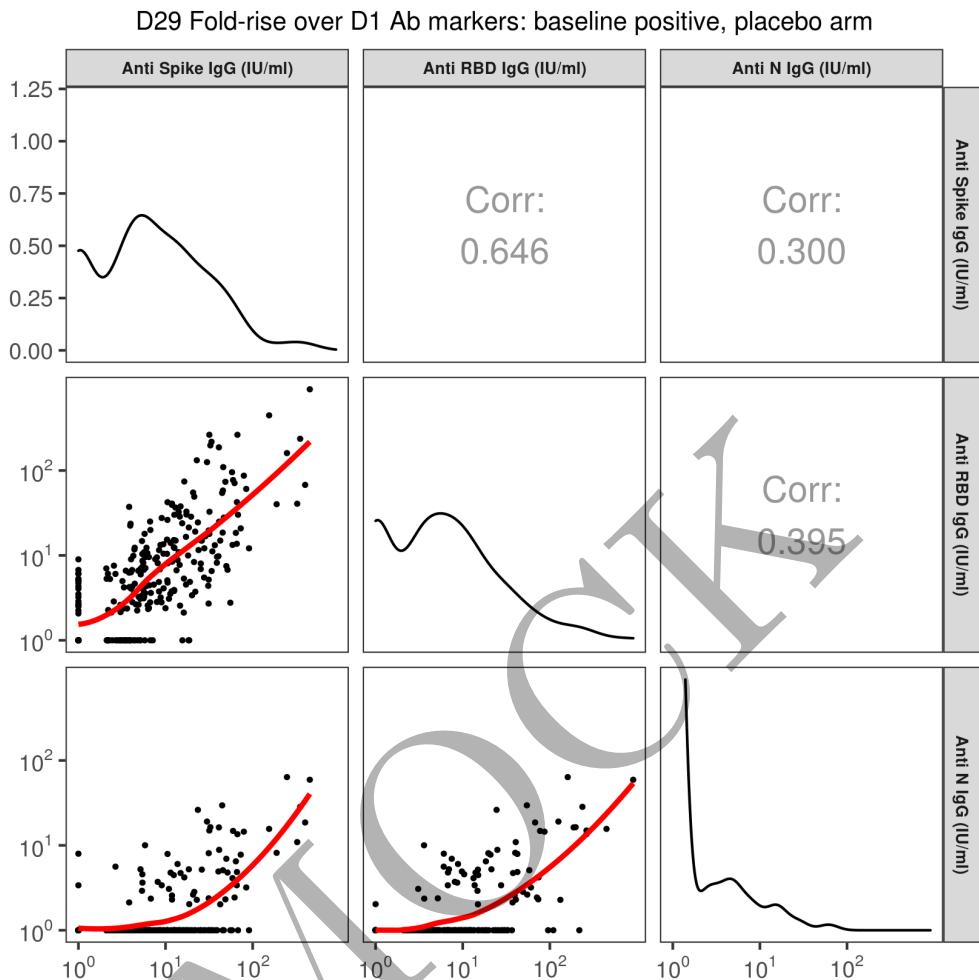


Figure 2.6: Pair plots of D29 fold-rise over D1 Ab markers: baseline positive placebo arm

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

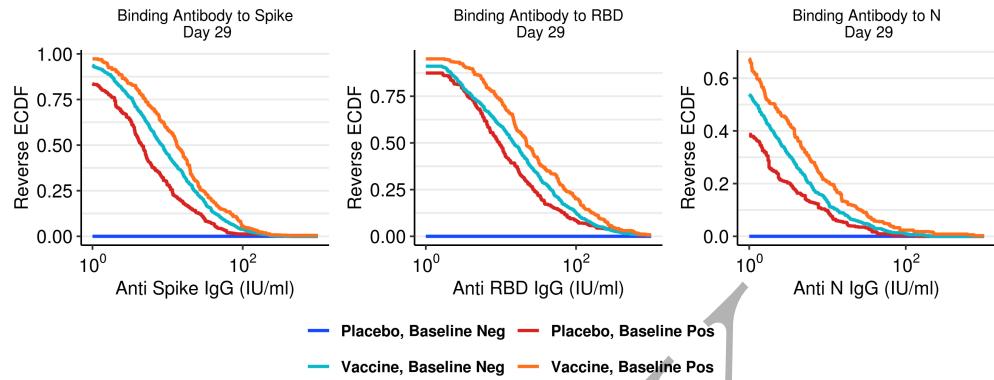


Figure 2.7: RCDF plots for D29 Ab markers: by baseline status x randomization arm

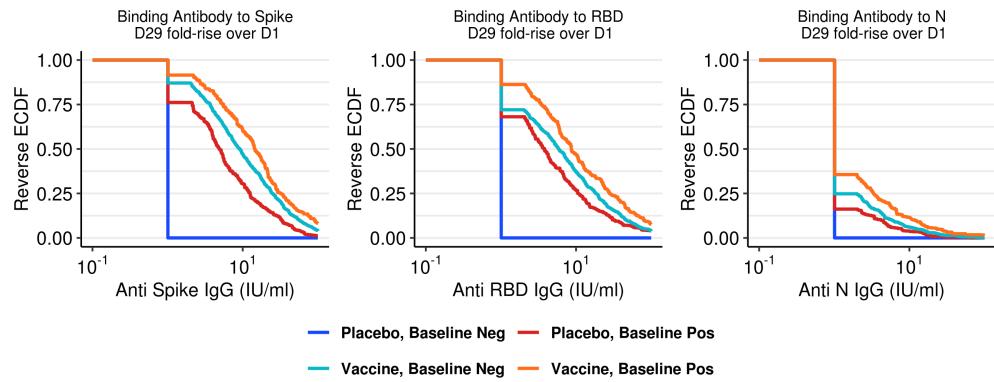


Figure 2.8: RCDF plots for D29 fold-rise over D1 Ab markers: by baseline status x randomization arm

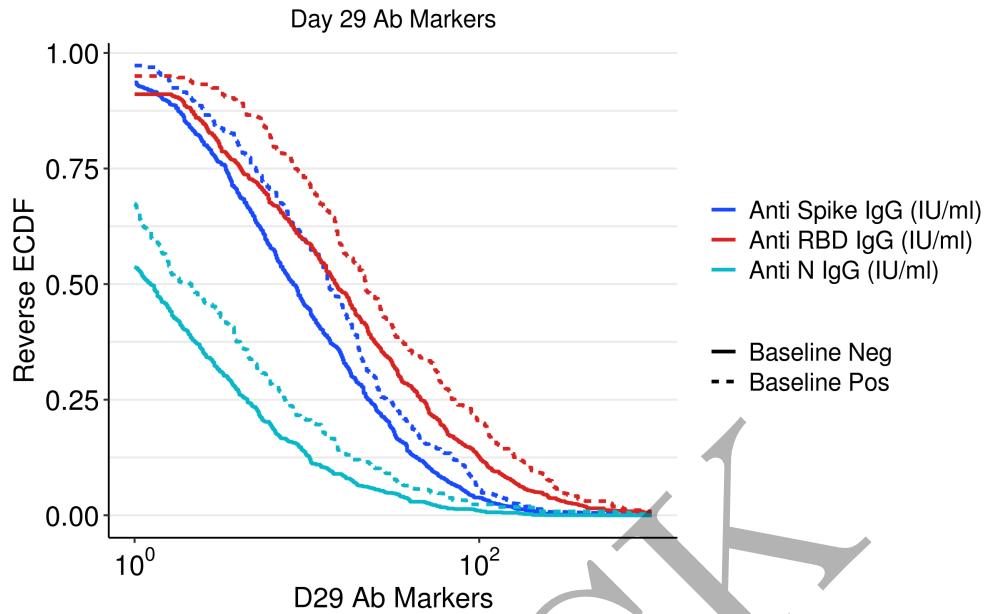


Figure 2.9: RCDF plots for D29 bAb markers: by baseline status for the vaccine arm

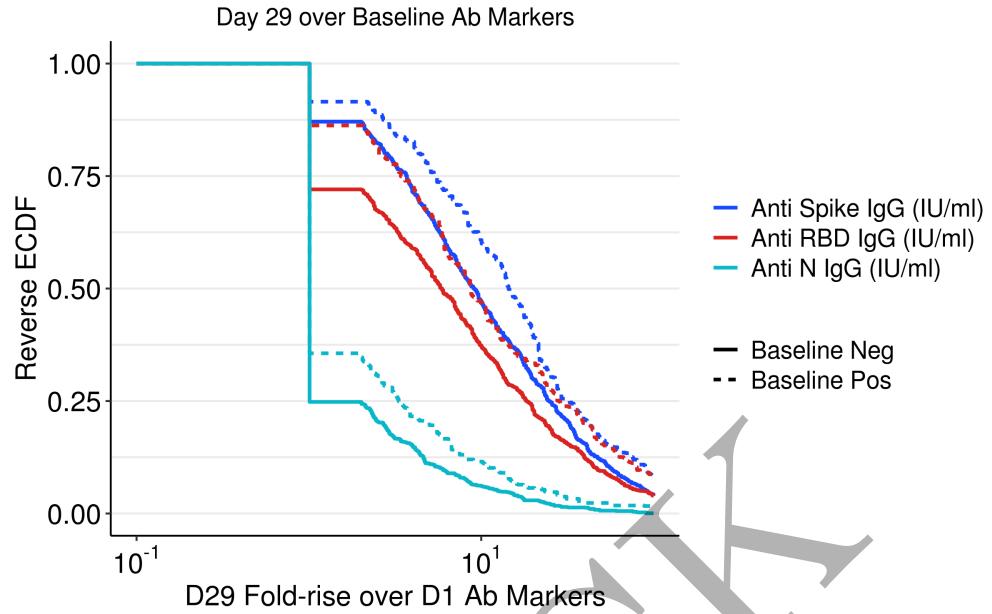


Figure 2.10: RCDF plots for D29 over D1 fold-rise bAb markers: by baseline status for the vaccine arm

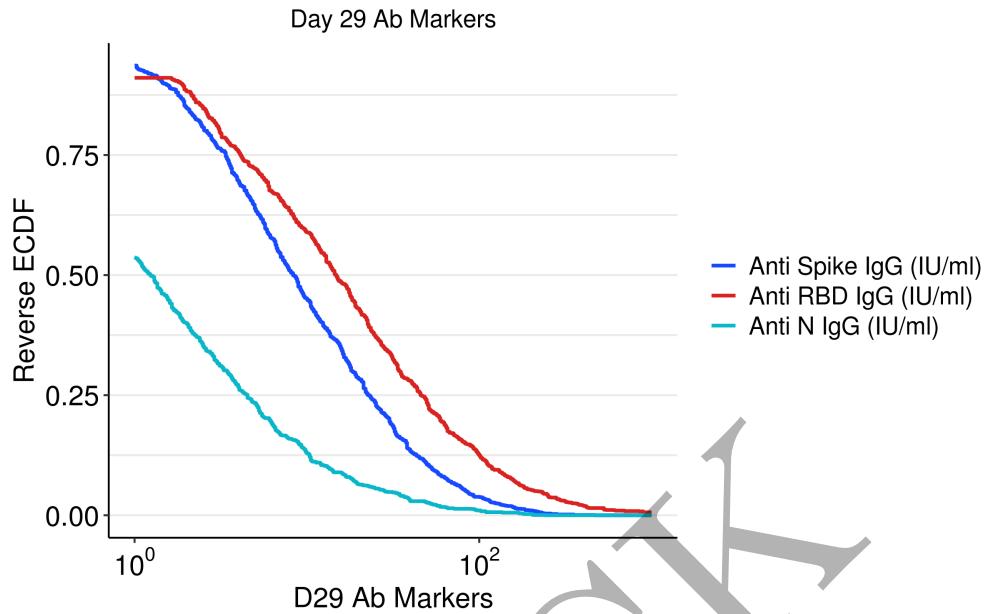


Figure 2.11: RCDF plots for D29 bAb markers: baseline negative vaccine arm

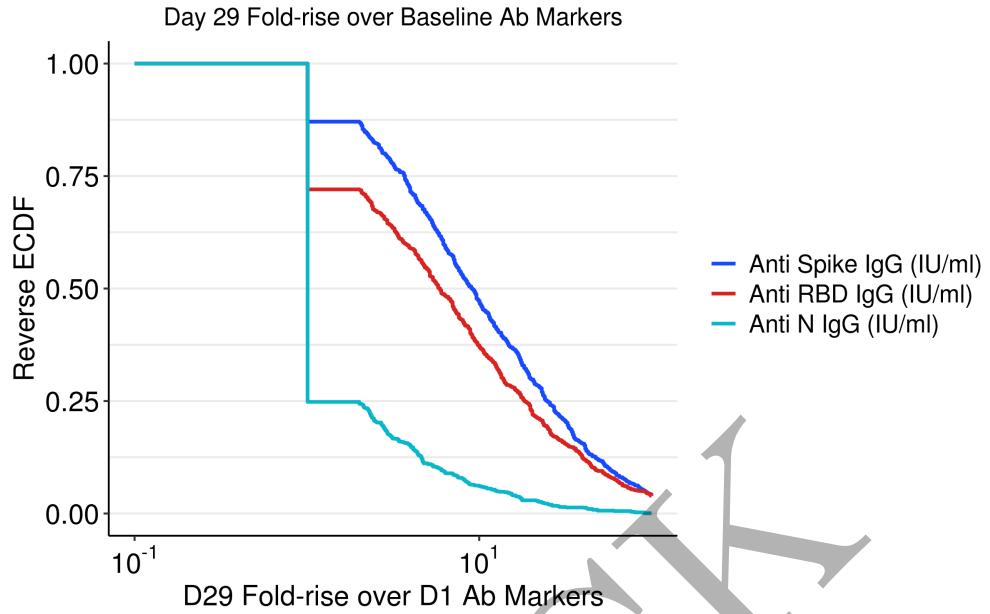


Figure 2.12: RCDF plots for D29 fold-rise over D1 bAb markers: baseline negative vaccine arm

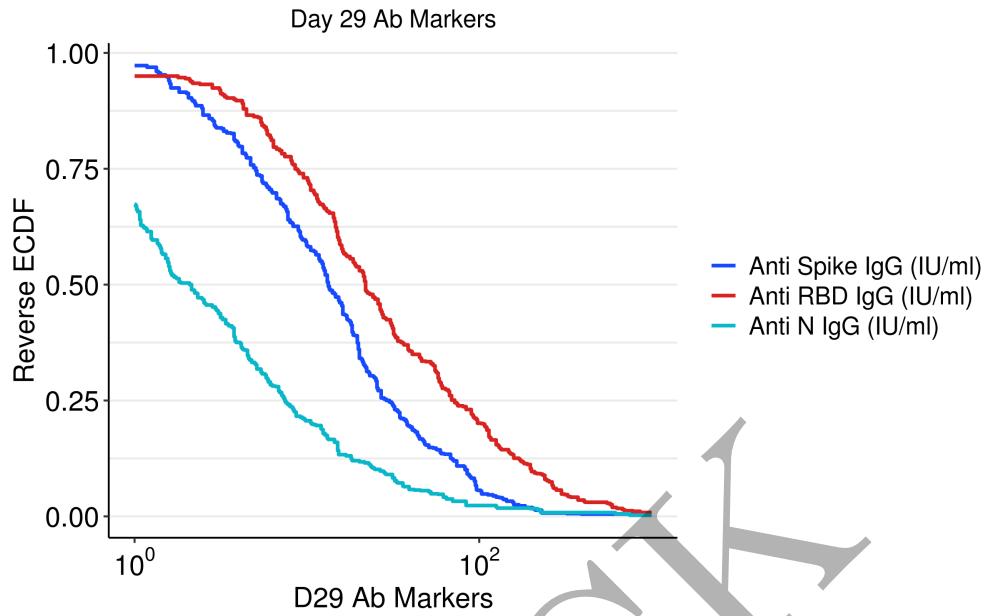


Figure 2.13: RCDF plots for D29 bAb markers: baseline positive vaccine arm

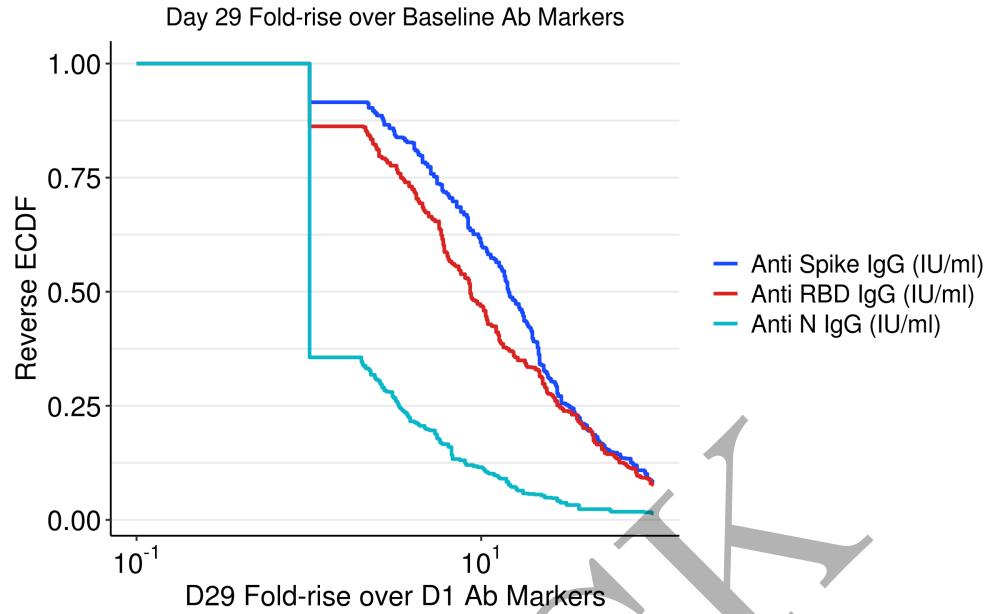


Figure 2.14: RCDF plots for D29 fold-rise over D1 bAb markers: baseline positive vaccine arm

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

2.3.1 Baseline SARS-CoV-2 Negative

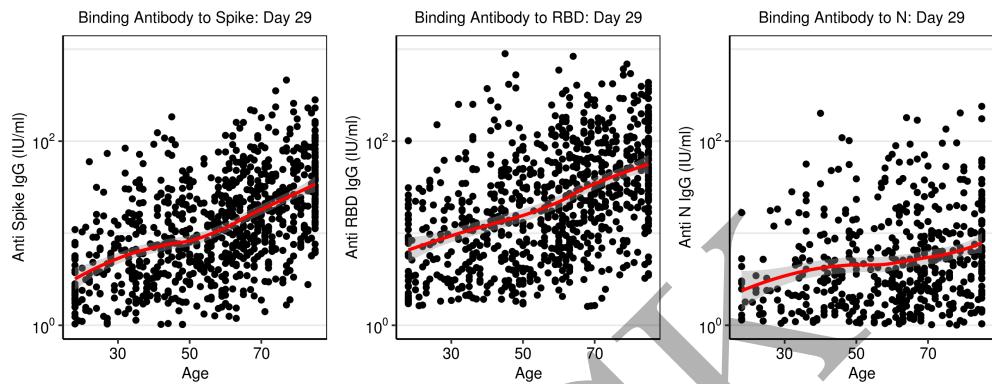


Figure 2.15: Scatter plots for D29 Ab markers vs. age: baseline negative vaccine arm

2.3.2 Baseline SARS-CoV-2 Positive

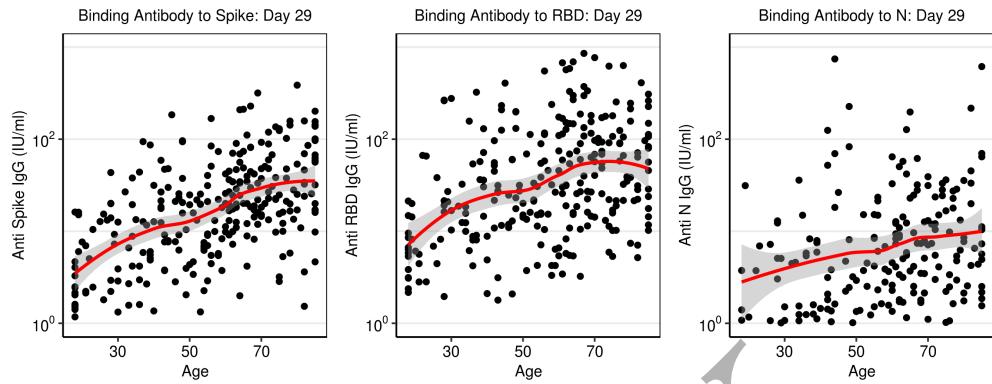


Figure 2.16: Scatter plots for D29 Ab markers vs. age: baseline positive vaccine arm

2.3.3 Baseline SARS-CoV-2 Positive Placebo Arm

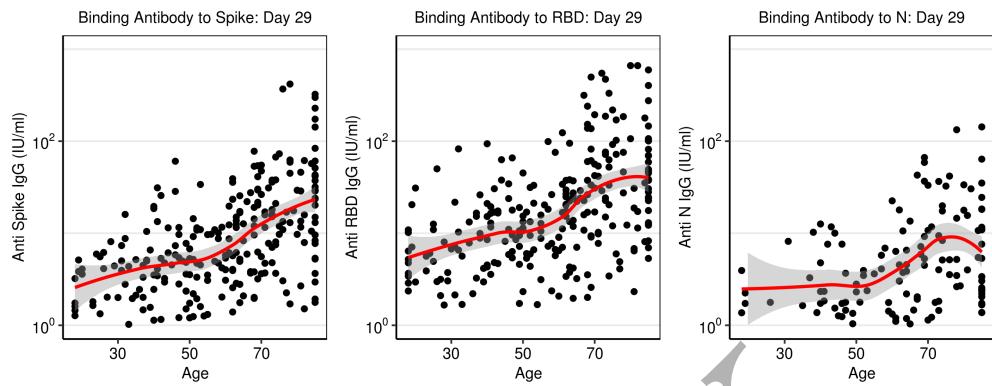


Figure 2.17: Scatter plots for D29 Ab markers vs. age: baseline positive placebo arm

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

2.4.1 Baseline SARS-CoV-2 Negative

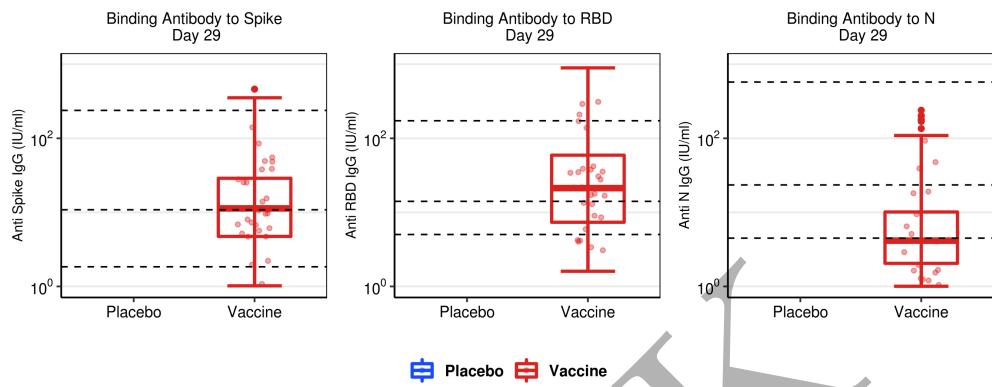


Figure 2.18: Boxplots of D29 Ab markers: baseline negative vaccine + placebo arms. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

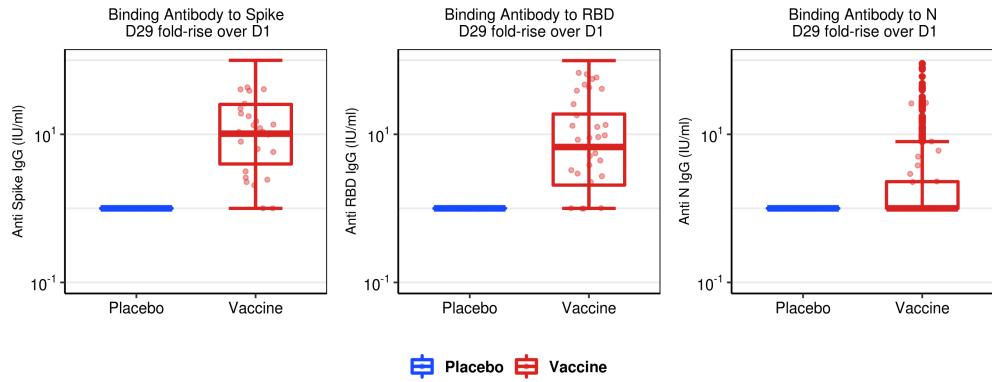


Figure 2.19: Boxplots of D29 fold-rise over D1 Ab markers: baseline negative vaccine + placebo arms

2.4.2 Baseline SARS-CoV-2 Positive

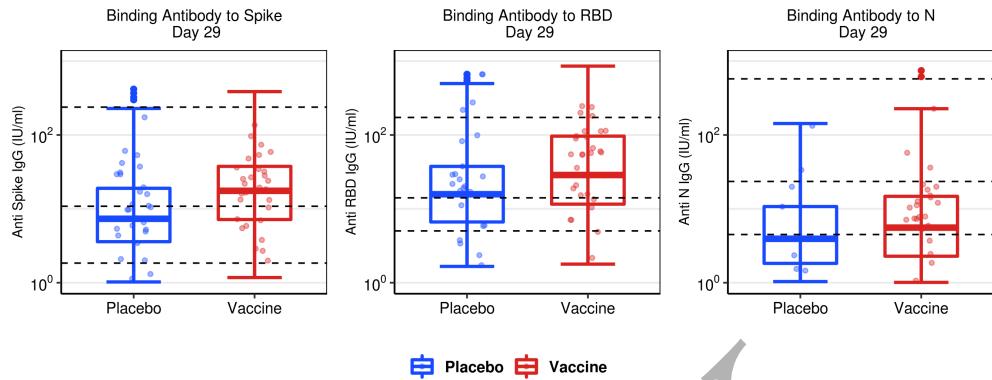


Figure 2.20: Boxplots of D29 Ab markers: baseline positive vaccine + placebo arms. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

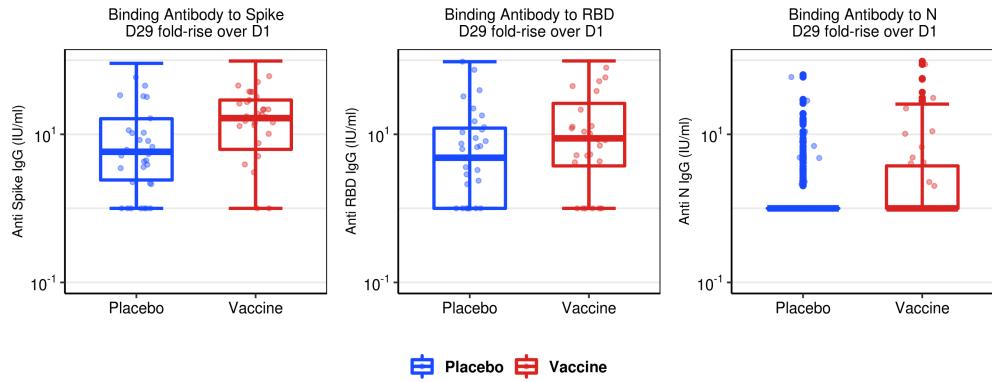


Figure 2.21: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine + placebo arms

2.4.3 Baseline negative vs. positive vaccine recipients

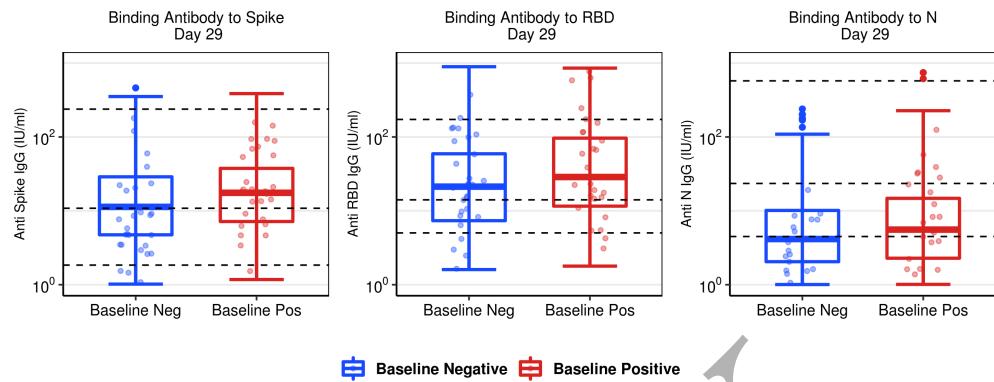


Figure 2.22: Boxplots of D29 Ab markers: baseline positive + negative vaccine arm. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

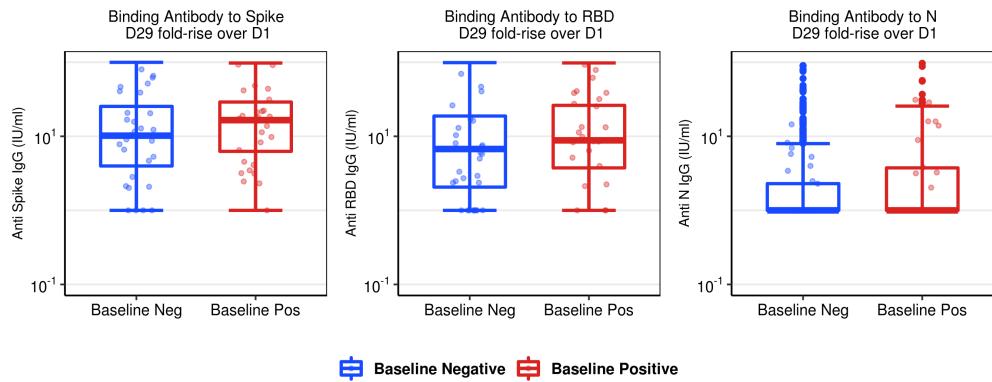


Figure 2.23: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive + negative vaccine arm

2.4.4 Baseline negative vs. positive placebo recipients

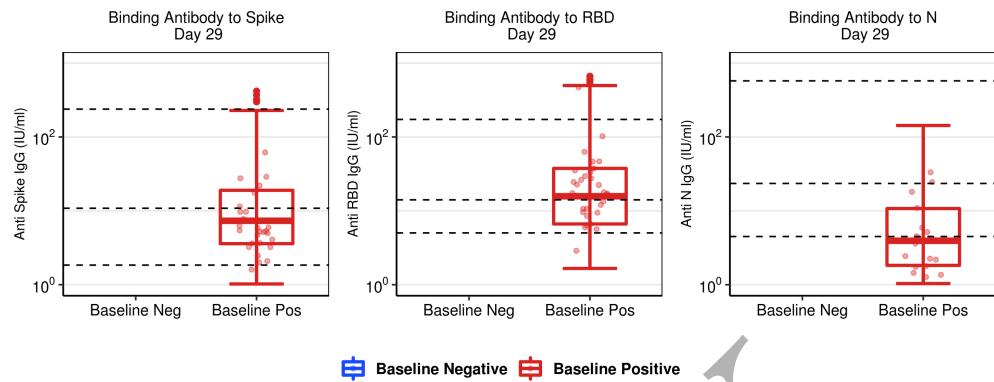


Figure 2.24: Boxplots of D29 Ab markers: baseline positive + negative placebo arm. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

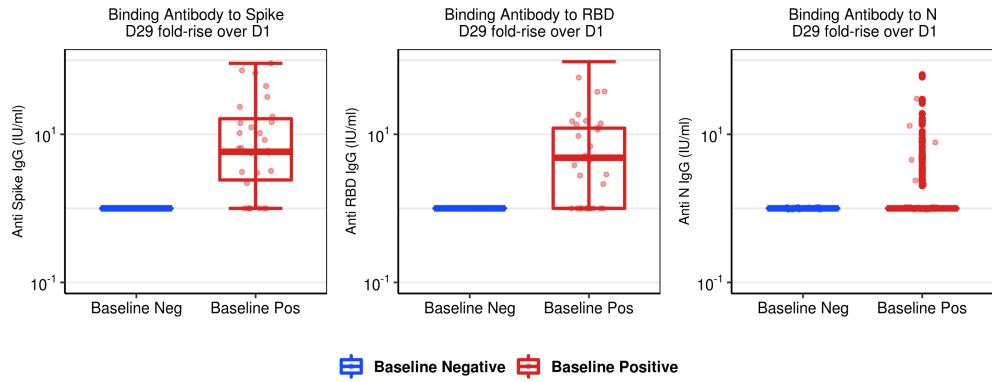


Figure 2.25: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive + negative placebo arm

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

2.5.1 Baseline SARS-CoV-2 Negative

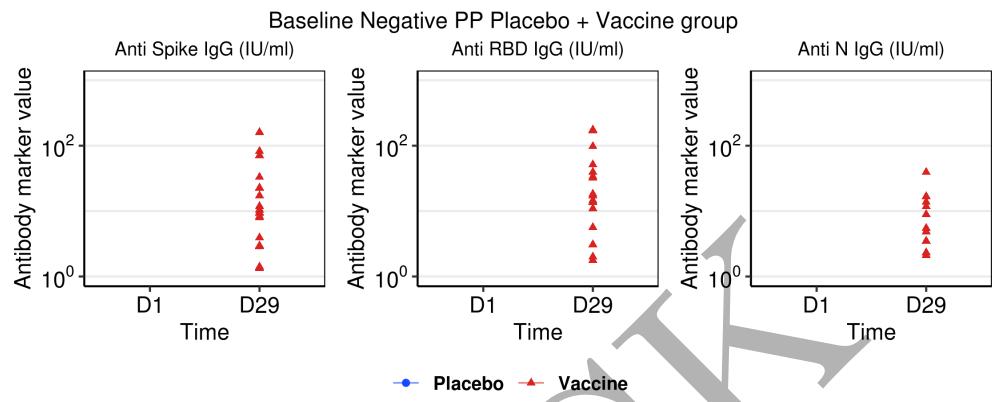


Figure 2.26: Spaghetti plots of Ab markers over time: baseline negative vaccine + placebo arm

2.5.2 Baseline SARS-CoV-2 Positive

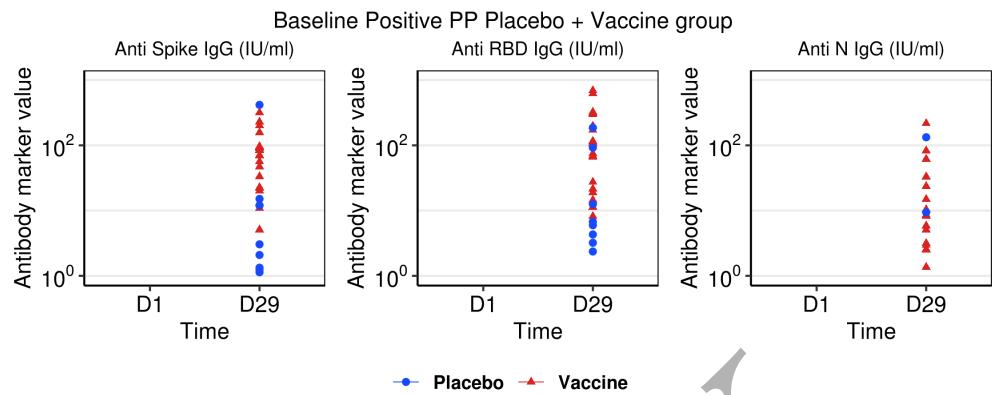


Figure 2.27: Spaghetti plots of Ab markers over time: baseline positive vaccine + placebo arm

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

2.6.1 Baseline SARS-CoV-2 Negative

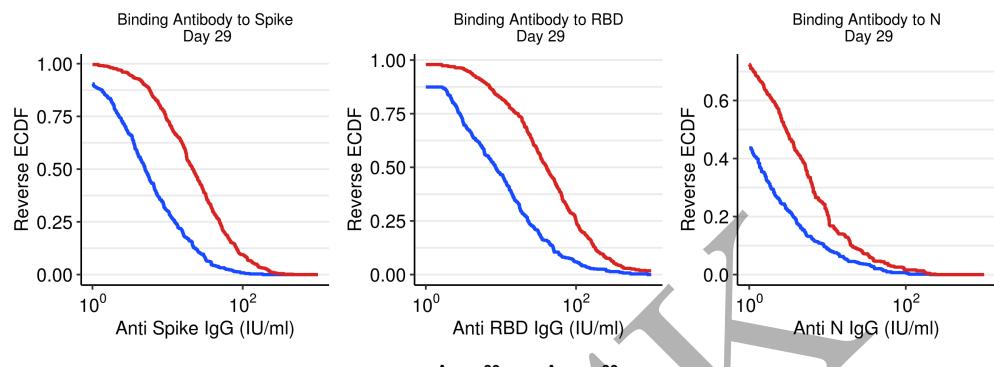


Figure 2.28: RCDF plots for D29 Ab markers: baseline negative vaccine arm by age groups.

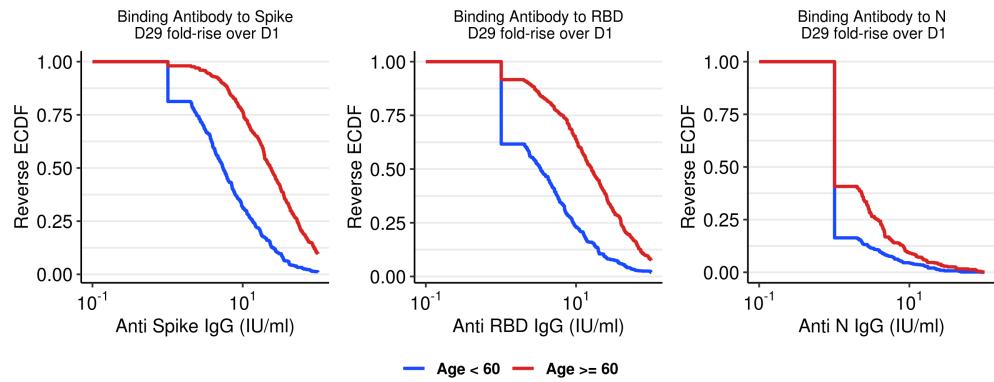


Figure 2.29: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age groups.

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

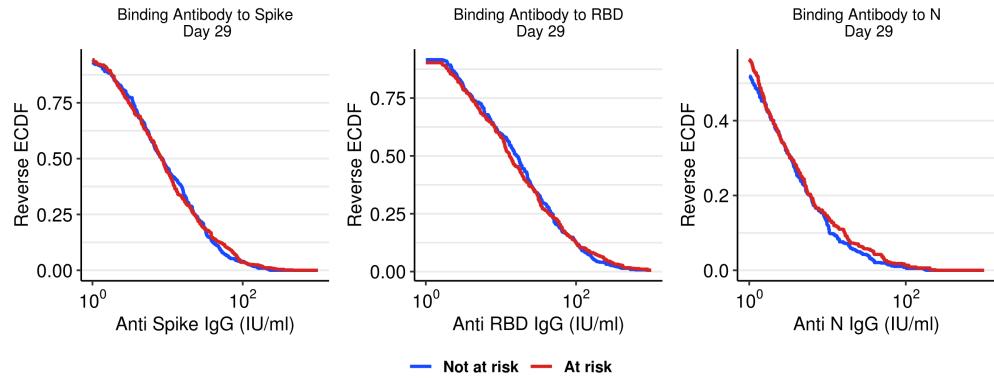


Figure 2.30: RCDF plots for D29 Ab markers: baseline negative vaccine arm by high-risk condition.

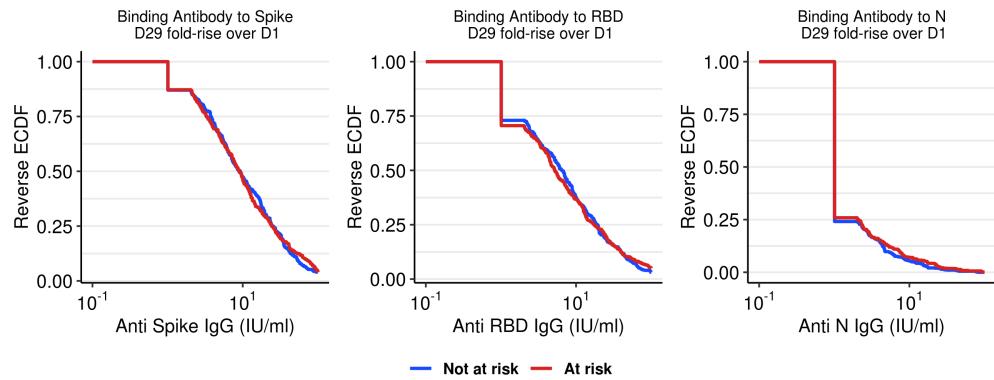


Figure 2.31: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by high-risk condition.

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

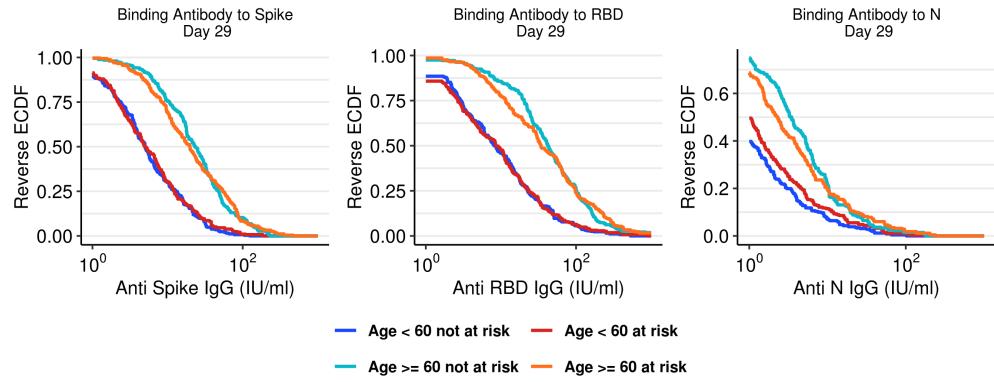


Figure 2.32: RCDF plots for D29 Ab markers: baseline negative vaccine arm by age and high-risk condition.

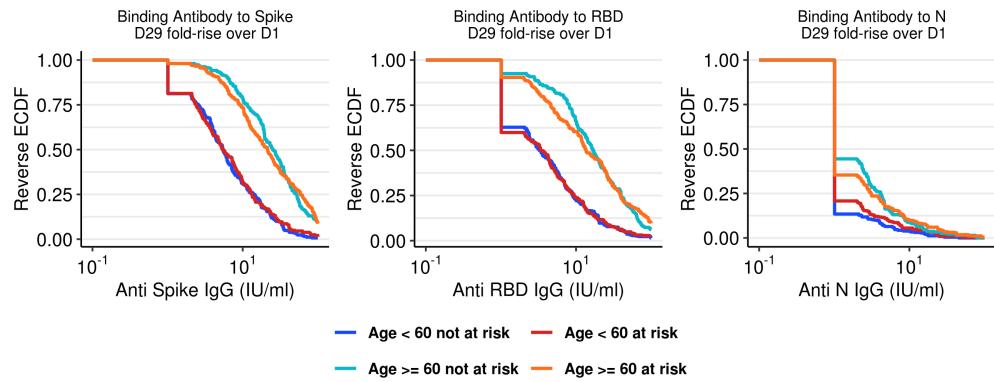


Figure 2.33: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and high-risk condition.

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

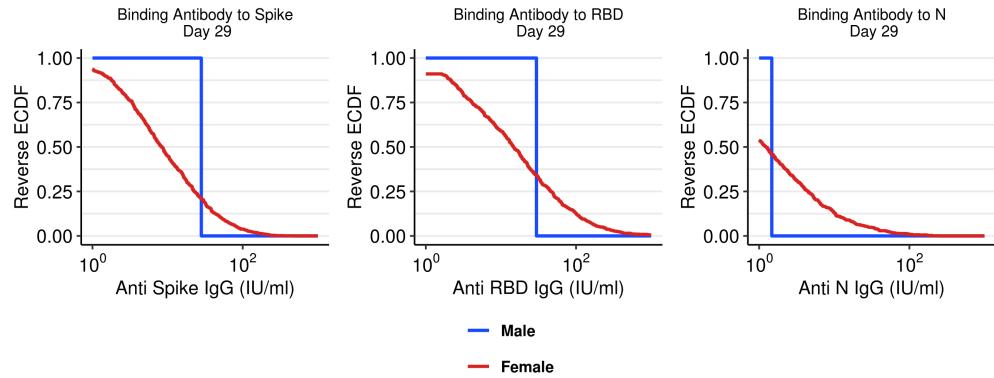


Figure 2.34: RCDF plots for D29 Ab markers: baseline negative vaccine arm by sex assigned at birth.

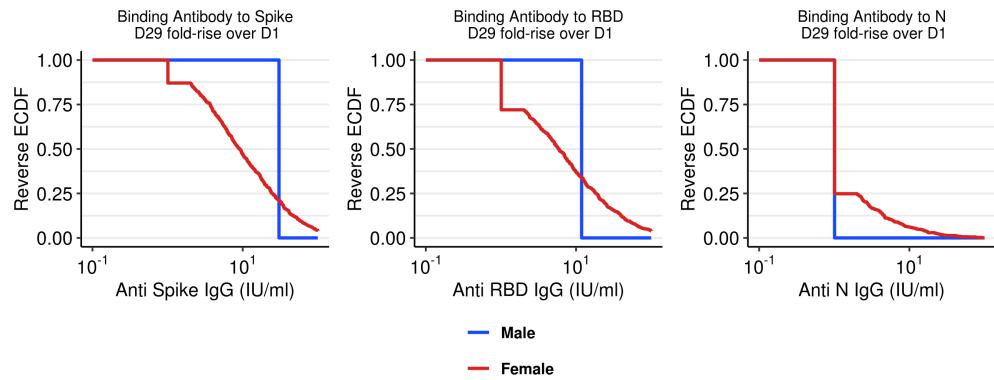


Figure 2.35: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by sex assigned at birth.

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

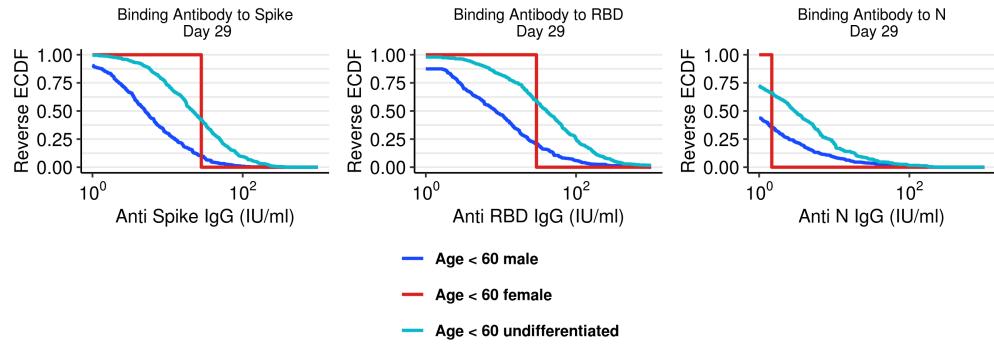


Figure 2.36: RCDF plots for D29 Ab markers: baseline negative vaccine arm by age and sex assigned at birth.

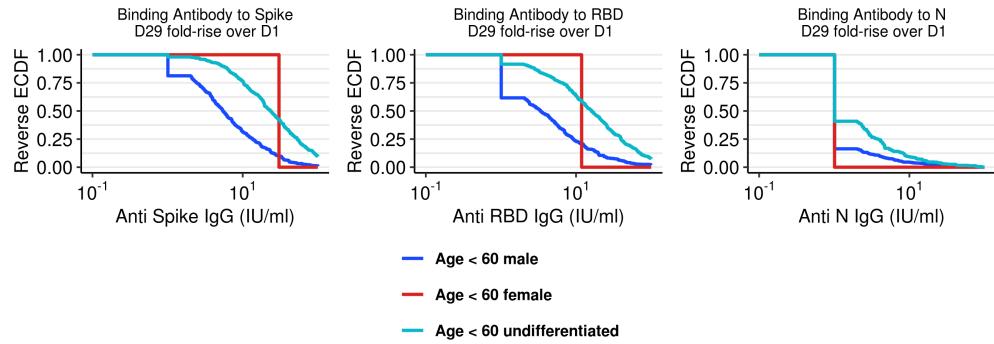


Figure 2.37: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and sex assigned at birth.

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

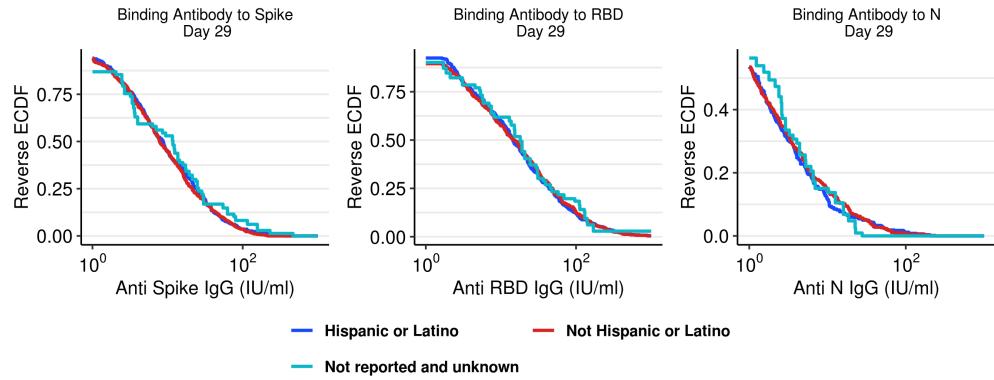


Figure 2.38: RCDF plots for D29 Ab markers: baseline negative vaccine arm by ethnicity.

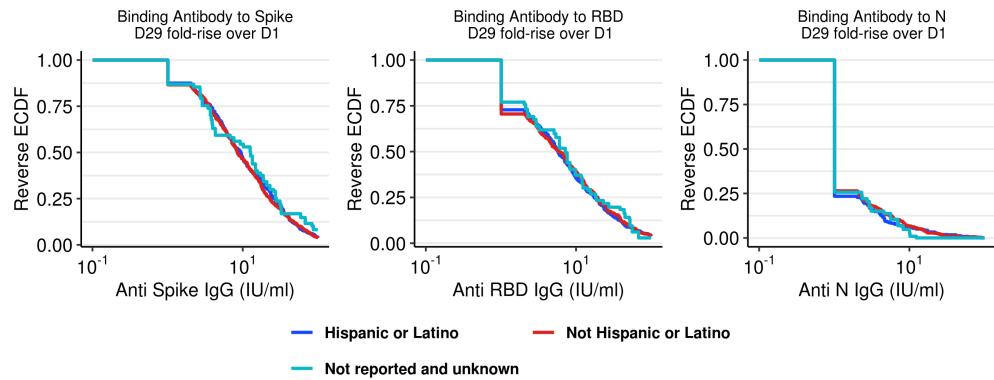


Figure 2.39: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by ethnicity.

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

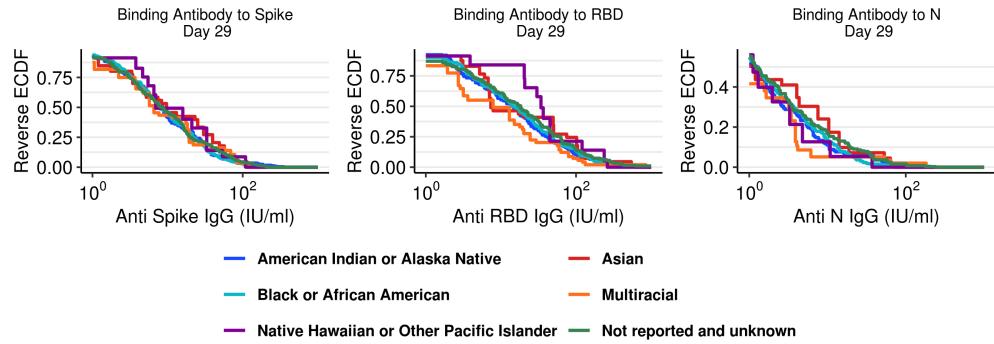


Figure 2.40: RCDF plots for D29 Ab markers: baseline negative vaccine arm by race.

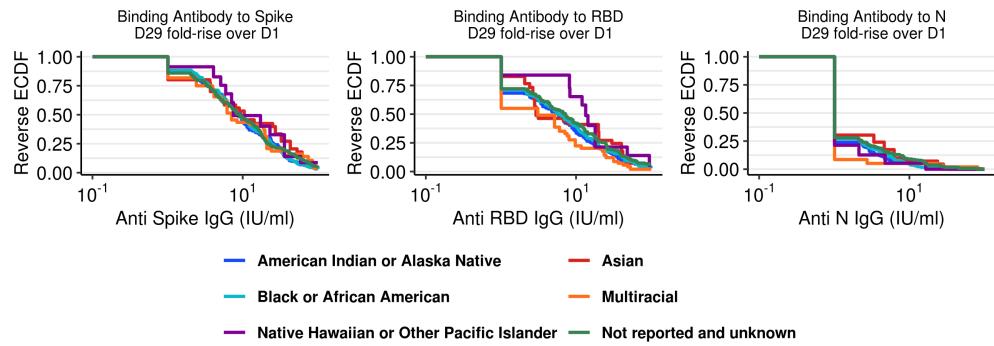


Figure 2.41: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by race.

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

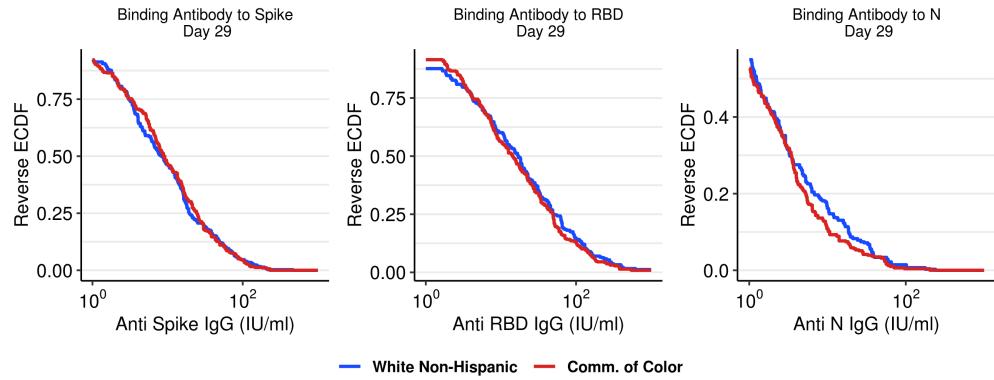


Figure 2.42: RCDF plots for D29 Ab markers: baseline negative vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

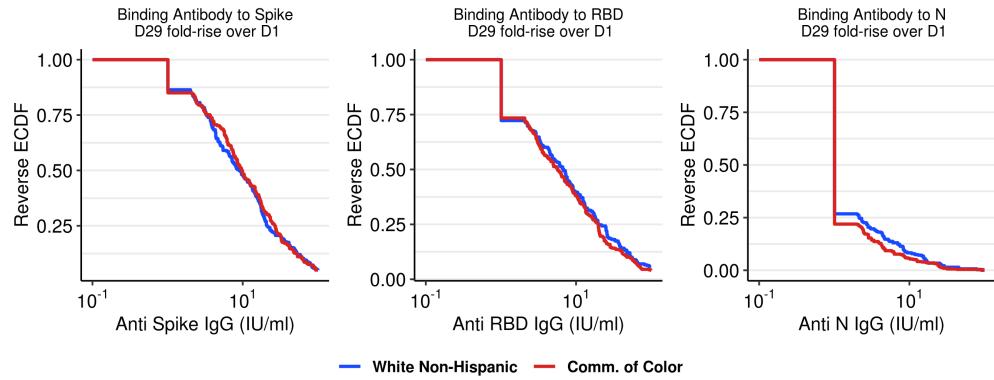


Figure 2.43: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

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

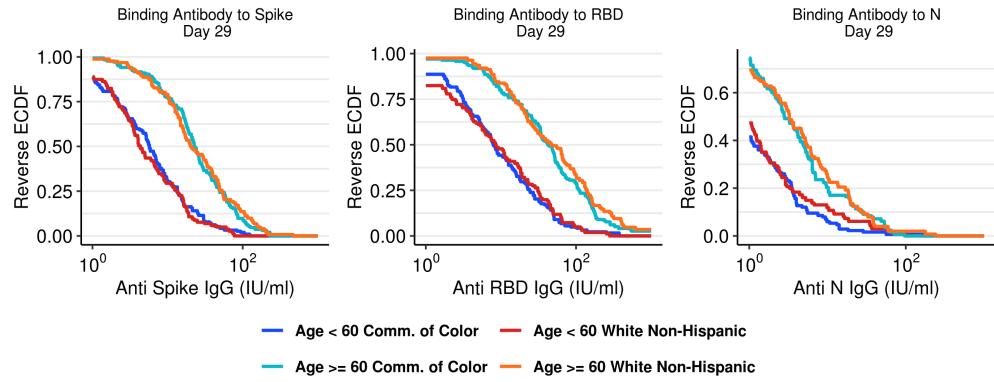


Figure 2.44: RCDF plots for D29 Ab markers: baseline negative vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

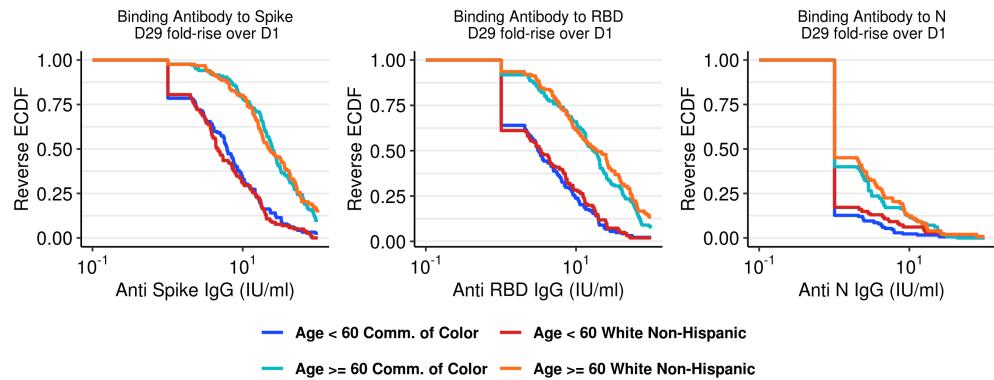


Figure 2.45: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

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

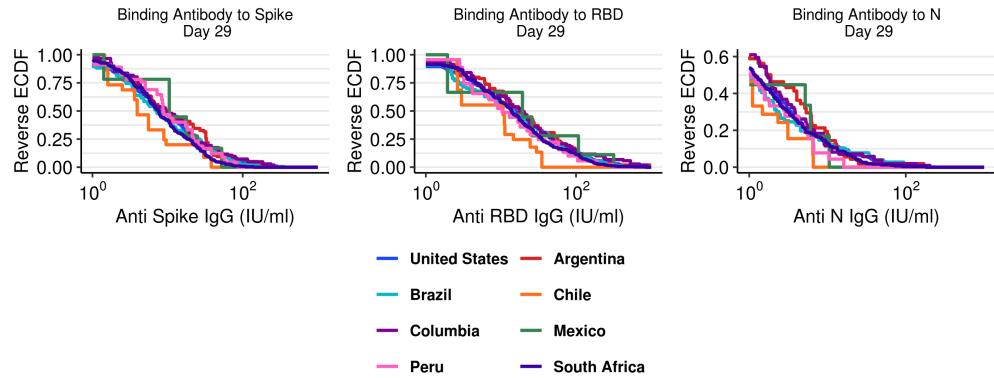


Figure 2.46: RCDF plots for D29 Ab markers: baseline negative vaccine arm by country of residence.

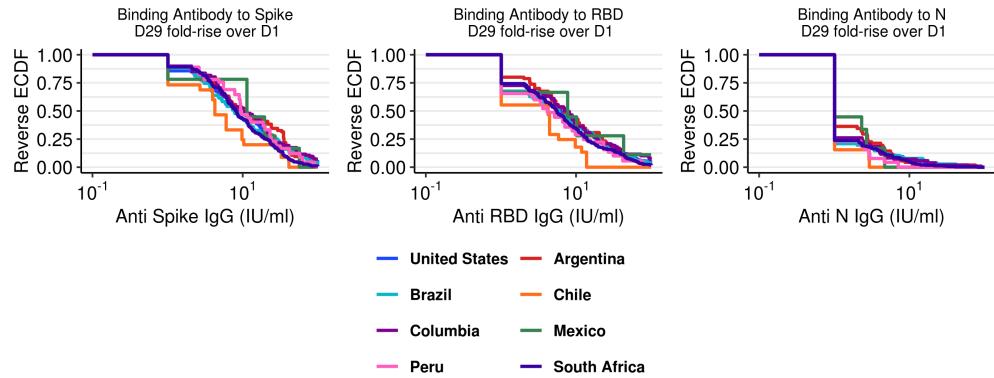


Figure 2.47: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by country of residence.

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

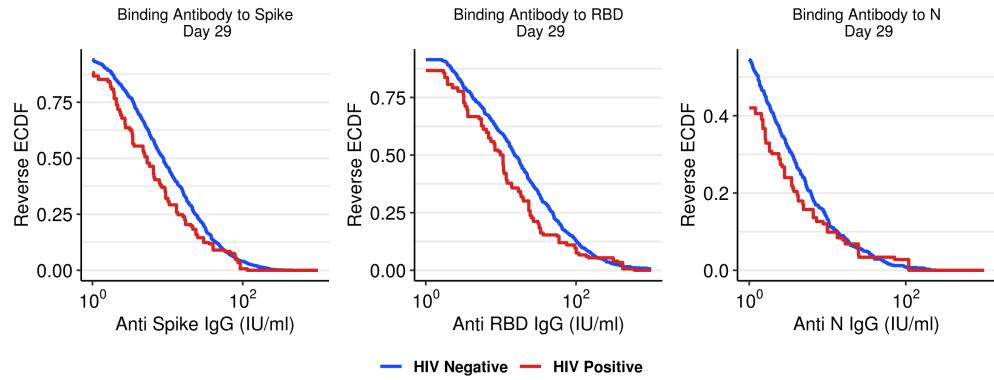


Figure 2.48: RCDF plots for D29 Ab markers: baseline negative vaccine arm by HIV positivity.

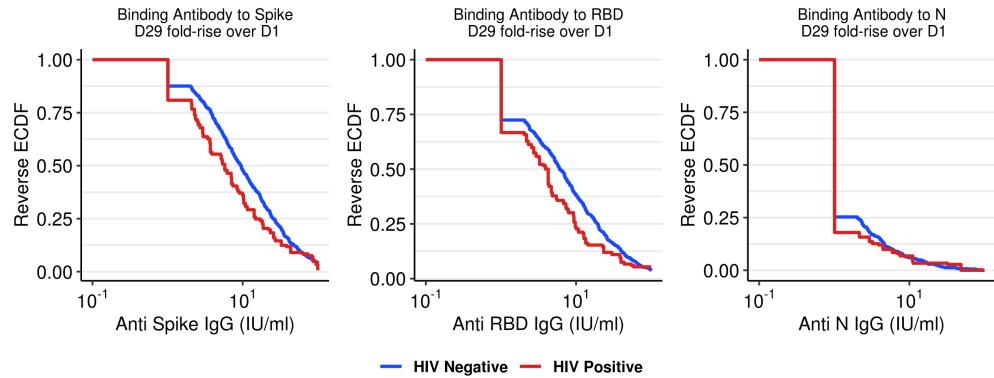


Figure 2.49: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by HIV positivity.

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

2.6.2 Baseline SARS-CoV-2 Positive

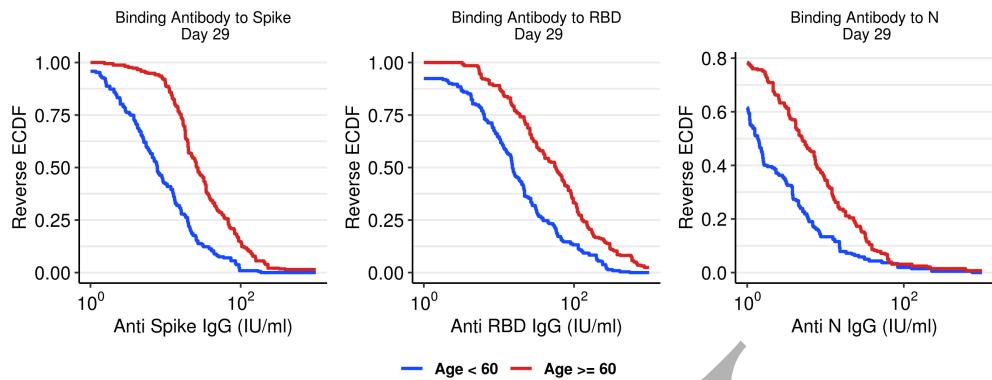


Figure 2.50: RCDF plots for D29 Ab markers: baseline positive vaccine arm by age groups.

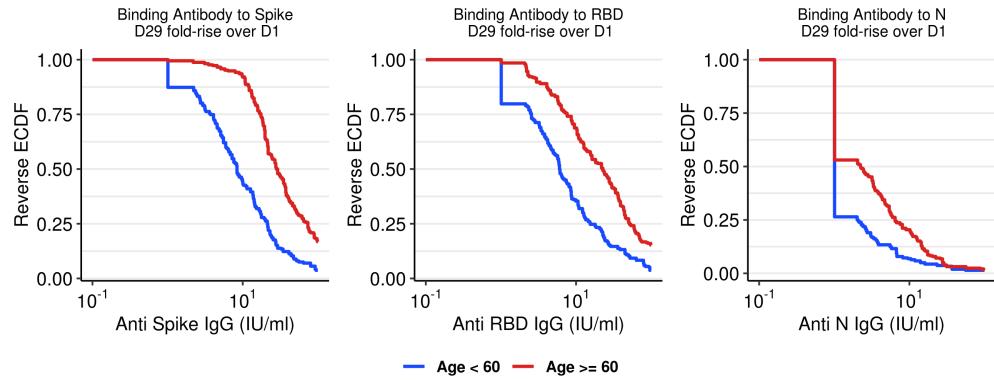


Figure 2.51: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age groups.

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

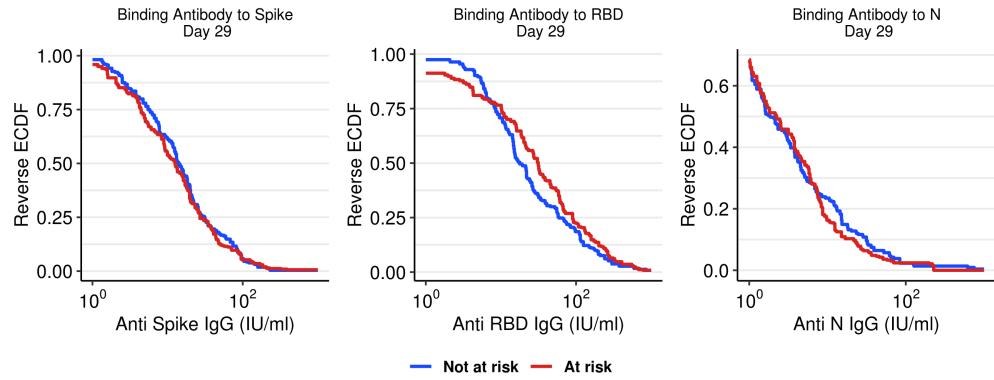


Figure 2.52: RCDF plots for D29 Ab markers: baseline positive vaccine arm by high-risk condition.

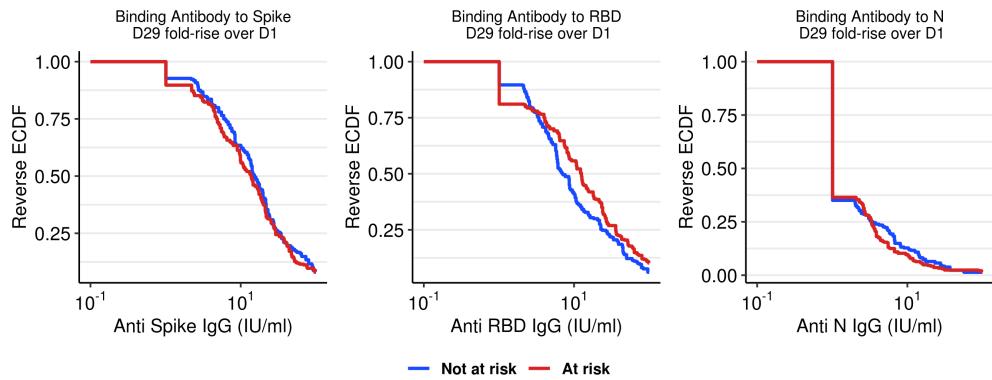


Figure 2.53: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by high-risk condition.

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

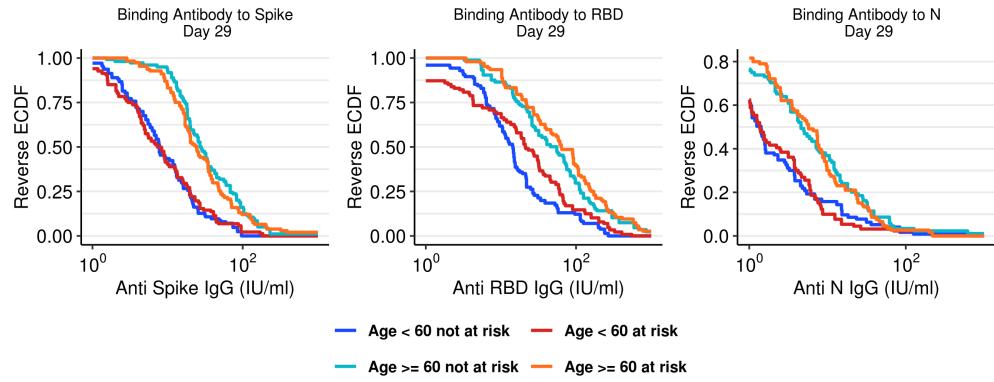


Figure 2.54: RCDF plots for D29 Ab markers: baseline positive vaccine arm by age and high-risk condition.

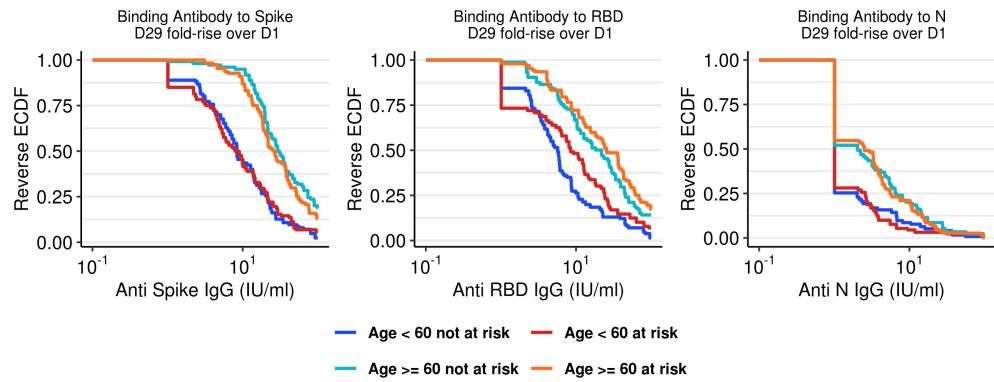


Figure 2.55: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and high-risk condition.

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

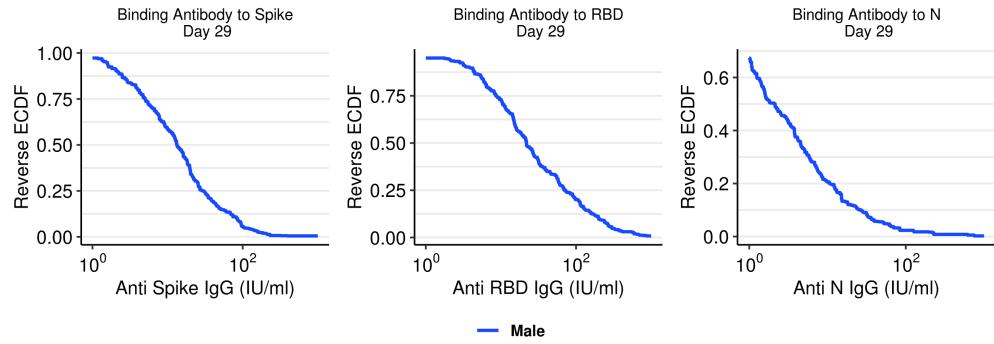


Figure 2.56: RCDF plots for D29 Ab markers: baseline positive vaccine arm by sex assigned at birth.

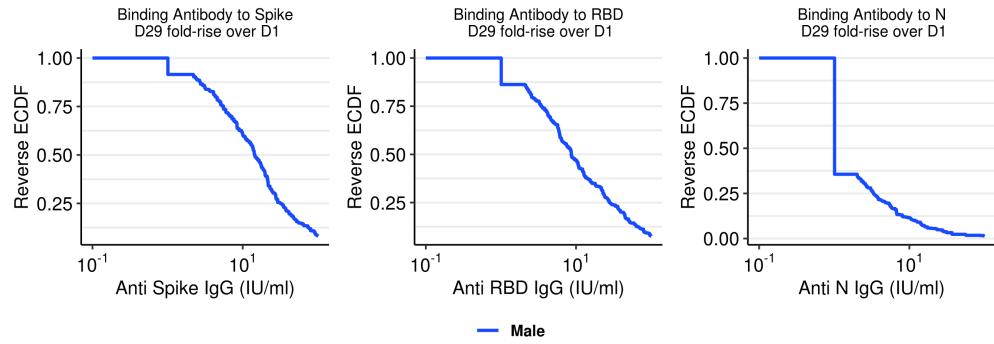


Figure 2.57: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by sex assigned at birth.

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

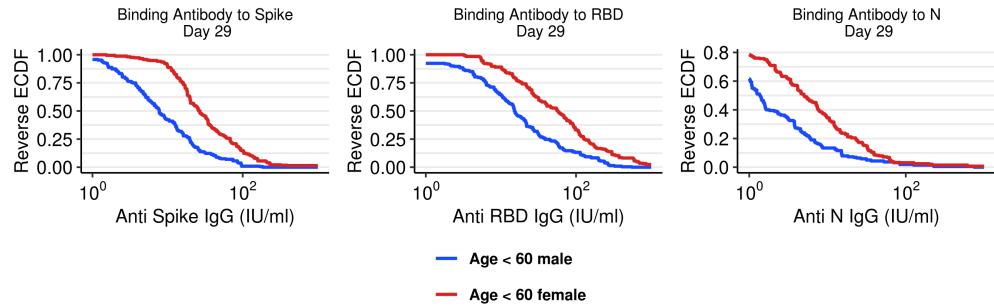


Figure 2.58: RCDF plots for D29 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

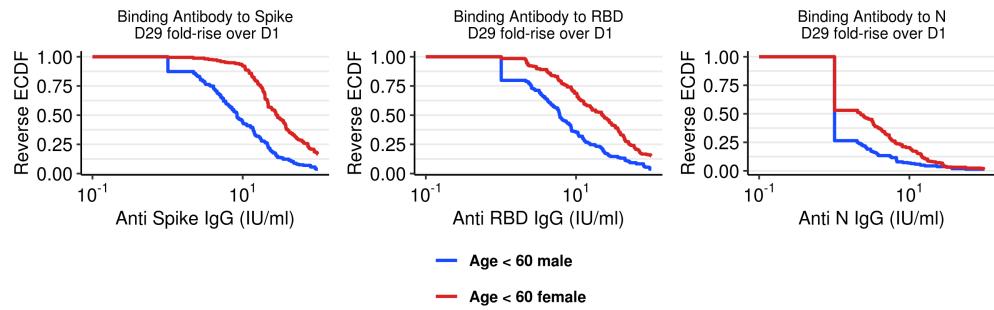


Figure 2.59: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

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

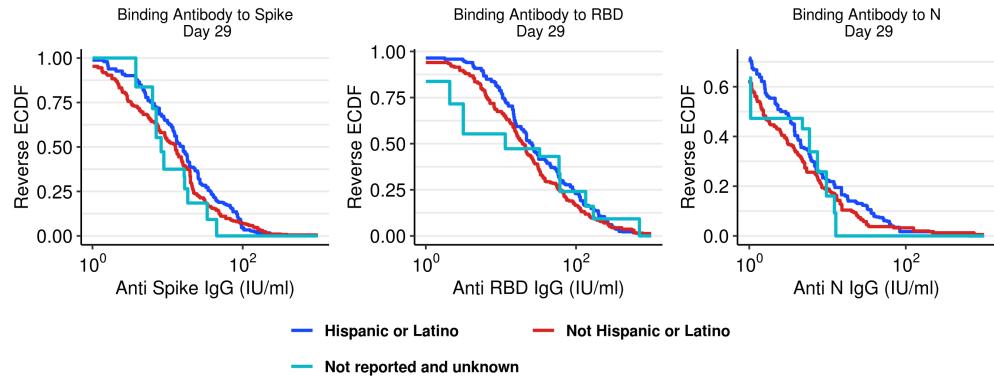


Figure 2.60: RCDF plots for D29 Ab markers: baseline positive vaccine arm by ethnicity.

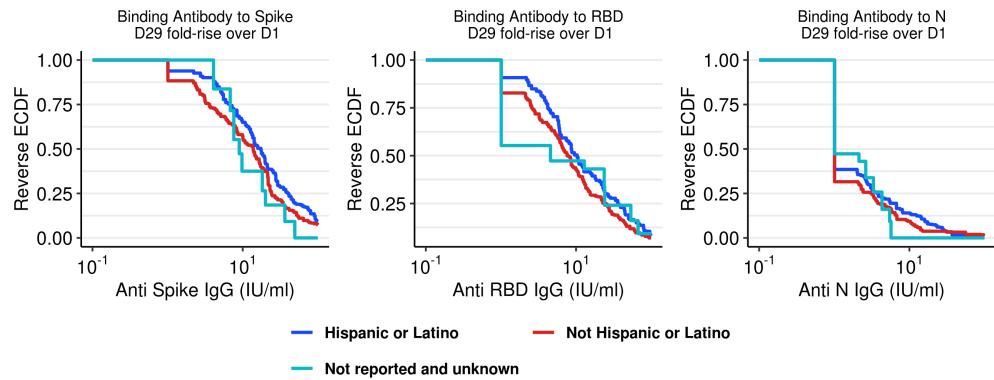


Figure 2.61: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by ethnicity.

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

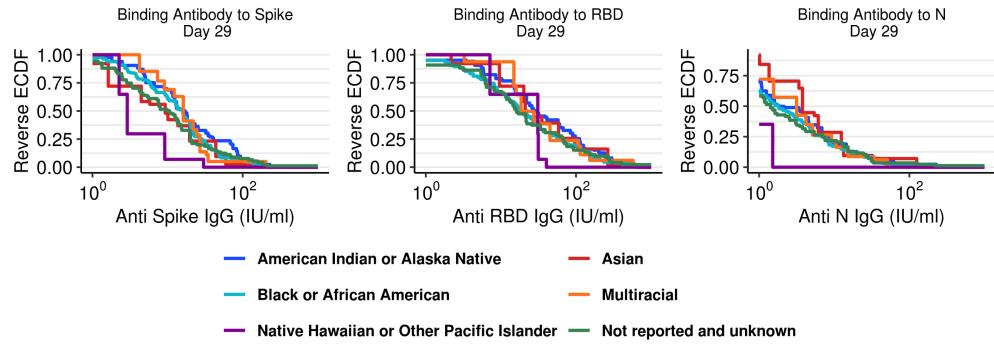


Figure 2.62: RCDF plots for D29 Ab markers: baseline positive vaccine arm by race.

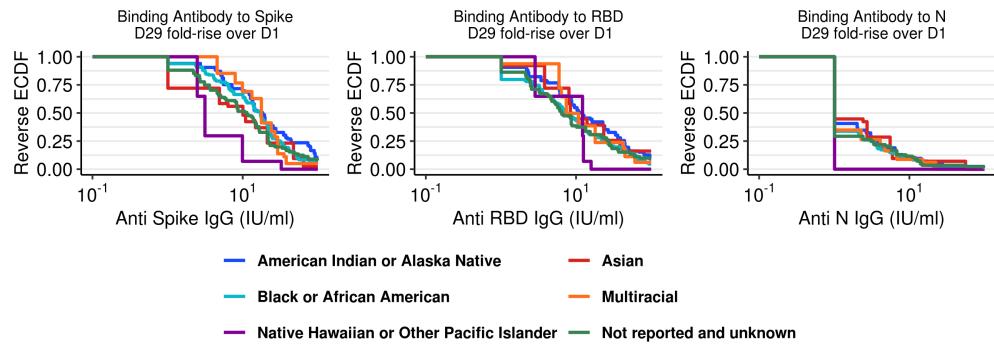


Figure 2.63: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by race.

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

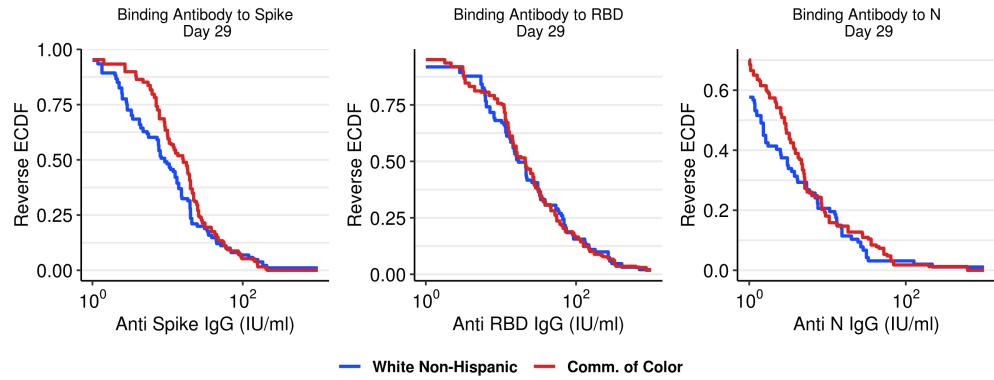


Figure 2.64: RCDF plots for D29 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

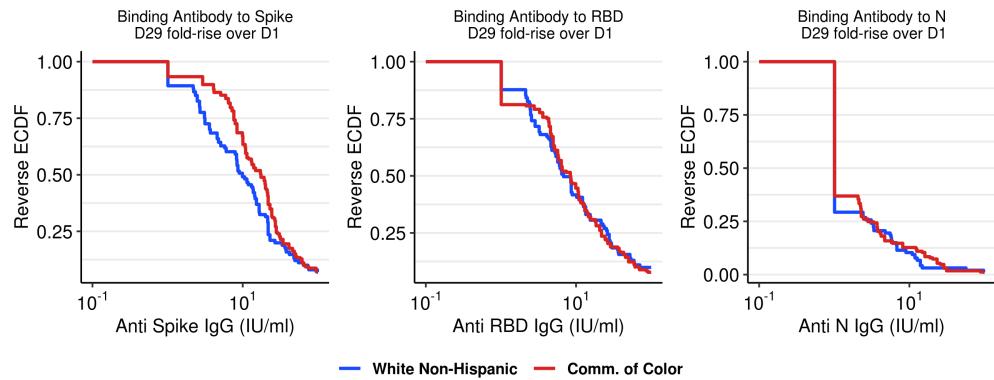


Figure 2.65: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

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

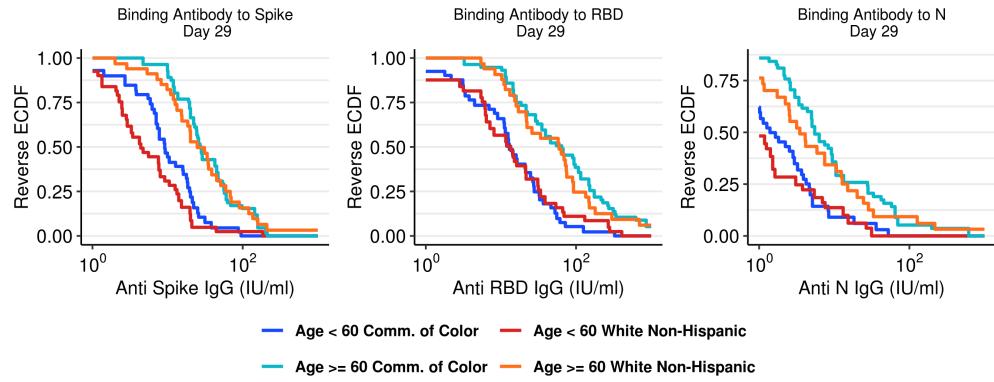


Figure 2.66: RCDF plots for D29 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

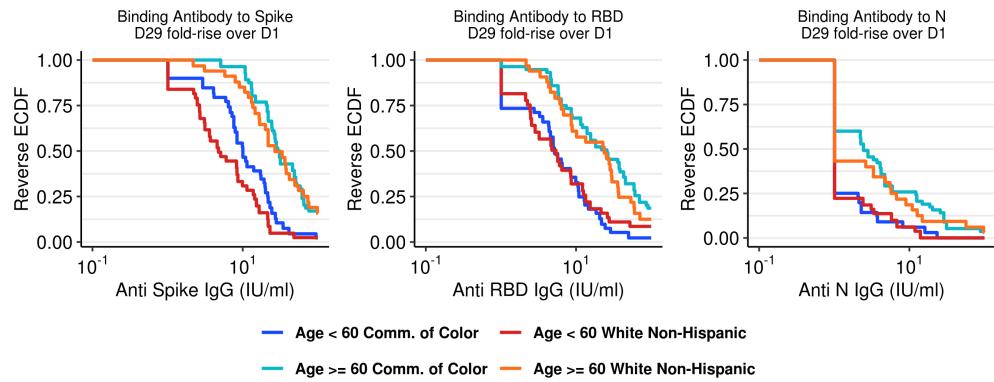


Figure 2.67: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

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

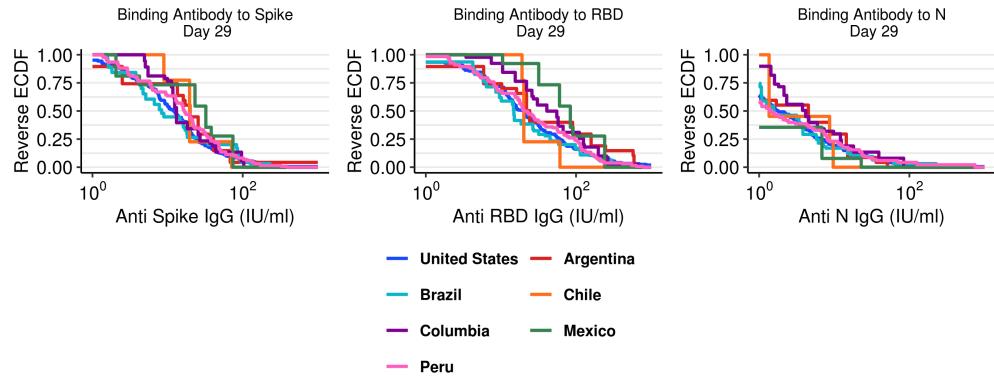


Figure 2.68: RCDF plots for D29 Ab markers: baseline positive vaccine arm by country of residence.

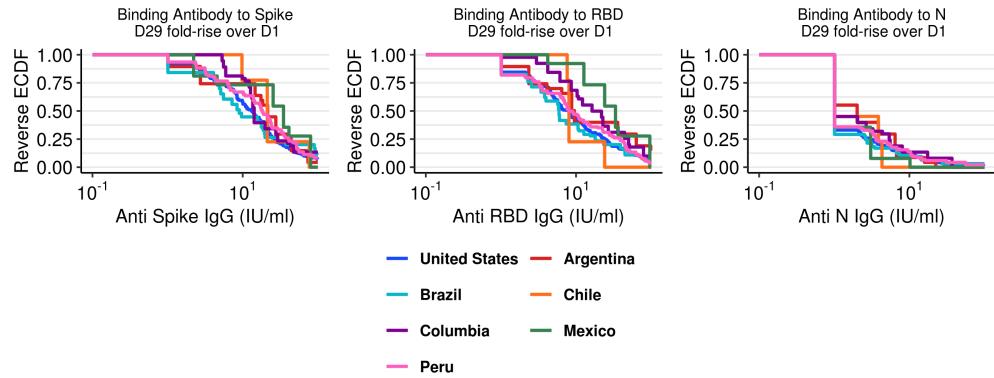


Figure 2.69: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by country of residence.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT307

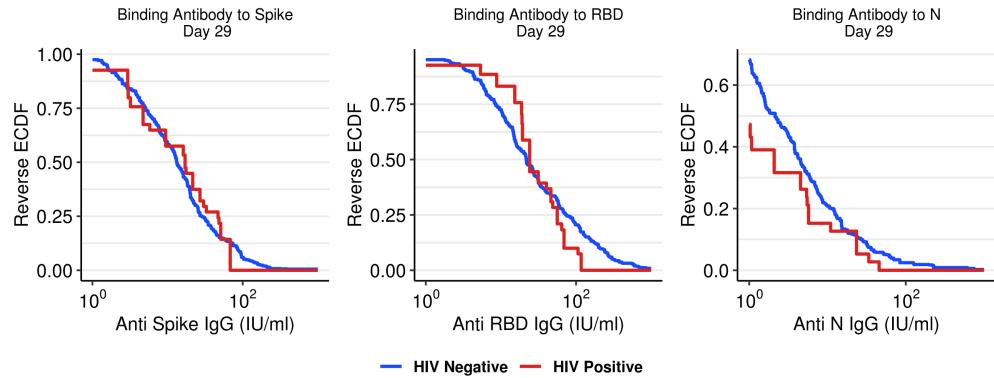


Figure 2.70: RCDF plots for D29 Ab markers: baseline positive vaccine arm by HIV positivity.

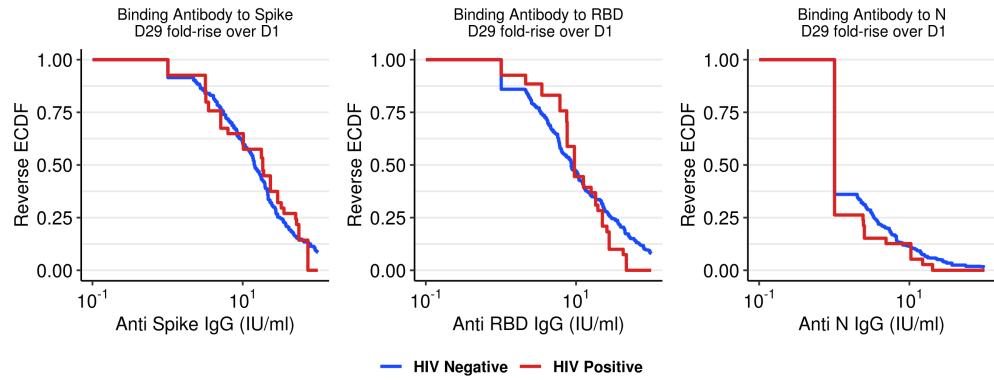


Figure 2.71: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by HIV positivity.

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

2.6.3 Baseline SARS-CoV-2 Positive Placebo Arm

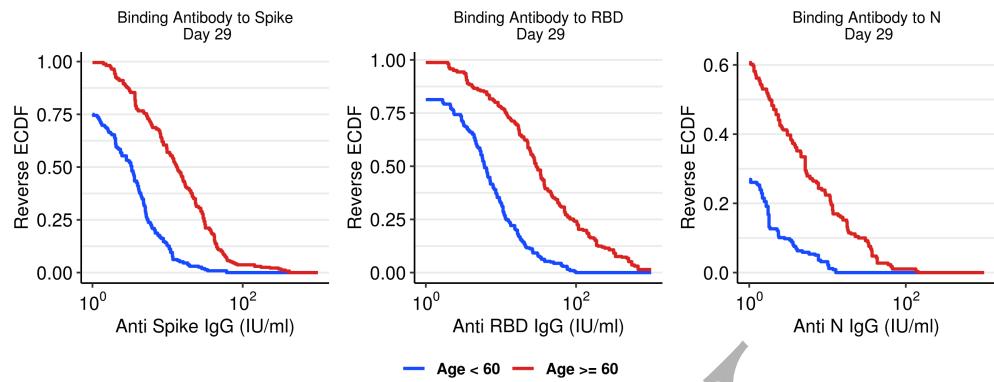


Figure 2.72: RCDF plots for D29 Ab markers: baseline positive placebo arm by age groups.

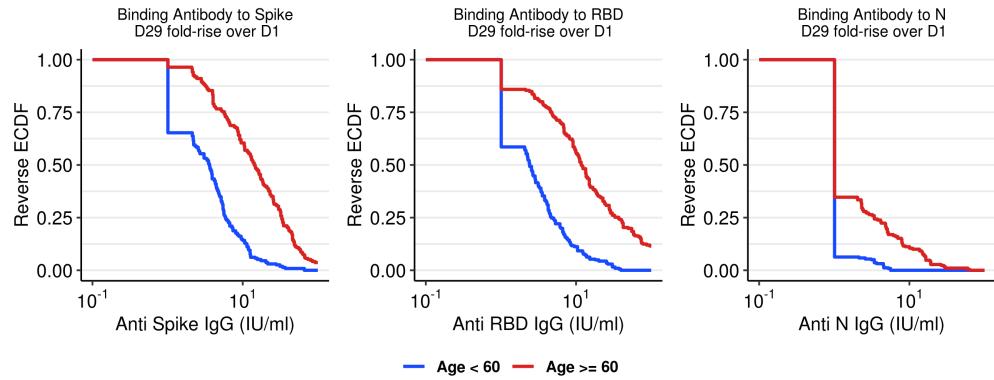


Figure 2.73: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by age groups.

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

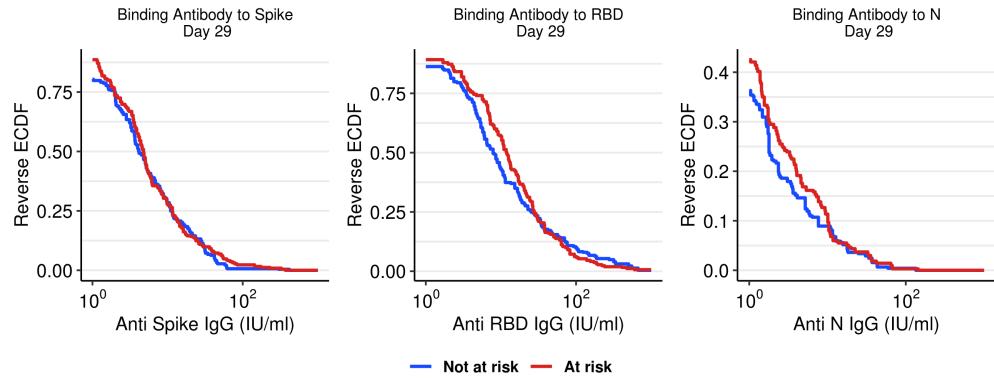


Figure 2.74: RCDF plots for D29 Ab markers: baseline positive placebo arm by high-risk condition.

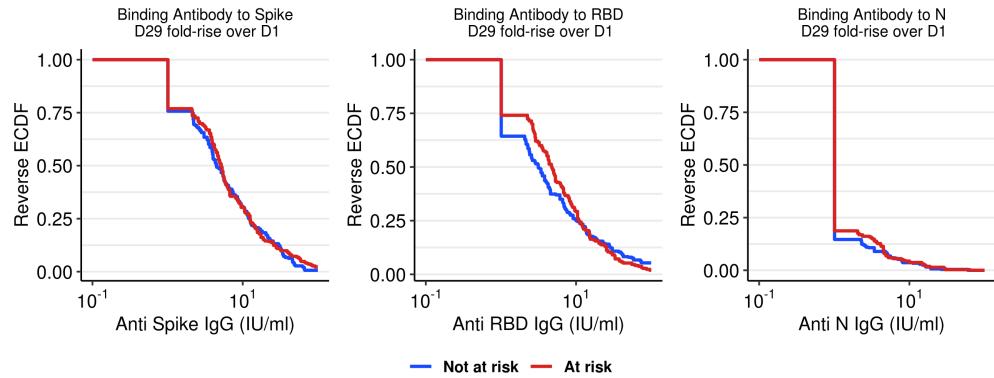


Figure 2.75: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by high-risk condition.

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

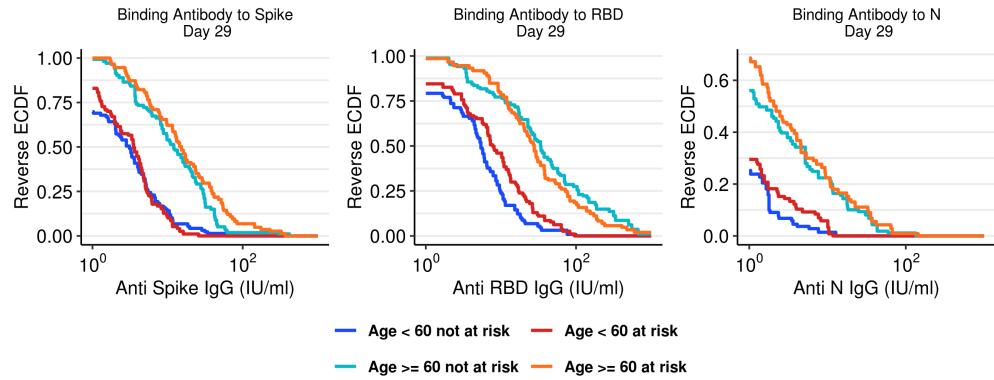


Figure 2.76: RCDF plots for D29 Ab markers: baseline positive placebo arm by age and high-risk condition.

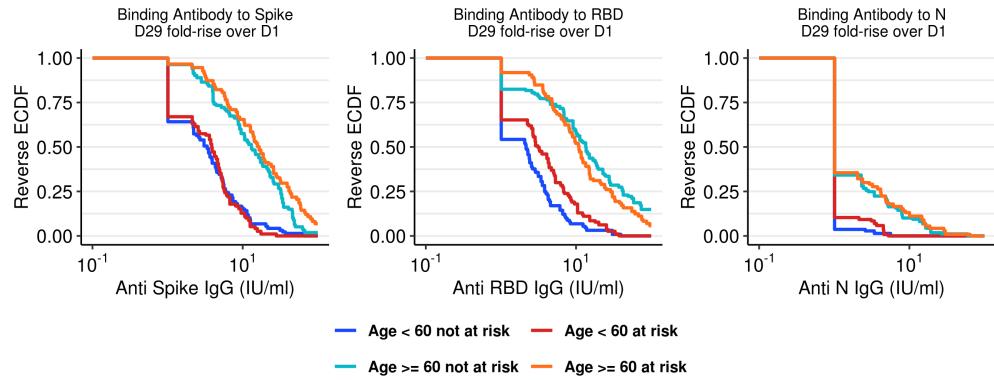


Figure 2.77: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by age and high-risk condition.

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

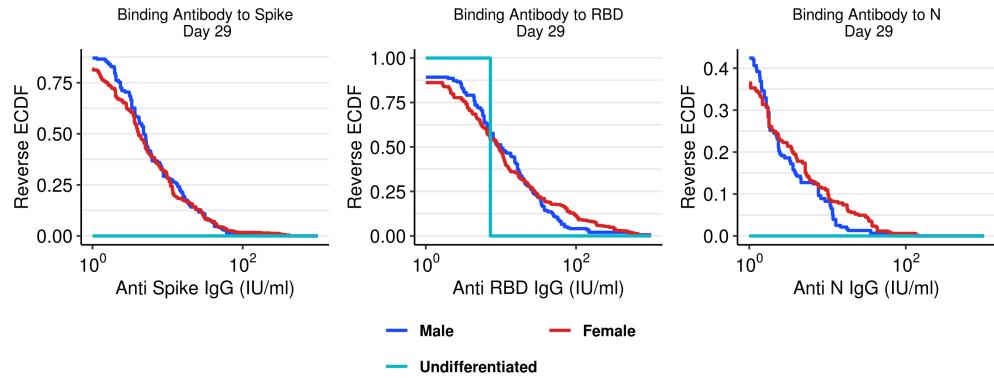


Figure 2.78: RCDF plots for D29 Ab markers: baseline positive placebo arm by sex assigned at birth.

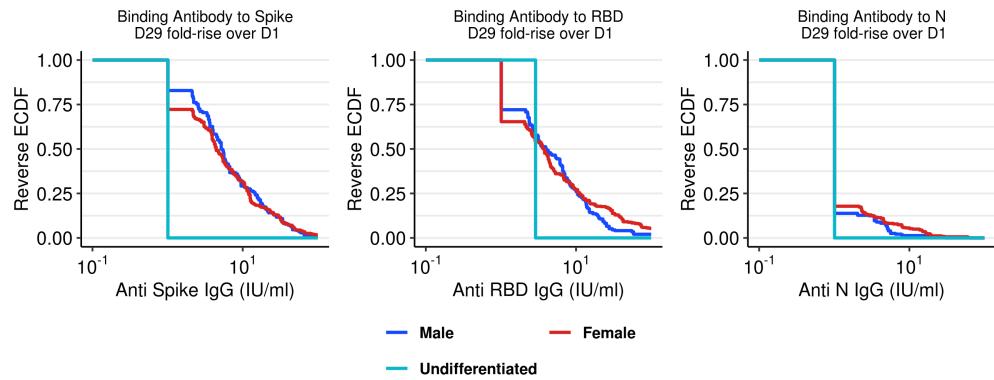


Figure 2.79: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by sex assigned at birth.

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

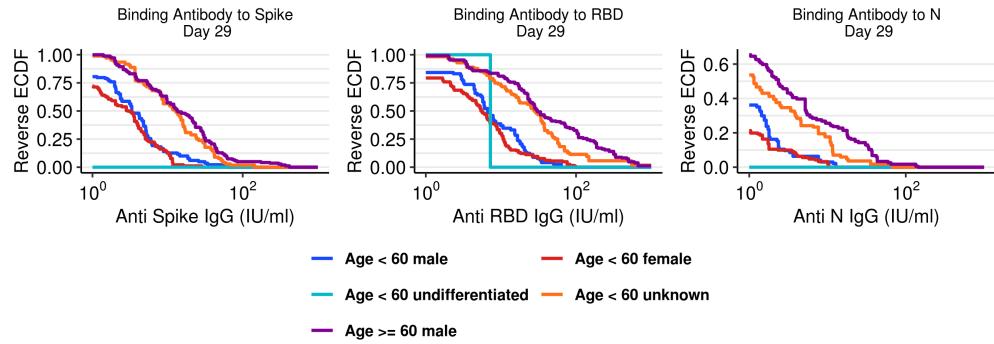


Figure 2.80: RCDF plots for D29 Ab markers: baseline positive placebo arm by age and sex assigned at birth.

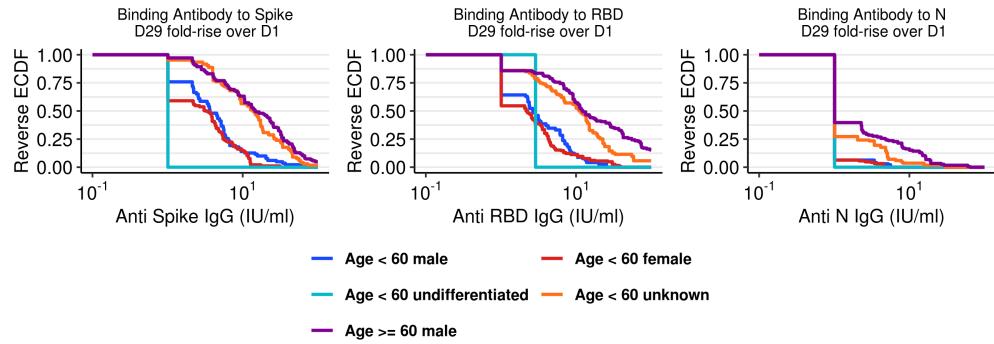


Figure 2.81: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by age and sex assigned at birth.

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

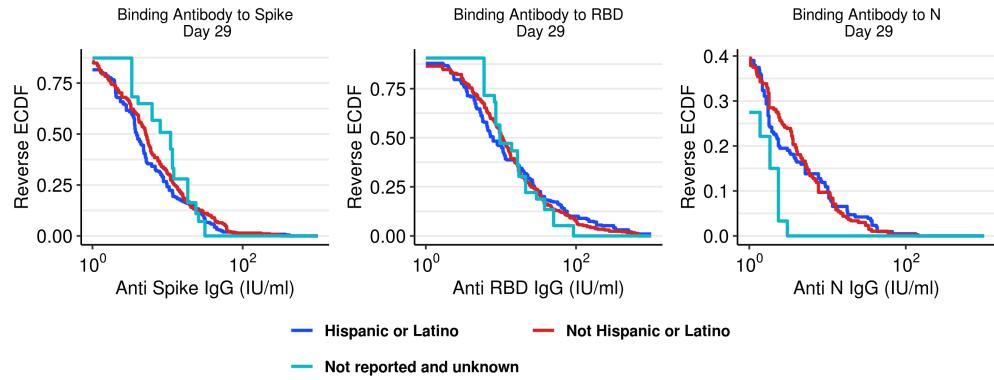


Figure 2.82: RCDF plots for D29 Ab markers: baseline positive placebo arm by ethnicity.

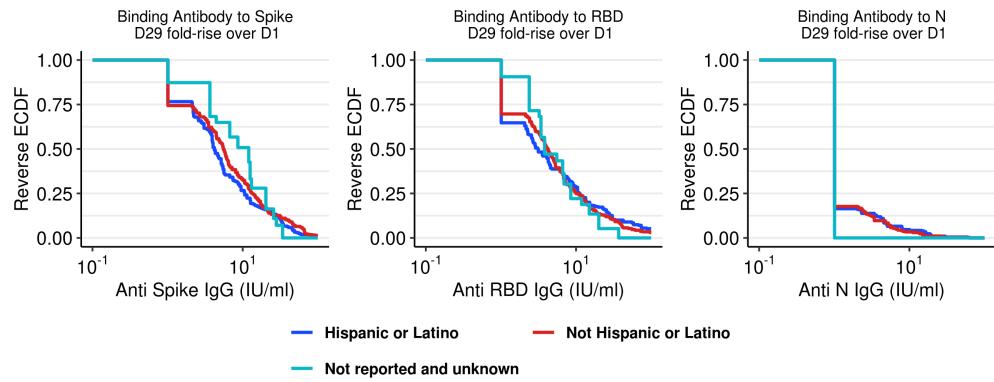


Figure 2.83: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by ethnicity.

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

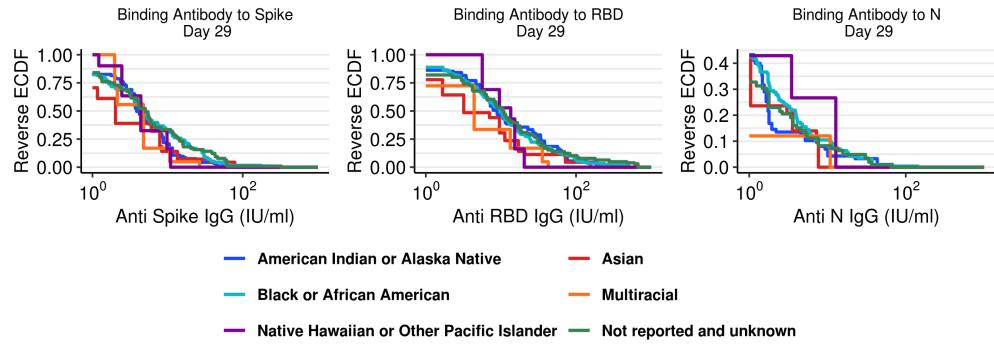


Figure 2.84: RCDF plots for D29 Ab markers: baseline positive placebo arm by race.

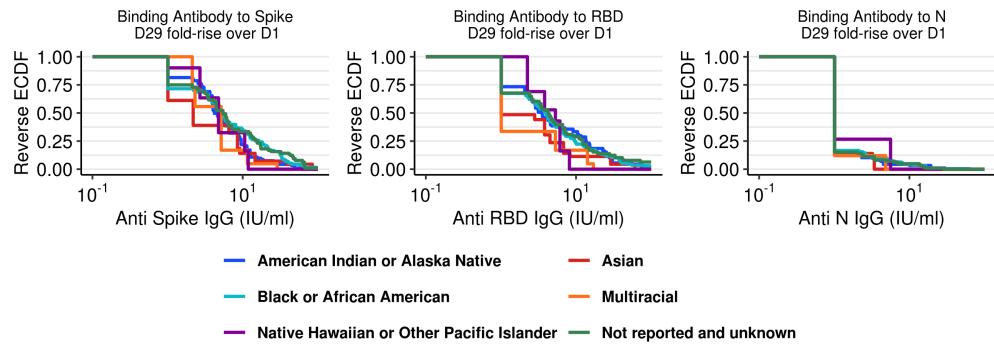


Figure 2.85: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by race.

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

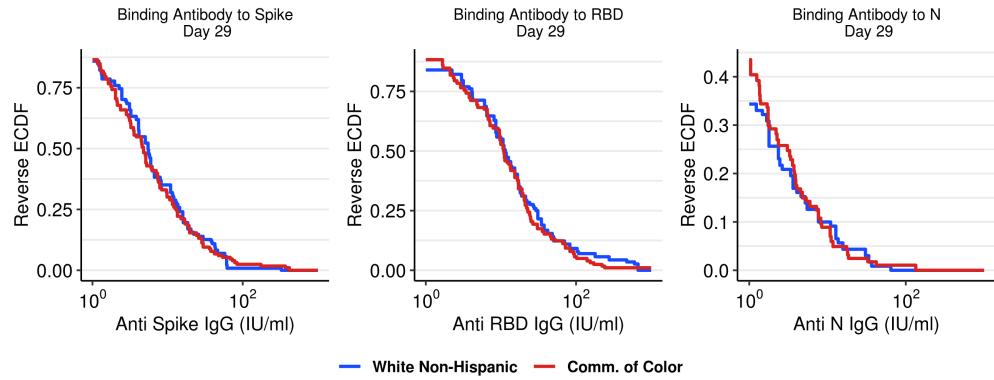


Figure 2.86: RCDF plots for D29 Ab markers: baseline positive placebo arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

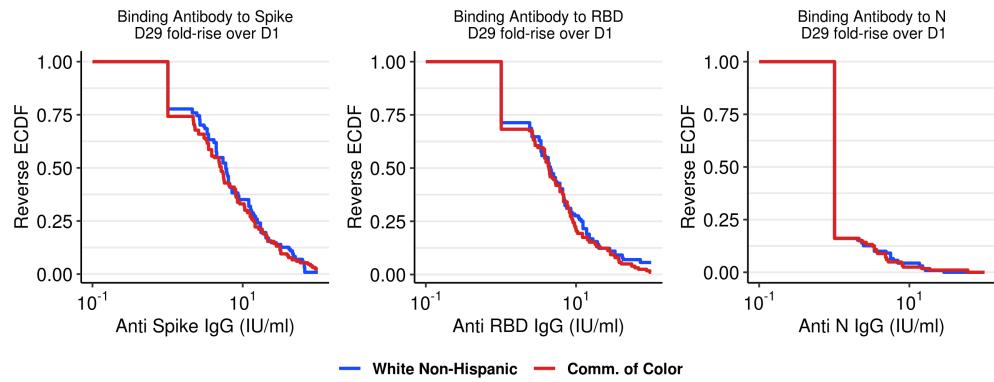


Figure 2.87: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

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

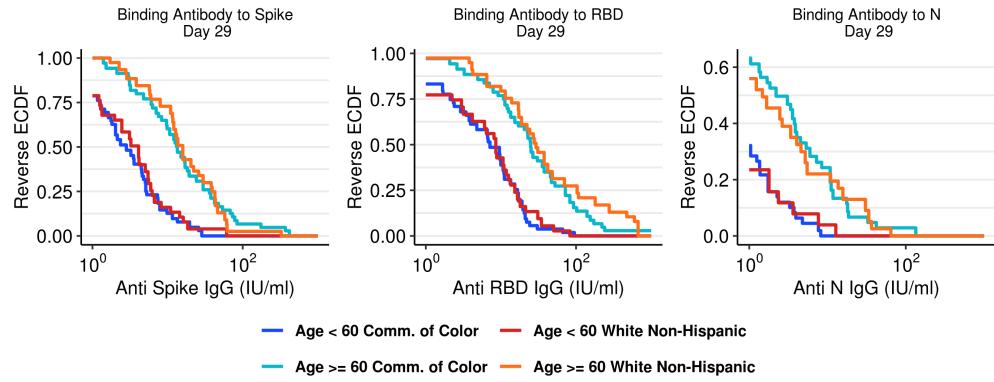


Figure 2.88: RCDF plots for D29 Ab markers: baseline positive placebo arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

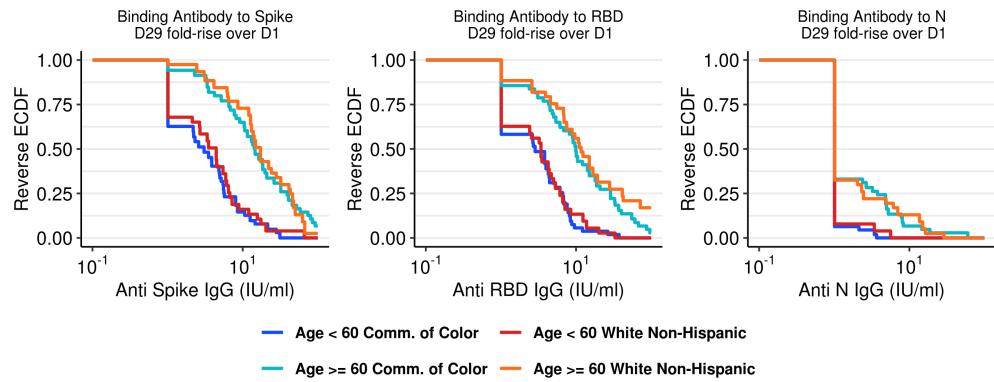


Figure 2.89: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

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

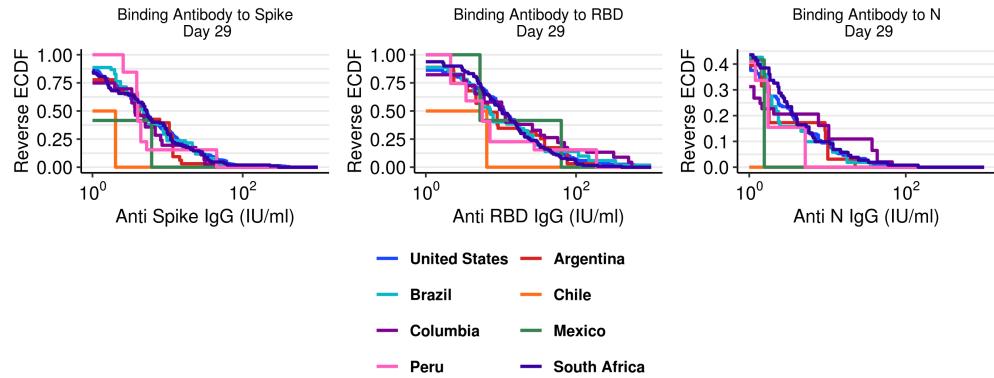


Figure 2.90: RCDF plots for D29 Ab markers: baseline positive placebo arm by country of residence.

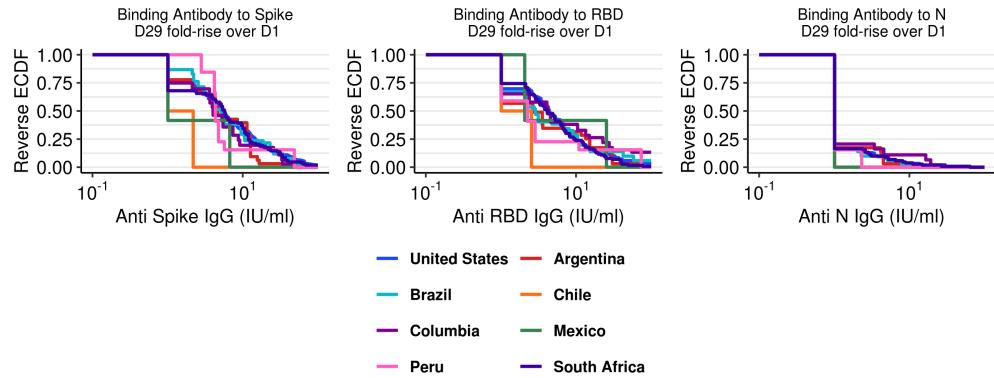


Figure 2.91: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by country of residence.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT329

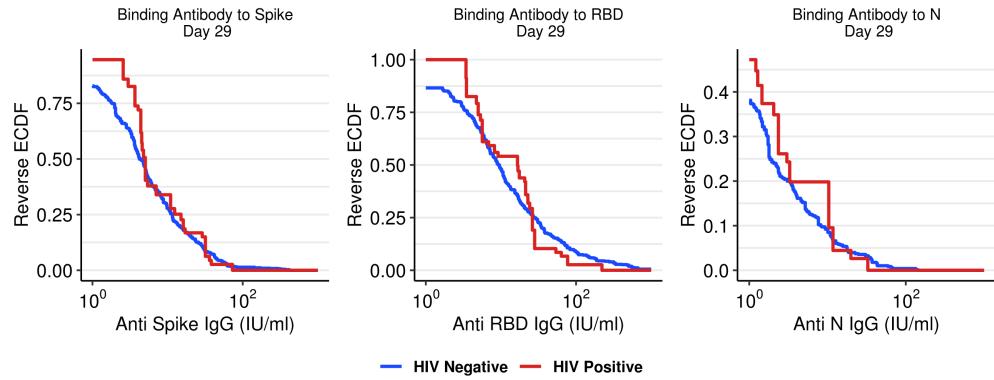


Figure 2.92: RCDF plots for D29 Ab markers: baseline positive placebo arm by HIV positivity.

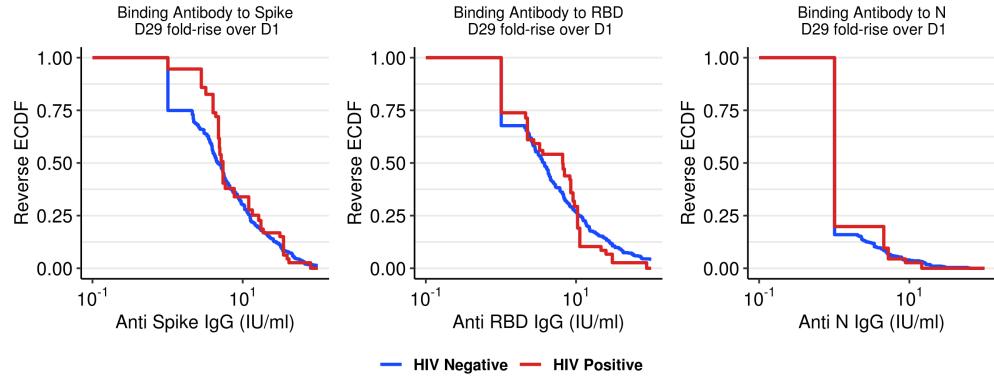


Figure 2.93: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by HIV positivity.

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

2.7.1 Baseline SARS-CoV-2 Negative

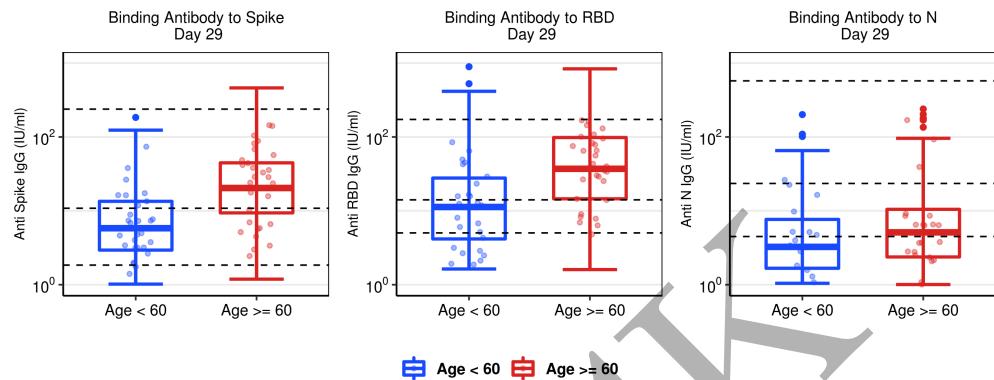


Figure 2.94: Boxplots of D29 Ab markers: Baseline negative vaccine arm by age group. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

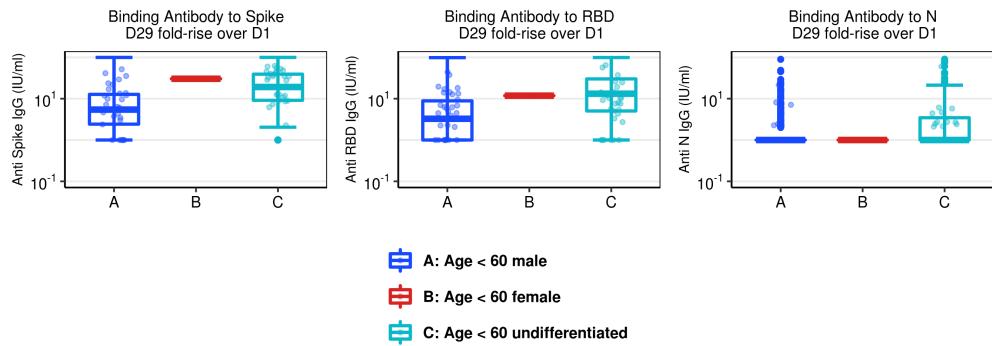


Figure 2.95: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by age and sex assigned at birth.

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

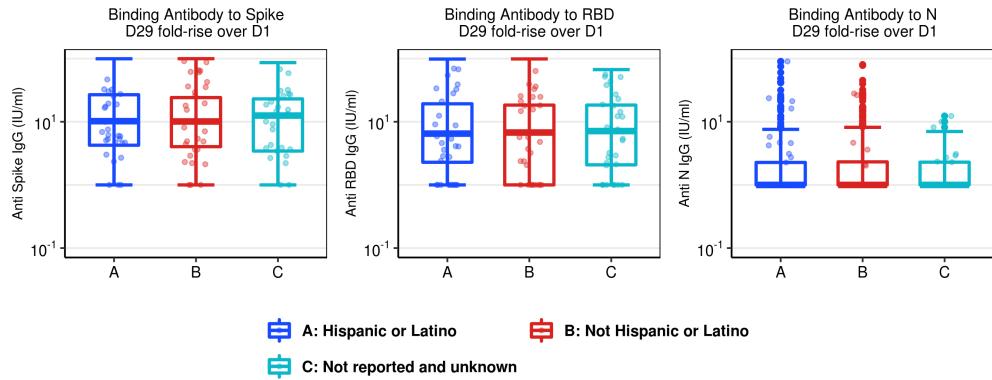


Figure 2.96: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by ethnicity.

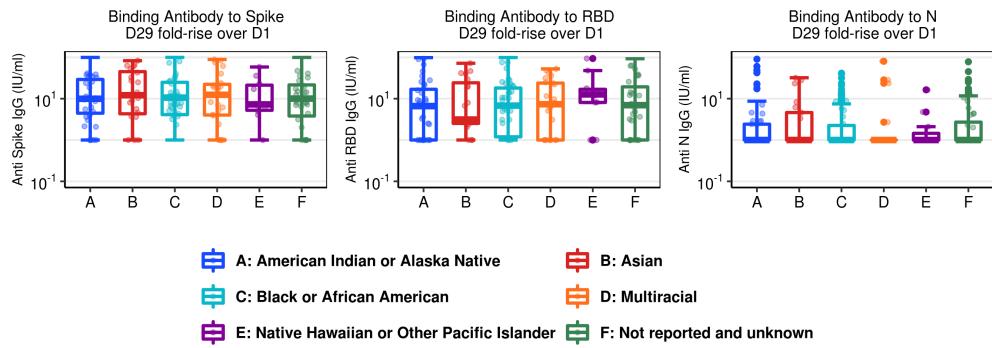


Figure 2.97: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by race.

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

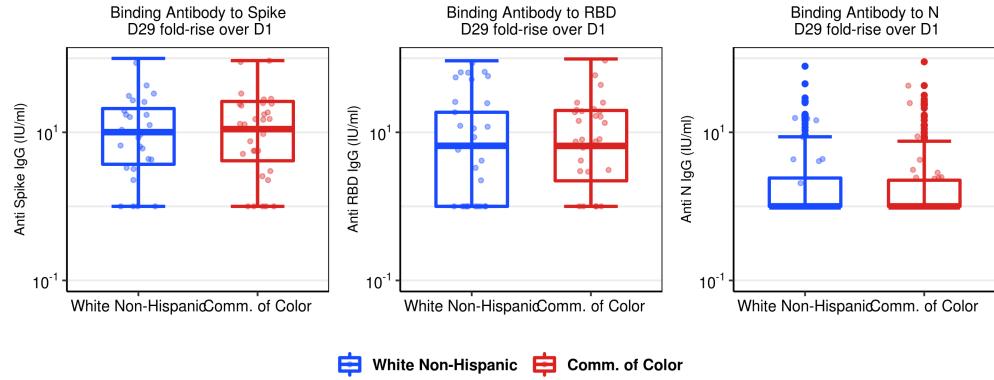


Figure 2.98: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

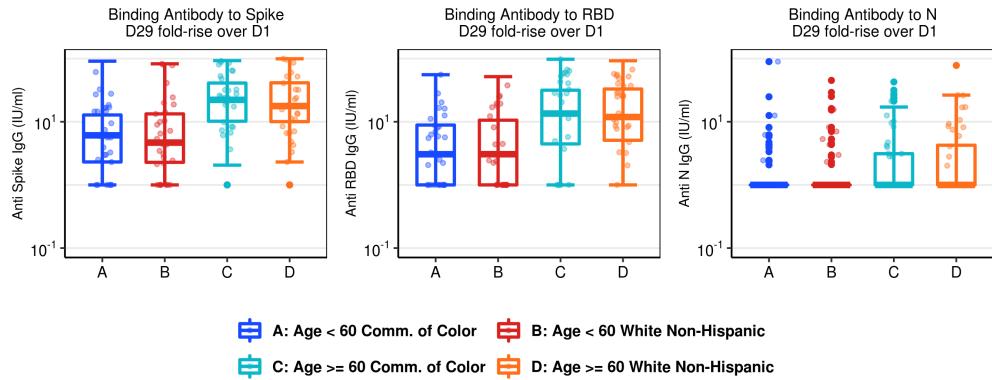


Figure 2.99: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

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

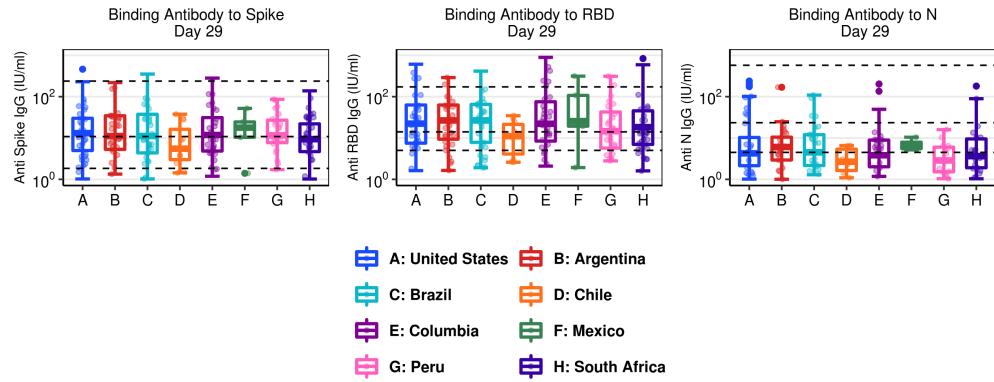


Figure 2.100: Boxplots of D29 Ab markers: Baseline negative vaccine arm by country of residence. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

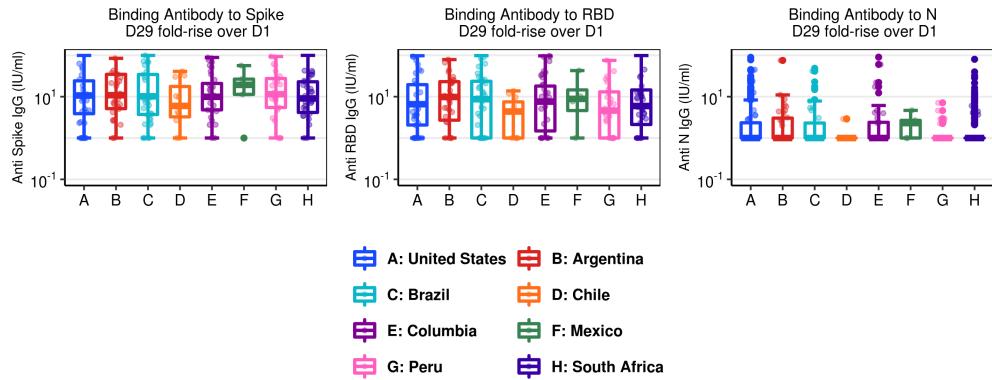


Figure 2.101: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by country of residence.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT339

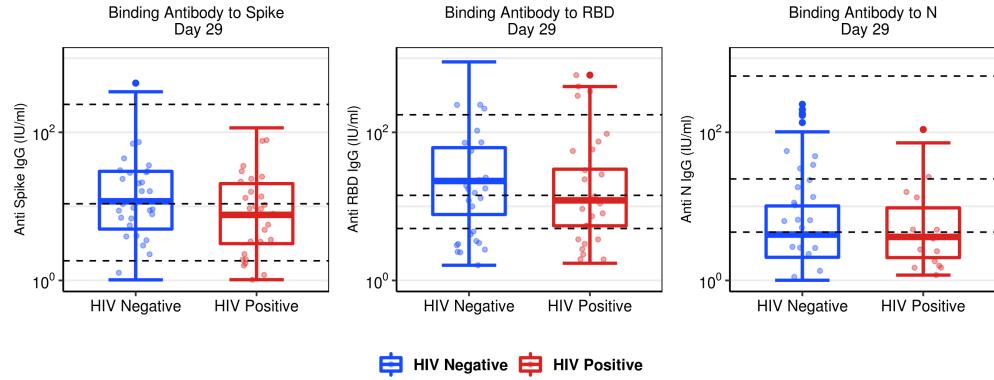


Figure 2.102: Boxplots of D29 Ab markers: Baseline negative vaccine arm by HIV positivity. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

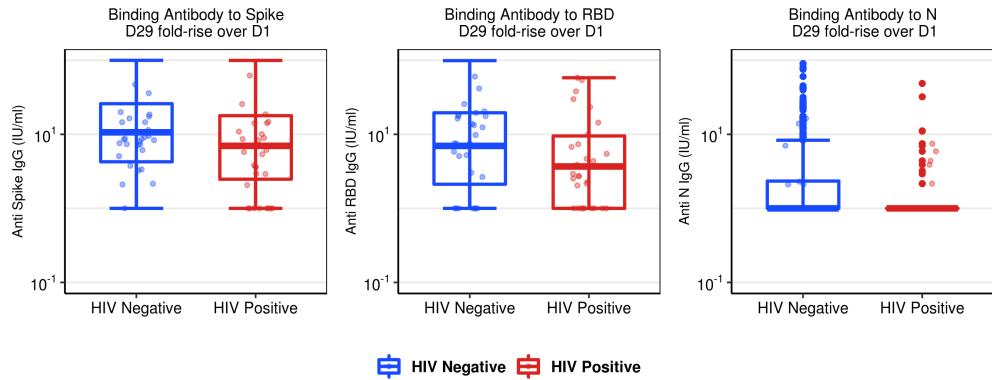


Figure 2.103: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by HIV positivity.

2.7.2 Baseline SARS-CoV-2 Positive

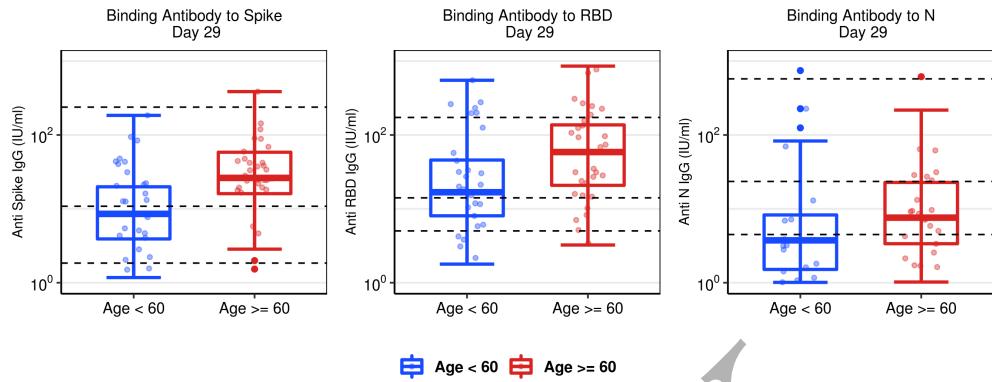


Figure 2.104: Boxplots of D29 Ab markers: baseline positive vaccine arm by age group. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

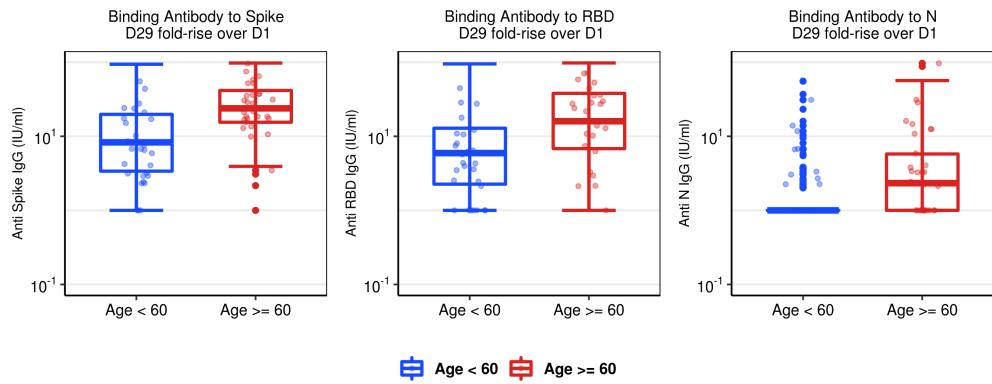


Figure 2.105: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age group.

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

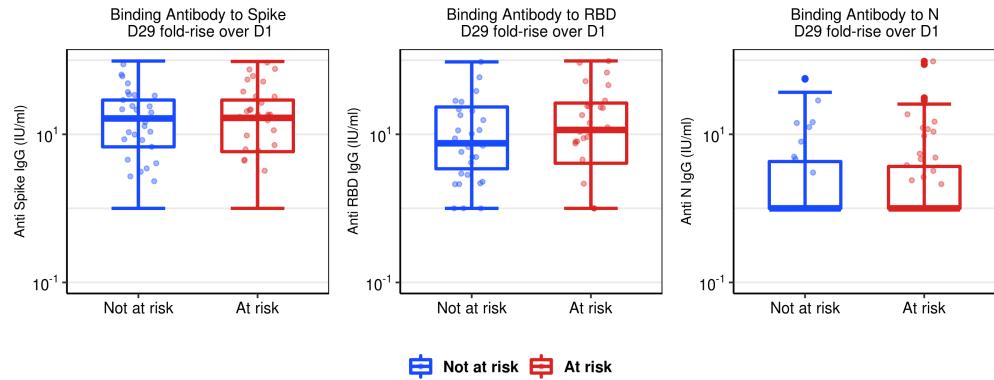


Figure 2.106: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by high-risk condition.

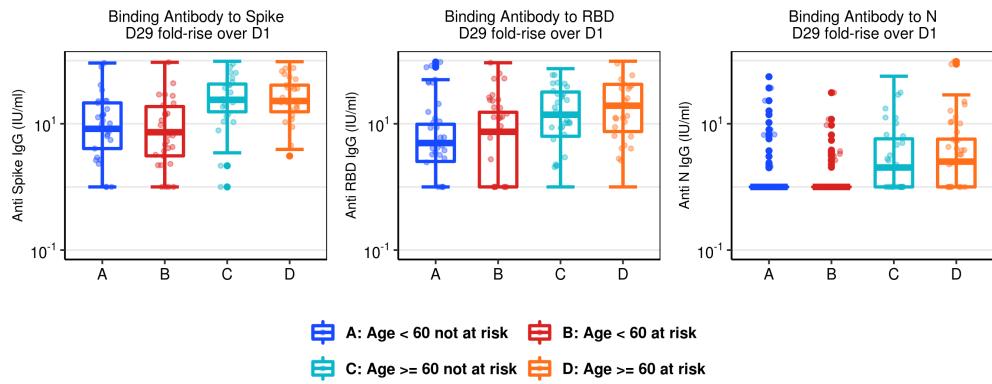


Figure 2.107: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and high-risk condition.

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

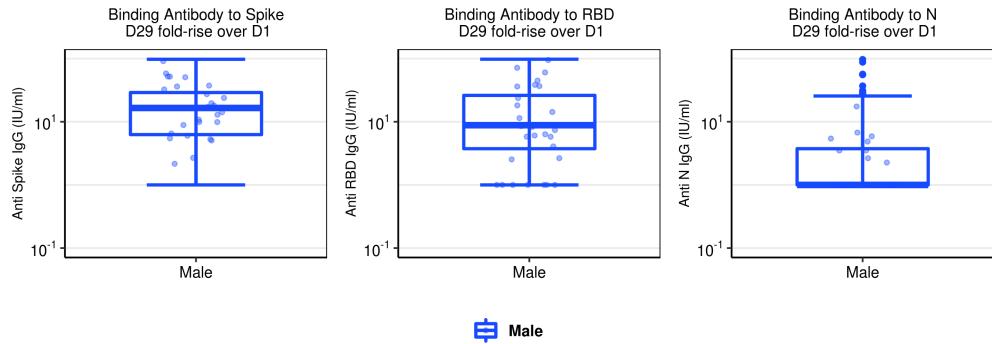


Figure 2.108: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by sex assigned at birth.

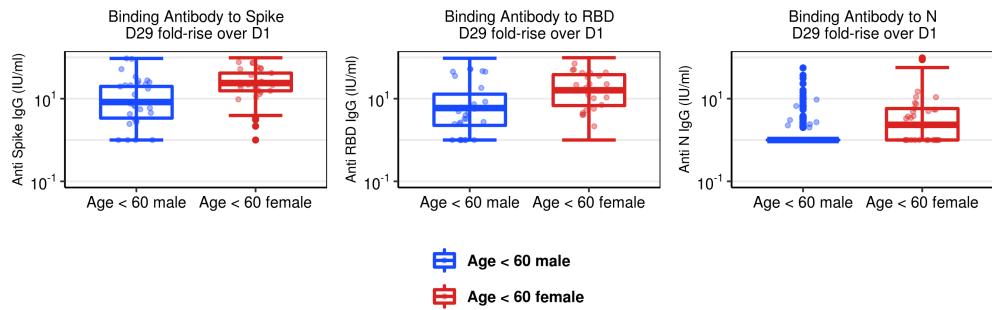


Figure 2.109: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

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

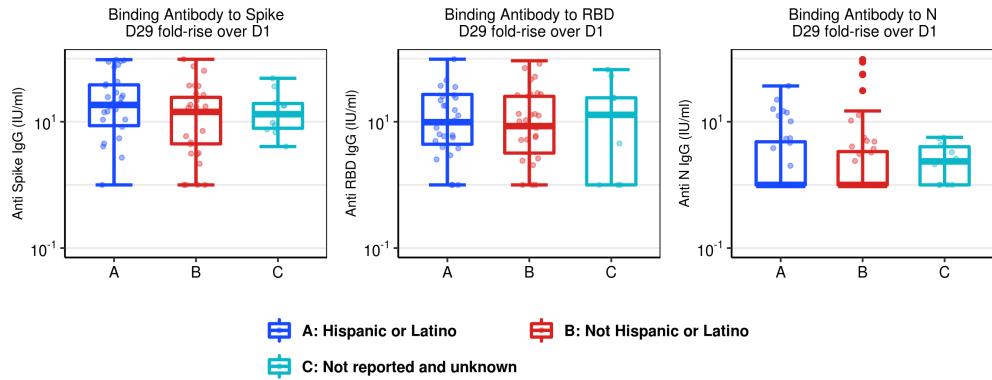


Figure 2.110: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by ethnicity.

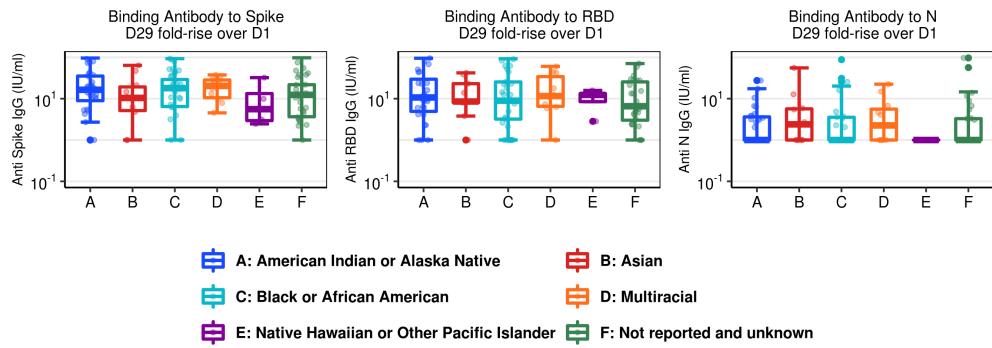


Figure 2.111: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by race.

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

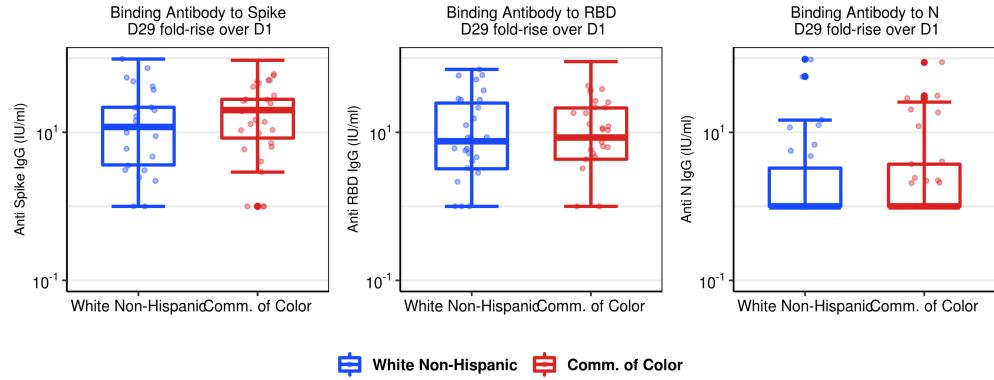


Figure 2.112: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

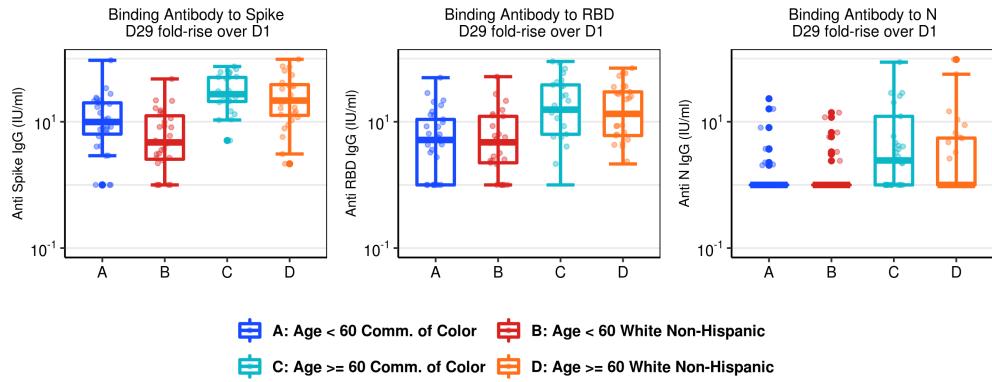


Figure 2.113: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

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

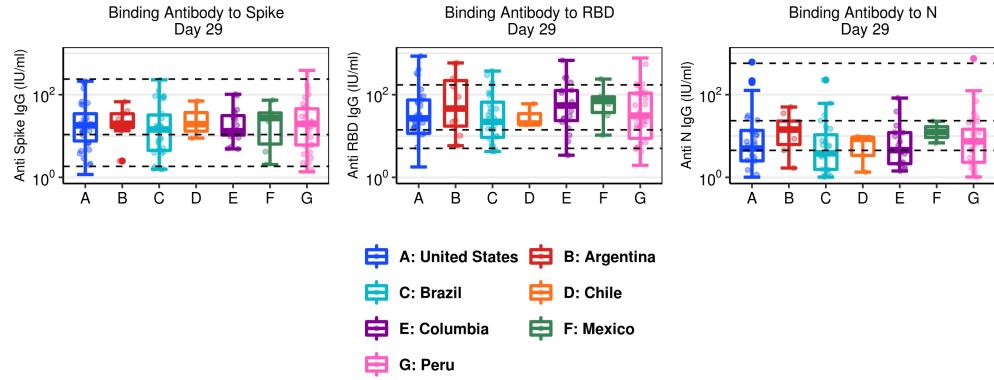


Figure 2.114: Boxplots of D29 Ab markers: baseline positive vaccine arm by country of residence. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

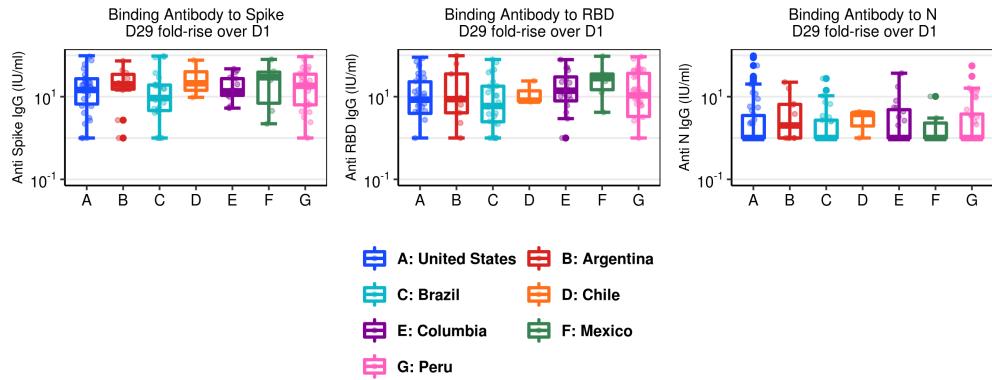


Figure 2.115: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by country of residence.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT353

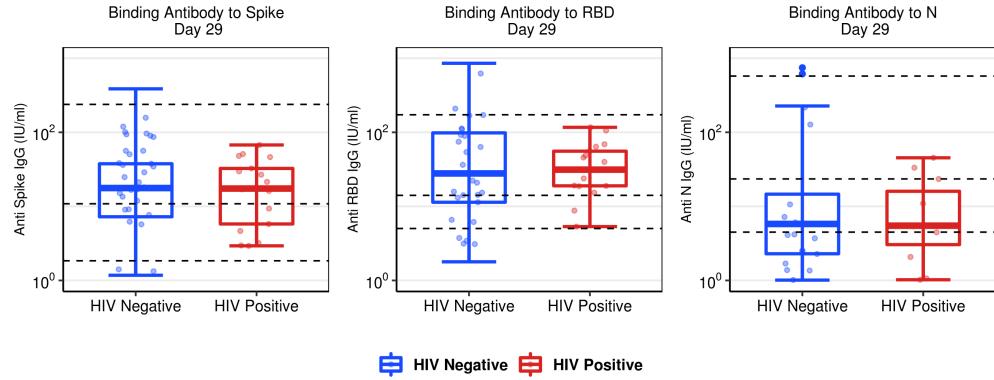


Figure 2.116: Boxplots of D29 Ab markers: baseline positive vaccine arm by HIV positivity. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

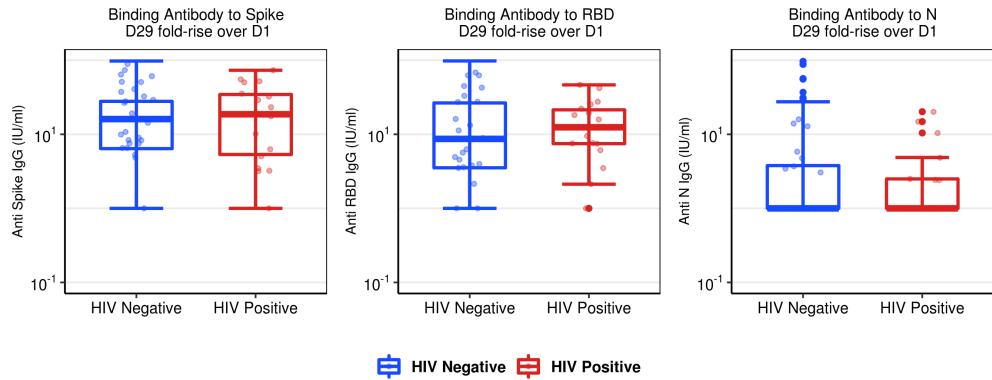


Figure 2.117: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by HIV positivity.

Chapter 3

Appendix

- This report was built from the [CoVPN/correlates_reporting](#) repository with commit hash 84d0fe7ee9a6464c7da1af24363efb62711c7a6e. A diff of the changes introduced by that commit may be viewed at https://github.com/CoVPN/correlates_reporting/commit/84d0fe7ee9a6464c7da1af24363efb62711c7a6e
- The sha256 hash sum of the raw input file, “COVID_ENSEMBLE_practicedata.csv”: e89657612e73e565302a8ce218bce5
- The sha256 hash sum of the processed file, “janssen_pooled_mock_data_processed.csv”: 19074a59ddd1179104f418b88b2da389c4ce7e91976e15eb4290f902b89a9315