

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 = 908)	Placebo (N = 107)	Total (N = 1015)
Age			
Age 18 - 59	453 (49.9%)	53 (49.5%)	506 (49.9%)
Age \geq 60	455 (50.1%)	54 (50.5%)	509 (50.1%)
Mean (Range)	56.4 (18.0, 85.0)	55.3 (18.0, 85.0)	56.3 (18.0, 85.0)
BMI			
Underweight BMI < 18.5	12 (1.3%)	2 (1.9%)	14 (1.4%)
Normal $18.5 \leq$ BMI < 25	166 (18.3%)	20 (18.7%)	186 (18.3%)
Overweight $25 \leq$ BMI < 30	365 (40.2%)	48 (44.9%)	413 (40.7%)
Obese BMI \geq 30	365 (40.2%)	37 (34.6%)	402 (39.6%)
Risk for Severe Covid-19			
At-risk	454 (50.0%)	53 (49.5%)	507 (50.0%)
Not at-risk	454 (50.0%)	54 (50.5%)	508 (50.0%)
Age, Risk for Severe Covid-19			
Age 18 - 59 At-risk	224 (24.7%)	26 (24.3%)	250 (24.6%)
Age 18 - 59 Not at-risk	229 (25.2%)	27 (25.2%)	256 (25.2%)
Age \geq 60 At-risk	230 (25.3%)	27 (25.2%)	257 (25.3%)
Age \geq 60 Not at-risk	225 (24.8%)	27 (25.2%)	252 (24.8%)
Sex			
Female		41 (38.3%)	41 (4.0%)
Male	908 (100.0%)	66 (61.7%)	974 (96.0%)
Hispanic or Latino ethnicity			
Hispanic or Latino	357 (39.3%)	40 (37.4%)	397 (39.1%)
Not Hispanic or Latino	495 (54.5%)	52 (48.6%)	547 (53.9%)

(continued)

Characteristics	Vaccine (N = 908)	Placebo (N = 107)	Total (N = 1015)
Not reported and unknown	56 (6.2%)	15 (14.0%)	71 (7.0%)
Race			
White	384 (42.3%)	41 (38.3%)	425 (41.9%)
Black or African American	340 (37.4%)	38 (35.5%)	378 (37.2%)
Asian	15 (1.7%)	4 (3.7%)	19 (1.9%)
American Indian or Alaska Native	135 (14.9%)	19 (17.8%)	154 (15.2%)
Native Hawaiian or Other Pacific Islander	1 (0.1%)		1 (0.1%)
Multiracial	25 (2.8%)	4 (3.7%)	29 (2.9%)
Not reported and unknown	8 (0.9%)	1 (0.9%)	9 (0.9%)
Underrepresented Minority Status in the U.S.			
URM	651 (71.7%)	78 (72.9%)	729 (71.8%)
Non-URM	257 (28.3%)	29 (27.1%)	286 (28.2%)
Country			
United States	453 (49.9%)	53 (49.5%)	506 (49.9%)
Argentina	51 (5.6%)	2 (1.9%)	53 (5.2%)
Brazil	102 (11.2%)	11 (10.3%)	113 (11.1%)
Chile	9 (1.0%)	1 (0.9%)	10 (1.0%)
Columbia	41 (4.5%)	8 (7.5%)	49 (4.8%)
Mexico	6 (0.7%)	1 (0.9%)	7 (0.7%)
Peru	17 (1.9%)	5 (4.7%)	22 (2.2%)
South Africa	229 (25.2%)	26 (24.3%)	255 (25.1%)
HIV Infection			
Negative	843 (92.8%)	101 (94.4%)	944 (93.0%)
Positive	65 (7.2%)	6 (5.6%)	71 (7.0%)

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 = 283)	Placebo (N = 277)	Total (N = 560)
Age			
Age 18 - 59	141 (49.8%)	141 (50.9%)	282 (50.4%)
Age ≥ 60	142 (50.2%)	136 (49.1%)	278 (49.6%)
Mean (Range)	56.3 (18.0, 85.0)	55.4 (18.0, 85.0)	55.9 (18.0, 85.0)
BMI			
Underweight BMI < 18.5	2 (0.7%)	3 (1.1%)	5 (0.9%)
Normal 18.5 ≤ BMI < 25	67 (23.7%)	41 (14.8%)	108 (19.3%)
Overweight 25 ≤ BMI < 30	121 (42.8%)	106 (38.3%)	227 (40.5%)
Obese BMI ≥ 30	93 (32.9%)	127 (45.8%)	220 (39.3%)
Risk for Severe Covid-19			
At-risk	142 (50.2%)	139 (50.2%)	281 (50.2%)
Not at-risk	141 (49.8%)	138 (49.8%)	279 (49.8%)
Age, Risk for Severe Covid-19			
Age 18 - 59 At-risk	70 (24.7%)	70 (25.3%)	140 (25.0%)
Age 18 - 59 Not at-risk	71 (25.1%)	71 (25.6%)	142 (25.4%)
Age ≥ 60 At-risk	72 (25.4%)	69 (24.9%)	141 (25.2%)
Age ≥ 60 Not at-risk	70 (24.7%)	67 (24.2%)	137 (24.5%)
Sex			
Female		154 (55.6%)	154 (27.5%)
Male	283 (100.0%)	123 (44.4%)	406 (72.5%)
Hispanic or Latino ethnicity			
Hispanic or Latino	122 (43.1%)	104 (37.5%)	226 (40.4%)
Not Hispanic or Latino	146 (51.6%)	155 (56.0%)	301 (53.8%)
Not reported and unknown	15 (5.3%)	18 (6.5%)	33 (5.9%)
Race			
White	124 (43.8%)	108 (39.0%)	232 (41.4%)
Black or African American	102 (36.0%)	103 (37.2%)	205 (36.6%)
Asian	3 (1.1%)	5 (1.8%)	8 (1.4%)
American Indian or Alaska Native	37 (13.1%)	48 (17.3%)	85 (15.2%)
Native Hawaiian or Other Pacific Islander		1 (0.4%)	1 (0.2%)
Multiracial	12 (4.2%)	9 (3.2%)	21 (3.8%)
Not reported and unknown	5 (1.8%)	3 (1.1%)	8 (1.4%)
Underrepresented Minority Status in the U.S.			
URM	206 (72.8%)	197 (71.1%)	403 (72.0%)
Non-URM	77 (27.2%)	80 (28.9%)	157 (28.0%)
Country			
United States	141 (49.8%)	139 (50.2%)	280 (50.0%)
Argentina	11 (3.9%)	14 (5.1%)	25 (4.5%)
Brazil	27 (9.5%)	21 (7.6%)	48 (8.6%)
Chile	7 (2.5%)	4 (1.4%)	11 (2.0%)
Columbia	16 (5.7%)	22 (7.9%)	38 (6.8%)
Mexico		2 (0.7%)	2 (0.4%)

(continued)

Characteristics	Vaccine (N = 283)	Placebo (N = 277)	Total (N = 560)
Peru	10 (3.5%)	6 (2.2%)	16 (2.9%)
South Africa	71 (25.1%)	69 (24.9%)	140 (25.0%)
HIV Infection			
Negative	255 (90.1%)	257 (92.8%)	512 (91.4%)
Positive	28 (9.9%)	20 (7.2%)	48 (8.6%)

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.

1.3 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=786 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	55	56	57	56	57	57	58	18	18	18	18	18	17	16	18
Estimated	1555	979	824	510	1750	1215	958	661	165	89	100	66	190	122	120	61
Placebo																
Observed	7	7	6	7	7	6	7	6	18	18	16	18	18	17	17	17
Estimated	1534	1018	840	546	1725	1210	960	680	183	106	88	54	193	125	108	65

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=789 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	58	55	56	57	58	57	56	58	18	17	18	18	17	18	18	
Estimated	3109	2059	1639	1137	1181	761	573	392	327	252	183	99	120	97	52	
Placebo																
Observed	7	7	7	7	6	6	7	7	17	18	17	17	18	17	17	
Estimated	3076	1989	1654	1066	1110	767	610	425	324	223	194	105	123	67	36	

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)	908	1225.8/19303 = 6.4% (4.9%, 8.2%)	2853.8/19303 = 14.8% (12.5%, 17.4%)	1487.5/19303 = 7.7% (6.1%, 9.8%)
	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	908	10479.3/19303 = 54.3% (50.7%, 57.9%)	12086.1/19303 = 62.6% (59.0%, 66.1%)	8936/19303 = 46.3% (42.8%, 49.8%)
	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	908	8707.8/19303 = 45.1% (41.8%, 48.5%)	14545.2/19303 = 75.4% (71.9%, 78.5%)	11223.1/19303 = 58.1% (54.6%, 61.6%)
	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	283	174.5/2079 = 8.4% (5.3%, 13.0%)	444.3/2079 = 21.4% (16.5%, 27.1%)	258.4/2079 = 12.4% (8.6%, 17.6%)
	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	283	1301.3/2079 = 62.6% (55.8%, 68.9%)	1452.5/2079 = 69.9% (63.2%, 75.8%)	1040.8/2079 = 50.1% (43.6%, 56.6%)
	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	283	1091.9/2079 = 52.5% (46.1%, 58.9%)	1734.1/2079 = 83.4% (77.5%, 88.0%)	1374.9/2079 = 66.1% (59.6%, 72.1%)
	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	107	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	107	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	107	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	277	96.3/2057 = 4.7% (2.5%, 8.7%)	241.5/2057 = 11.7% (8.1%, 16.7%)	115.1/2057 = 5.6% (3.2%, 9.6%)
	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	277	1051.8/2057 = 51.1% (44.5%, 57.7%)	1230.4/2057 = 59.8% (53.0%, 66.3%)	847.9/2057 = 41.2% (35.0%, 47.8%)

Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	277	693.7/2057 = 33.7% (28.2%, 39.8%)	1260.6/2057 = 61.3% (54.5%, 67.6%)	907.2/2057 = 44.1% (37.8%, 50.6%)
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Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

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



Table 5b. Percentage of responders, and participants with concentrations $\geq 2 \times$ 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)	453	432.8/12609 = 3.4% (2.0%, 5.8%)	1233.5/12609 = 9.8% (7.2%, 13.2%)	565.7/12609 = 4.5% (2.8%, 7.1%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	5386.8/12609 = 42.7% (37.8%, 47.8%)	6452.5/12609 = 51.2% (46.1%, 56.2%)	4311.9/12609 = 34.2% (29.6%, 39.1%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	3783/12609 = 30.0% (25.7%, 34.7%)	8259.7/12609 = 65.5% (60.5%, 70.2%)	5608.9/12609 = 44.5% (39.6%, 49.5%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	74.2/1362 = 5.4% (2.2%, 12.7%)	211.8/1362 = 15.6% (9.9%, 23.6%)	115.7/1362 = 8.5% (4.4%, 15.9%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	706.3/1362 = 51.9% (42.7%, 60.9%)	801.8/1362 = 58.9% (49.4%, 67.7%)	495.9/1362 = 36.4% (28.0%, 45.8%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	499.3/1362 = 36.7% (28.2%, 46.0%)	1034.9/1362 = 76.0% (67.4%, 82.9%)	737.6/1362 = 54.2% (45.1%, 62.9%)
Age 18 - 59	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	141	26.4/1344 = 2.0% (0.4%, 8.7%)	98.2/1344 = 7.3% (3.7%, 14.0%)	33.8/1344 = 2.5% (0.7%, 8.6%)
Age 18 - 59	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	141	545.5/1344 = 40.6% (31.8%, 50.0%)	684.9/1344 = 51.0% (41.7%, 60.1%)	397.1/1344 = 29.5% (21.7%, 38.8%)
Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	141	274.6/1344 = 20.4% (13.9%, 29.1%)	655.4/1344 = 48.8% (39.5%, 58.1%)	412.2/1344 = 30.7% (22.8%, 39.9%)
Age \geq 60	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	455	793/6694 = 11.8% (8.9%, 15.6%)	1620.3/6694 = 24.2% (20.1%, 28.9%)	921.8/6694 = 13.8% (10.6%, 17.7%)
Age \geq 60	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	455	5092.5/6694 = 76.1% (71.5%, 80.1%)	5633.7/6694 = 84.2% (80.0%, 87.6%)	4624.1/6694 = 69.1% (64.2%, 73.5%)
Age \geq 60	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	455	4924.8/6694 = 73.6% (68.8%, 77.8%)	6285.5/6694 = 93.9% (90.8%, 96.0%)	5614.3/6694 = 83.9% (79.8%, 87.2%)

(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)	142	100.3/717 = 14.0% (8.9%, 21.4%)	232.4/717 = 32.4% (24.6%, 41.3%)	142.7/717 = 19.9% (13.5%, 28.3%)
Age ≥ 60	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	595.1/717 = 83.0% (74.4%, 89.1%)	650.8/717 = 90.8% (83.8%, 94.9%)	544.8/717 = 76.0% (66.9%, 83.2%)
Age ≥ 60	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	592.6/717 = 82.6% (74.0%, 88.8%)	699.3/717 = 97.5% (91.1%, 99.3%)	637.3/717 = 88.9% (81.0%, 93.7%)
Age ≥ 60	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	54	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	136	69.9/713 = 9.8% (5.0%, 18.2%)	143.3/713 = 20.1% (13.2%, 29.4%)	81.3/713 = 11.4% (6.3%, 19.9%)
Age ≥ 60	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	136	506.2/713 = 71.0% (62.0%, 78.6%)	545.5/713 = 76.5% (67.5%, 83.6%)	450.8/713 = 63.2% (54.0%, 71.6%)
Age ≥ 60	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	136	419.1/713 = 58.8% (49.8%, 67.2%)	605.2/713 = 84.9% (76.8%, 90.5%)	495/713 = 69.4% (60.2%, 77.3%)

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 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)	454	430.1/7714 = 5.6% (3.7%, 8.2%)	1299.9/7714 = 16.9% (13.4%, 21.0%)	596.8/7714 = 7.7% (5.6%, 10.6%)
At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	454	4263.7/7714 = 55.3% (50.2%, 60.2%)	4816.4/7714 = 62.4% (57.4%, 67.3%)	3689.4/7714 = 47.8% (42.9%, 52.8%)
At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	454	3773.9/7714 = 48.9% (44.1%, 53.8%)	5981.5/7714 = 77.5% (72.8%, 81.7%)	4555.6/7714 = 59.1% (54.0%, 63.9%)
At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	142	38.4/822 = 4.7% (2.5%, 8.4%)	161.4/822 = 19.6% (13.8%, 27.1%)	57.8/822 = 7.0% (4.2%, 11.5%)
At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	511.6/822 = 62.2% (52.6%, 71.0%)	582.4/822 = 70.8% (60.7%, 79.3%)	407.9/822 = 49.6% (40.4%, 58.9%)
At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	421.9/822 = 51.3% (42.0%, 60.6%)	691.1/822 = 84.1% (74.6%, 90.5%)	535.9/822 = 65.2% (55.1%, 74.1%)
At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	139	17.4/781 = 2.2% (0.7%, 7.0%)	73.4/781 = 9.4% (5.6%, 15.4%)	29.8/781 = 3.8% (1.6%, 8.8%)
At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	139	364.7/781 = 46.7% (37.3%, 56.3%)	464.5/781 = 59.5% (49.6%, 68.6%)	261.8/781 = 33.5% (25.5%, 42.7%)
At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	139	194/781 = 24.8% (18.2%, 33.0%)	465.2/781 = 59.6% (50.1%, 68.4%)	279.6/781 = 35.8% (28.0%, 44.4%)
Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	454	795.7/11589 = 6.9% (4.8%, 9.7%)	1553.9/11589 = 13.4% (10.4%, 17.1%)	890.8/11589 = 7.7% (5.5%, 10.7%)
Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	454	6215.6/11589 = 53.6% (48.6%, 58.6%)	7269.7/11589 = 62.7% (57.7%, 67.5%)	5246.6/11589 = 45.3% (40.5%, 50.2%)
Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	454	4933.9/11589 = 42.6% (38.1%, 47.2%)	8563.7/11589 = 73.9% (69.0%, 78.2%)	6667.6/11589 = 57.5% (52.6%, 62.3%)

(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)	141	136.1/1257 = 10.8% (6.1%, 18.4%)	282.9/1257 = 22.5% (15.8%, 31.1%)	200.6/1257 = 16.0% (10.2%, 24.2%)
Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	789.7/1257 = 62.8% (53.4%, 71.3%)	870.2/1257 = 69.2% (60.1%, 77.1%)	632.9/1257 = 50.4% (41.5%, 59.2%)
Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	670/1257 = 53.3% (44.6%, 61.8%)	1043/1257 = 83.0% (74.9%, 88.9%)	839/1257 = 66.7% (57.9%, 74.5%)
Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	54	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	138	78.9/1276 = 6.2% (3.0%, 12.5%)	168.2/1276 = 13.2% (8.1%, 20.8%)	85.3/1276 = 6.7% (3.3%, 13.0%)
Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	138	687.1/1276 = 53.8% (44.8%, 62.7%)	765.9/1276 = 60.0% (50.7%, 68.7%)	586/1276 = 45.9% (37.2%, 54.9%)
Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	138	499.6/1276 = 39.2% (31.3%, 47.7%)	795.3/1276 = 62.3% (53.0%, 70.8%)	627.7/1276 = 49.2% (40.3%, 58.2%)

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	163.9/5014 = 3.3% (1.5%, 6.9%)	557.6/5014 = 11.1% (7.2%, 16.7%)	211.9/5014 = 4.2% (2.2%, 8.0%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	2149.7/5014 = 42.9% (36.0%, 50.0%)	2547.4/5014 = 50.8% (43.7%, 57.9%)	1770.5/5014 = 35.3% (28.9%, 42.3%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	1670.9/5014 = 33.3% (27.0%, 40.4%)	3416.3/5014 = 68.1% (61.1%, 74.4%)	2269.1/5014 = 45.3% (38.3%, 52.4%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	0/560 = 0.0% (0.0%, 0.0%)	63.8/560 = 11.4% (5.6%, 21.8%)	4.9/560 = 0.9% (0.1%, 6.2%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	278/560 = 49.6% (36.8%, 62.5%)	346.7/560 = 61.9% (48.0%, 74.1%)	203.9/560 = 36.4% (24.8%, 49.9%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	198.9/560 = 35.5% (23.7%, 49.4%)	431.1/560 = 77.0% (63.6%, 86.5%)	301.8/560 = 53.9% (40.3%, 66.9%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	70	7.4/521 = 1.4% (0.2%, 9.8%)	39.2/521 = 7.5% (3.4%, 15.8%)	14.7/521 = 2.8% (0.7%, 10.6%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	70	203.1/521 = 39.0% (27.0%, 52.4%)	274.6/521 = 52.7% (39.6%, 65.5%)	131.5/521 = 25.2% (15.6%, 38.2%)

(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)	70	75.8/521 = 14.5% (7.5%, 26.2%)	242.7/521 = 46.6% (34.0%, 59.6%)	107.3/521 = 20.6% (12.0%, 33.1%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	229	269/7595 = 3.5% (1.7%, 7.3%)	675.9/7595 = 8.9% (5.7%, 13.7%)	353.8/7595 = 4.7% (2.4%, 8.8%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	229	3237.1/7595 = 42.6% (35.9%, 49.6%)	3905.1/7595 = 51.4% (44.4%, 58.3%)	2541.4/7595 = 33.5% (27.2%, 40.3%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	229	2112.1/7595 = 27.8% (22.2%, 34.2%)	4843.4/7595 = 63.8% (56.8%, 70.2%)	3339.8/7595 = 44.0% (37.3%, 50.9%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	74.2/802 = 9.3% (3.7%, 21.2%)	148.1/802 = 18.5% (10.3%, 30.9%)	110.7/802 = 13.8% (6.8%, 26.1%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	428.3/802 = 53.4% (40.6%, 65.8%)	455.1/802 = 56.7% (43.8%, 68.9%)	292.1/802 = 36.4% (25.0%, 49.5%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	300.4/802 = 37.5% (26.1%, 50.3%)	603.8/802 = 75.3% (63.3%, 84.3%)	435.8/802 = 54.3% (42.1%, 66.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	71	19.1/823 = 2.3% (0.3%, 15.4%)	59/823 = 7.2% (2.5%, 18.7%)	19.1/823 = 2.3% (0.3%, 15.4%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	71	342.5/823 = 41.6% (29.7%, 54.6%)	410.3/823 = 49.9% (37.3%, 62.5%)	265.6/823 = 32.3% (21.4%, 45.5%)

(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)	71	198.8/823 = 24.2% (14.8%, 36.8%)	412.7/823 = 50.1% (37.4%, 62.9%)	304.9/823 = 37.0% (25.6%, 50.2%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	230	266.3/2700 = 9.9% (6.4%, 15.0%)	742.3/2700 = 27.5% (21.6%, 34.3%)	384.9/2700 = 14.3% (9.9%, 20.0%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	230	2113.9/2700 = 78.3% (72.0%, 83.5%)	2269/2700 = 84.0% (78.2%, 88.6%)	1918.9/2700 = 71.1% (64.3%, 77.0%)
Age ≥ 60 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	230	2103/2700 = 77.9% (71.5%, 83.2%)	2565.2/2700 = 95.0%	2286.5/2700 = 84.7% (79.1%, 89.0%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	72	38.4/262 = 14.7% (7.9%, 25.7%)	97.6/262 = 37.3% (26.0%, 50.1%)	52.8/262 = 20.2% (11.8%, 32.4%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	72	233.7/262 = 89.2% (79.1%, 94.7%)	235.7/262 = 89.9% (79.7%, 95.3%)	204/262 = 77.9% (65.9%, 86.5%)
Age ≥ 60 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	72	222.9/262 = 85.1% (73.7%, 92.1%)	260/262 = 99.2% (94.6%, 99.9%)	234.1/262 = 89.4% (78.7%, 95.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)
Age ≥ 60 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	69	10/260 = 3.8% (0.9%, 15.2%)	34.1/260 = 13.1% (6.5%, 24.7%)	15.1/260 = 5.8% (1.9%, 16.1%)
Age ≥ 60 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	69	161.6/260 = 62.2% (48.8%, 73.9%)	189.9/260 = 73.1% (59.7%, 83.2%)	130.3/260 = 50.1% (37.6%, 62.7%)

(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)	69	118.2/260 = 45.5% (33.3%, 58.2%)	222.5/260 = 85.6% (74.2%, 92.5%)	172.2/260 = 66.2% (52.8%, 77.5%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	225	526.7/3994 = 13.2% (9.0%, 18.8%)	878/3994 = 22.0% (16.6%, 28.5%)	536.9/3994 = 13.4% (9.3%, 19.1%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	225	2978.5/3994 = 74.6% (68.0%, 80.2%)	3364.7/3994 = 84.2% (78.2%, 88.8%)	2705.2/3994 = 67.7% (60.9%, 73.9%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	225	2821.8/3994 = 70.7% (63.7%, 76.7%)	3720.3/3994 = 93.1% (88.3%, 96.1%)	3327.8/3994 = 83.3% (77.3%, 88.0%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	61.8/455 = 13.6% (7.1%, 24.4%)	134.8/455 = 29.6% (19.6%, 42.1%)	89.9/455 = 19.8% (11.5%, 31.9%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	361.4/455 = 79.4% (66.6%, 88.2%)	415.1/455 = 91.2% (80.5%, 96.3%)	340.8/455 = 74.9% (61.8%, 84.7%)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	369.6/455 = 81.2% (68.5%, 89.6%)	439.3/455 = 96.5% (85.9%, 99.2%)	403.2/455 = 88.6% (76.5%, 94.9%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	67	59.9/453 = 13.2% (6.2%, 26.0%)	109.1/453 = 24.1% (14.3%, 37.7%)	66.2/453 = 14.6% (7.2%, 27.4%)
Age ≥ 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	67	344.6/453 = 76.1% (63.5%, 85.3%)	355.6/453 = 78.5% (65.8%, 87.4%)	320.5/453 = 70.7% (57.5%, 81.2%)

(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)	67	300.9/453 = 66.4% (53.9%, 77.0%)	382.6/453 = 84.5% (72.5%, 91.8%)	322.8/453 = 71.3% (58.5%, 81.4%)

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)	908	1225.8/19303 = 6.4% (4.9%, 8.2%)	2853.8/19303 = 14.8% (12.5%, 17.4%)	1487.5/19303 = 7.7% (6.1%, 9.8%)
Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	908	10479.3/19303 = 54.3% (50.7%, 57.9%)	12086.1/19303 = 62.6% (59.0%, 66.1%)	8936/19303 = 46.3% (42.8%, 49.8%)
Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	908	8707.8/19303 = 45.1% (41.8%, 48.5%)	14545.2/19303 = 75.4% (71.9%, 78.5%)	11223.1/19303 = 58.1% (54.6%, 61.6%)
Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	283	174.5/2079 = 8.4% (5.3%, 13.0%)	444.3/2079 = 21.4% (16.5%, 27.1%)	258.4/2079 = 12.4% (8.6%, 17.6%)
Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	283	1301.3/2079 = 62.6% (55.8%, 68.9%)	1452.5/2079 = 69.9% (63.2%, 75.8%)	1040.8/2079 = 50.1% (43.6%, 56.6%)
Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	283	1091.9/2079 = 52.5% (46.1%, 58.9%)	1734.1/2079 = 83.4% (77.5%, 88.0%)	1374.9/2079 = 66.1% (59.6%, 72.1%)
Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	66	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	66	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	66	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	123	28.3/878.3 = 3.2% (0.8%, 12.3%)	60/878.3 = 6.8% (3.1%, 14.5%)	35.6/878.3 = 4.1% (1.2%, 12.6%)
Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	123	370.2/878.3 = 42.1% (32.6%, 52.4%)	469.8/878.3 = 53.5% (43.1%, 63.6%)	303.7/878.3 = 34.6% (25.7%, 44.7%)
Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	123	238.1/878.3 = 27.1% (19.3%, 36.7%)	477.5/878.3 = 54.4% (44.1%, 64.3%)	356.1/878.3 = 40.5% (31.1%, 50.8%)
Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	41	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	41	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	41	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 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	Positive	Anti N IgG (IU/ml)	154	68/1178.7 = 5.8% (2.9%, 11.1%)	181.5/1178.7 = 15.4% (10.1%, 22.8%)	79.5/1178.7 = 6.7% (3.7%, 12.1%)
Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	154	681.6/1178.7 = 57.8% (48.8%, 66.3%)	760.6/1178.7 = 64.5% (55.4%, 72.7%)	544.2/1178.7 = 46.2% (37.6%, 55.0%)
Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	154	455.6/1178.7 = 38.6% (30.8%, 47.1%)	783.1/1178.7 = 66.4% (57.4%, 74.4%)	551.1/1178.7 = 46.8% (38.3%, 55.4%)

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 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)	17	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	17	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	17	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	77	7.4/751.5 = 1.0% (0.1%, 6.9%)	60.5/751.5 = 8.1% (3.3%, 18.3%)	7.4/751.5 = 1.0% (0.1%, 6.9%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	77	329.5/751.5 = 43.8% (31.9%, 56.6%)	388.5/751.5 = 51.7% (39.3%, 63.9%)	235.2/751.5 = 31.3% (20.6%, 44.4%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	77	170.9/751.5 = 22.7% (13.7%, 35.4%)	388.5/751.5 = 51.7% (39.1%, 64.1%)	219.7/751.5 = 29.2% (19.0%, 42.1%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	453	432.8/12609 = 3.4% (2.0%, 5.8%)	1233.5/12609 = 9.8% (7.2%, 13.2%)	565.7/12609 = 4.5% (2.8%, 7.1%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	5386.8/12609 = 42.7% (37.8%, 47.8%)	6452.5/12609 = 51.2% (46.1%, 56.2%)	4311.9/12609 = 34.2% (29.6%, 39.1%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	3783/12609 = 30.0% (25.7%, 34.7%)	8259.7/12609 = 65.5% (60.5%, 70.2%)	5608.9/12609 = 44.5% (39.6%, 49.5%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	74.2/1362 = 5.4% (2.2%, 12.7%)	211.8/1362 = 15.6% (9.9%, 23.6%)	115.7/1362 = 8.5% (4.4%, 15.9%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	706.3/1362 = 51.9% (42.7%, 60.9%)	801.8/1362 = 58.9% (49.4%, 67.7%)	495.9/1362 = 36.4% (28.0%, 45.8%)

(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)	141	499.3/1362 = 36.7% (28.2%, 46.0%)	1034.9/1362 = 76.0% (67.4%, 82.9%)	737.6/1362 = 54.2% (45.1%, 62.9%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	36	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	36	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	36	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	64	19.1/592.5 = 3.2% (0.4%, 20.3%)	37.7/592.5 = 6.4% (2.0%, 18.6%)	26.4/592.5 = 4.5% (0.9%, 18.6%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	64	216.1/592.5 = 36.5% (24.5%, 50.4%)	296.4/592.5 = 50.0% (36.5%, 63.5%)	161.9/592.5 = 27.3% (16.7%, 41.3%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	64	103.7/592.5 = 17.5% (9.2%, 30.7%)	266.9/592.5 = 45.0% (32.1%, 58.7%)	192.5/592.5 = 32.5% (21.0%, 46.5%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	24	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	24	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	24	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	77	60.6/427.3 = 14.2% (6.8%, 27.3%)	121/427.3 = 28.3% (17.8%, 41.9%)	72.1/427.3 = 16.9% (8.8%, 29.9%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	77	352.1/427.3 = 82.4% (71.6%, 89.7%)	372.1/427.3 = 87.1% (76.6%, 93.3%)	309/427.3 = 72.3% (60.3%, 81.8%)

(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 Spike IgG (IU/ml)	77	284.6/427.3 = 66.6% (55.2%, 76.3%)	394.6/427.3 = 92.3% (84.6%, 96.4%)	331.4/427.3 = 77.6% (66.2%, 85.9%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	455	793/6694 = 11.8% (8.9%, 15.6%)	1620.3/6694 = 24.2% (20.1%, 28.9%)	921.8/6694 = 13.8% (10.6%, 17.7%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	455	5092.5/6694 = 76.1% (71.5%, 80.1%)	5633.7/6694 = 84.2% (80.0%, 87.6%)	4624.1/6694 = 69.1% (64.2%, 73.5%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	455	4924.8/6694 = 73.6% (68.8%, 77.8%)	6285.5/6694 = 93.9% (90.8%, 96.0%)	5614.3/6694 = 83.9% (79.8%, 87.2%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	142	100.3/717 = 14.0% (8.9%, 21.4%)	232.4/717 = 32.4% (24.6%, 41.3%)	142.7/717 = 19.9% (13.5%, 28.3%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	595.1/717 = 83.0% (74.4%, 89.1%)	650.8/717 = 90.8% (83.8%, 94.9%)	544.8/717 = 76.0% (66.9%, 83.2%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	592.6/717 = 82.6% (74.0%, 88.8%)	699.3/717 = 97.5% (91.1%, 99.3%)	637.3/717 = 88.9% (81.0%, 93.7%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	30	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	30	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	30	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	9.2/285.7 = 3.2% (0.7%, 12.9%)	22.3/285.7 = 7.8% (3.0%, 18.5%)	9.2/285.7 = 3.2% (0.7%, 12.9%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	154.1/285.7 = 53.9% (39.5%, 67.7%)	173.4/285.7 = 60.7% (45.6%, 74.0%)	141.8/285.7 = 49.6% (35.5%, 63.8%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	134.5/285.7 = 47.1% (33.1%, 61.5%)	210.6/285.7 = 73.7% (58.3%, 84.9%)	163.6/285.7 = 57.3% (42.3%, 70.9%)

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 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)	357	707.4/9873.9 = 7.2% (4.9%, 10.4%)	1631.8/9873.9 = 16.5% (12.8%, 21.0%)	831.1/9873.9 = 8.4% (5.9%, 11.9%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	357	5285.8/9873.9 = 53.5% (47.9%, 59.1%)	5870.6/9873.9 = 59.5% (53.7%, 64.9%)	4538.8/9873.9 = 46.0% (40.5%, 51.5%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	357	4180.3/9873.9 = 42.3% (37.2%, 47.7%)	7187.3/9873.9 = 72.8% (67.2%, 77.7%)	5407.6/9873.9 = 54.8% (49.2%, 60.2%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	122	126.3/1145.7 = 11.0% (6.1%, 19.1%)	244.3/1145.7 = 21.3% (14.4%, 30.4%)	183.4/1145.7 = 16.0% (10.0%, 24.7%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	122	676.7/1145.7 = 59.1% (48.8%, 68.6%)	783/1145.7 = 68.3% (57.9%, 77.2%)	549.1/1145.7 = 47.9% (38.1%, 57.9%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	122	607.4/1145.7 = 53.0% (42.9%, 62.9%)	976.9/1145.7 = 85.3% (76.0%, 91.4%)	779.5/1145.7 = 68.0% (57.7%, 76.9%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	104	65/1001.7 = 6.5% (2.7%, 14.7%)	138.1/1001.7 = 13.8% (7.9%, 23.0%)	65/1001.7 = 6.5% (2.7%, 14.7%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	104	549.2/1001.7 = 54.8% (44.0%, 65.2%)	623.6/1001.7 = 62.3% (51.1%, 72.2%)	460/1001.7 = 45.9% (35.7%, 56.5%)

(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)	104	377.6/1001.7 = 37.7% (29.0%, 47.3%)	641.2/1001.7 = 64.0% (53.2%, 73.6%)	459.2/1001.7 = 45.8% (36.0%, 56.0%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	495	405.6/8389.3 = 4.8% (3.3%, 7.1%)	1057.5/8389.3 = 12.6% (9.9%, 15.9%)	536.8/8389.3 = 6.4% (4.6%, 8.9%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	495	4588.3/8389.3 = 54.7% (49.9%, 59.4%)	5517.2/8389.3 = 65.8% (61.0%, 70.2%)	3866.3/8389.3 = 46.1% (41.5%, 50.8%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	495	3930.7/8389.3 = 46.9% (42.3%, 51.4%)	6526.8/8389.3 = 77.8% (73.4%, 81.6%)	5161.3/8389.3 = 61.5% (56.7%, 66.1%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	146	48.2/834 = 5.8% (3.0%, 10.7%)	186/834 = 22.3% (16.1%, 30.1%)	74.9/834 = 9.0% (5.3%, 14.7%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	146	576/834 = 69.1% (60.2%, 76.7%)	610.4/834 = 73.2% (64.5%, 80.4%)	443.1/834 = 53.1% (44.5%, 61.6%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	146	436.7/834 = 52.4% (44.3%, 60.3%)	675.6/834 = 81.0% (72.5%, 87.3%)	538.6/834 = 64.6% (56.1%, 72.2%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	52	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	155	31.3/932.4 = 3.4% (1.5%, 7.6%)	101.3/932.4 = 10.9% (6.8%, 16.9%)	48/932.4 = 5.1% (2.6%, 9.9%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	155	453.2/932.4 = 48.6% (40.1%, 57.2%)	546.7/932.4 = 58.6% (49.7%, 67.1%)	338.5/932.4 = 36.3% (28.6%, 44.8%)

(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)	155	299.5/932.4 = 32.1% (24.6%, 40.8%)	540.2/932.4 = 57.9% (49.0%, 66.4%)	421.8/932.4 = 45.2% (36.7%, 54.0%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	56	112.9/1039.8 = 10.9% (4.6%, 23.5%)	164.5/1039.8 = 15.8% (8.0%, 28.8%)	119.6/1039.8 = 11.5% (5.1%, 24.0%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	56	605.2/1039.8 = 58.2% (43.4%, 71.6%)	698.3/1039.8 = 67.2% (52.1%, 79.3%)	530.9/1039.8 = 51.1% (36.6%, 65.3%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	56	596.8/1039.8 = 57.4% (42.4%, 71.1%)	831.1/1039.8 = 79.9% (65.2%, 89.4%)	654.2/1039.8 = 62.9% (47.9%, 75.8%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	15	0/99.4 = 0.0% (0.0%, 0.0%)	13.9/99.4 = 14.0% (2.0%, 57.2%)	0/99.4 = 0.0% (0.0%, 0.0%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	15	48.6/99.4 = 48.9% (20.2%, 78.4%)	59.2/99.4 = 59.6% (26.2%, 85.9%)	48.6/99.4 = 48.9% (20.2%, 78.4%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	15	47.8/99.4 = 48.1% (19.0%, 78.5%)	81.6/99.4 = 82.2% (39.8%, 97.0%)	56.8/99.4 = 57.2% (24.5%, 84.6%)
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	15	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	15	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	15	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	18	0/122.9 = 0.0% (0.0%, 0.0%)	2.1/122.9 = 1.7% (0.2%, 15.6%)	2.1/122.9 = 1.7% (0.2%, 15.6%)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	18	49.4/122.9 = 40.2% (16.7%, 69.3%)	60.1/122.9 = 48.9% (21.4%, 77.1%)	49.4/122.9 = 40.2% (16.7%, 69.3%)

(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	Positive	Anti Spike IgG (IU/ml)	18	16.5/122.9 = 13.5% (4.0%, 37.0%)	79.2/122.9 = 64.4% (32.6%, 87.1%)	26.2/122.9 = 21.4% (7.6%, 47.4%)

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 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)	200	99.1/4040.9 = 2.5% (1.0%, 5.8%)	346.7/4040.9 = 8.6% (5.5%, 13.2%)	174.4/4040.9 = 4.3% (2.2%, 8.3%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	200	2004.1/4040.9 = 49.6% (42.4%, 56.8%)	2434.4/4040.9 = 60.2% (52.9%, 67.2%)	1634.5/4040.9 = 40.4% (33.9%, 47.4%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	200	1688.2/4040.9 = 41.8% (35.3%, 48.6%)	3167.8/4040.9 = 78.4% (71.5%, 84.0%)	2388/4040.9 = 59.1% (51.7%, 66.1%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	57	17.3/397.5 = 4.4% (1.1%, 15.5%)	96.4/397.5 = 24.2% (14.4%, 37.8%)	28.2/397.5 = 7.1% (2.6%, 18.2%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	57	287.3/397.5 = 72.3% (58.2%, 83.0%)	301.7/397.5 = 75.9% (61.5%, 86.1%)	228.4/397.5 = 57.5% (43.7%, 70.1%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	57	202.9/397.5 = 51.0% (39.0%, 63.0%)	312.7/397.5 = 78.7% (64.1%, 88.4%)	245.5/397.5 = 61.8% (48.2%, 73.7%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	22	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	22	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	22	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	60	20.1/423.6 = 4.7% (1.5%, 14.1%)	75.7/423.6 = 17.9% (9.8%, 30.3%)	33.8/423.6 = 8.0% (3.3%, 18.1%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	60	227.8/423.6 = 53.8% (39.8%, 67.2%)	264.8/423.6 = 62.5% (47.8%, 75.2%)	164.4/423.6 = 38.8% (26.6%, 52.6%)

(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)	60	131.3/423.6 = 31.0% (19.6%, 45.3%)	228.2/423.6 = 53.9% (39.9%, 67.2%)	182/423.6 = 43.0% (30.0%, 56.9%)
Black or African American	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	340	370.5/5195.6 = 7.1% (4.9%, 10.3%)	808.8/5195.6 = 15.6% (11.9%, 20.1%)	443.4/5195.6 = 8.5% (6.1%, 11.8%)
Black or African American	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	340	2800.5/5195.6 = 53.9% (48.0%, 59.7%)	3389.2/5195.6 = 65.2% (59.3%, 70.7%)	2480.7/5195.6 = 47.7% (42.0%, 53.6%)
Black or African American	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	340	2753.8/5195.6 = 53.0% (47.1%, 58.8%)	4109.1/5195.6 = 79.1% (73.8%, 83.5%)	3285.6/5195.6 = 63.2% (57.3%, 68.8%)
Black or African American	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	102	33.3/531.3 = 6.3% (3.0%, 12.5%)	81.8/531.3 = 15.4% (9.4%, 24.1%)	36.2/531.3 = 6.8% (3.5%, 13.0%)
Black or African American	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	102	319.8/531.3 = 60.2% (48.6%, 70.8%)	344.3/531.3 = 64.8% (52.9%, 75.1%)	224.6/531.3 = 42.3% (32.2%, 53.0%)
Black or African American	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	102	249.6/531.3 = 47.0% (36.8%, 57.3%)	429.4/531.3 = 80.8% (69.1%, 88.8%)	323.7/531.3 = 60.9% (49.6%, 71.2%)
Black or African American	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	38	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 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	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	103	3.7/540.9 = 0.7% (0.1%, 4.9%)	63.8/540.9 = 11.8% (5.5%, 23.6%)	8.8/540.9 = 1.6% (0.5%, 5.2%)
Black or African American	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	103	257/540.9 = 47.5% (37.1%, 58.2%)	306.4/540.9 = 56.6% (45.6%, 67.0%)	216.4/540.9 = 40.0% (30.3%, 50.6%)
Black or African American	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	103	180.1/540.9 = 33.3% (24.0%, 44.1%)	342.4/540.9 = 63.3% (52.3%, 73.1%)	263.2/540.9 = 48.7% (38.0%, 59.5%)
Asian	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	15	0/339.7 = 0.0% (0.0%, 0.0%)	0/339.7 = 0.0% (0.0%, 0.0%)	0/339.7 = 0.0% (0.0%, 0.0%)
Asian	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	15	186.1/339.7 = 54.8% (20.6%, 85.0%)	221.1/339.7 = 65.1% (24.5%, 91.5%)	165.7/339.7 = 48.8% (17.8%, 80.8%)
Asian	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	15	82.3/339.7 = 24.2% (7.2%, 56.9%)	200.8/339.7 = 59.1% (22.4%, 87.9%)	133.5/339.7 = 39.3% (13.4%, 73.0%)
Asian	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	3	0/20.1 = 0.0%	5.5/20.1 = 27.4%	0/20.1 = 0.0%
Asian	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	3	13/20.1 = 64.8%	13/20.1 = 64.8%	13/20.1 = 64.8%
Asian	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	3	5.5/20.1 = 27.4%	20.1/20.1 = 100.0%	13/20.1 = 64.8%
Asian	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0/802.7 = 0.0%	0/802.7 = 0.0%	0/802.7 = 0.0%
Asian	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0/802.7 = 0.0%	0/802.7 = 0.0%	0/802.7 = 0.0%
Asian	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0/802.7 = 0.0%	0/802.7 = 0.0%	0/802.7 = 0.0%
Asian	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	5	0/44.6 = 0.0%	0/44.6 = 0.0%	0/44.6 = 0.0%
Asian	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	10.7/44.6 = 24.0%	17.6/44.6 = 39.4%	10.7/44.6 = 24.0%
Asian	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	0/44.6 = 0.0%	23.1/44.6 = 51.8%	0/44.6 = 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	Vaccine	Negative	Anti N IgG (IU/ml)	135	282.2/4537.6 = 6.2% (3.4%, 11.2%)	799.6/4537.6 = 17.6% (12.2%, 24.8%)	282.2/4537.6 = 6.2% (3.4%, 11.2%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	135	2548/4537.6 = 56.2% (47.2%, 64.7%)	2819.5/4537.6 = 62.1% (53.0%, 70.4%)	2165.8/4537.6 = 47.7% (39.2%, 56.4%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	135	1991.8/4537.6 = 43.9% (35.7%, 52.4%)	3318.9/4537.6 = 73.1% (64.1%, 80.6%)	2714.8/4537.6 = 59.8% (50.8%, 68.2%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	70.2/458.1 = 15.3% (5.9%, 34.1%)	109.5/458.1 = 23.9% (11.8%, 42.4%)	109.5/458.1 = 23.9% (11.8%, 42.4%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	303.6/458.1 = 66.3% (47.6%, 80.9%)	353.6/458.1 = 77.2% (57.7%, 89.4%)	225.8/458.1 = 49.3% (31.9%, 66.9%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	246.1/458.1 = 53.7% (35.6%, 70.9%)	425.1/458.1 = 92.8% (73.6%, 98.3%)	331.1/458.1 = 72.3% (53.9%, 85.4%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	19	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	19	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	19	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 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	Positive	Anti N IgG (IU/ml)	48	53.3/548.1 = 9.7% (3.5%, 24.3%)	70.9/548.1 = 12.9% (5.6%, 27.1%)	53.3/548.1 = 9.7% (3.5%, 24.3%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	48	302.5/548.1 = 55.2% (39.5%, 69.9%)	333.4/548.1 = 60.8% (44.6%, 74.9%)	254/548.1 = 46.3% (31.6%, 61.8%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	48	214.8/548.1 = 39.2% (26.1%, 54.1%)	344.1/548.1 = 62.8% (46.7%, 76.4%)	259.1/548.1 = 47.3% (33.1%, 61.9%)
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1	0/14.7 = 0.0%	0/14.7 = 0.0%	0/14.7 = 0.0%
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	14.7/14.7 = 100.0%	14.7/14.7 = 100.0%	14.7/14.7 = 100.0%
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	14.7/14.7 = 100.0%	14.7/14.7 = 100.0%	14.7/14.7 = 100.0%
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	1	0/10.2 = 0.0%	0/10.2 = 0.0%	0/10.2 = 0.0%
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	1	10.2/10.2 = 100.0%	10.2/10.2 = 100.0%	10.2/10.2 = 100.0%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	1	10.2/10.2 = 100.0%	10.2/10.2 = 100.0%	10.2/10.2 = 100.0%
Multiracial	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	25	79.4/517.3 = 15.4% (4.8%, 39.7%)	86.2/517.3 = 16.7% (5.5%, 40.5%)	79.4/517.3 = 15.4% (4.8%, 39.7%)
Multiracial	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	240.3/517.3 = 46.5% (23.4%, 71.2%)	272.8/517.3 = 52.7% (27.8%, 76.4%)	226.9/517.3 = 43.9% (21.5%, 69.1%)
Multiracial	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	232.7/517.3 = 45.0% (22.3%, 70.0%)	352.7/517.3 = 68.2% (40.1%, 87.3%)	250.5/517.3 = 48.4% (24.7%, 72.9%)
Multiracial	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	12	7.5/91.1 = 8.2% (0.5%, 62.9%)	34.4/91.1 = 37.7% (8.3%, 80.2%)	7.5/91.1 = 8.2% (0.5%, 62.9%)
Multiracial	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	39.3/91.1 = 43.1% (12.0%, 80.8%)	61.6/91.1 = 67.6% (21.5%, 94.1%)	33.8/91.1 = 37.1% (9.7%, 76.5%)
Multiracial	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	69.3/91.1 = 76.0% (31.2%, 95.7%)	74.8/91.1 = 82.1% (33.3%, 97.7%)	69.3/91.1 = 76.0% (31.2%, 95.7%)
Multiracial	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0/1228.5 = 0.0%	0/1228.5 = 0.0%	0/1228.5 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0/1228.5 = 0.0%	0/1228.5 = 0.0%	0/1228.5 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0/1228.5 = 0.0%	0/1228.5 = 0.0%	0/1228.5 = 0.0%
Multiracial	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	9	3.8/70.6 = 5.4% (0.1%, 85.7%)	3.8/70.6 = 5.4% (0.1%, 85.7%)	3.8/70.6 = 5.4% (0.1%, 85.7%)
Multiracial	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	9	38.5/70.6 = 54.6% (3.8%, 97.4%)	38.5/70.6 = 54.6% (3.8%, 97.4%)	27.8/70.6 = 39.4% (2.5%, 94.2%)
Multiracial	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	9	30.8/70.6 = 43.6% (2.8%, 95.3%)	51.5/70.6 = 73.0% (2.7%, 99.6%)	34.6/70.6 = 49.0% (3.4%, 96.3%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	8	38/181.5 = 20.9% (1.3%, 84.6%)	38/181.5 = 20.9% (1.3%, 84.6%)	38/181.5 = 20.9% (1.3%, 84.6%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	8	116.7/181.5 = 64.3% (10.8%, 96.4%)	116.7/181.5 = 64.3% (10.8%, 96.4%)	116.7/181.5 = 64.3% (10.8%, 96.4%)

(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	Vaccine	Negative	Anti Spike IgG (IU/ml)	8	44.8/181.5 = 24.7% (2.0%, 83.7%)	129.8/181.5 = 71.6% (13.9%, 97.5%)	92.4/181.5 = 50.9% (7.8%, 92.7%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	5	2.9/33.7 = 8.6%	10.4/33.7 = 30.9%	10.4/33.7 = 30.9%
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	18.8/33.7 = 56.0%	18.8/33.7 = 56.0%	18.8/33.7 = 56.0%
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	15.9/33.7 = 47.4%	33.7/33.7 = 100.0%	33.7/33.7 = 100.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/145.4 = 0.0%	0/145.4 = 0.0%	0/145.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/145.4 = 0.0%	0/145.4 = 0.0%	0/145.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/145.4 = 0.0%	0/145.4 = 0.0%	0/145.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	3	3.7/12 = 30.9%	3.7/12 = 30.9%	3.7/12 = 30.9%
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	3	9.9/12 = 82.4%	9.9/12 = 82.4%	3.7/12 = 30.9%
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	3	9.9/12 = 82.4%	9.9/12 = 82.4%	9.9/12 = 82.4%

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 5i. Percentage of responders, and participants with concentrations $\geq 2 \times$ LLOQ or $\geq 4 \times$ 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 $2 \times$ LLOQ	% Greater than $4 \times$ LLOQ
Underrepresented Minority Status in the U.S.								
URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	651	995.7/14174.2 = 7.0% (5.2%, 9.4%)	2331.2/14174.2 = 16.4% (13.6%, 19.8%)	1182/14174.2 = 8.3% (6.3%, 10.9%)
URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	651	7813.6/14174.2 = 55.1% (50.8%, 59.4%)	8887/14174.2 = 62.7% (58.4%, 66.8%)	6727.8/14174.2 = 47.5% (43.3%, 51.7%)
URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	651	6536.3/14174.2 = 46.1% (42.1%, 50.2%)	10582.1/14174.2 = 74.7% (70.5%, 78.4%)	8242.8/14174.2 = 58.2% (53.9%, 62.3%)
URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	206	146.8/1549 = 9.5% (5.7%, 15.4%)	304/1549 = 19.6% (14.1%, 26.6%)	212.3/1549 = 13.7% (9.1%, 20.2%)
URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	206	927.8/1549 = 59.9% (51.7%, 67.6%)	1046.6/1549 = 67.6% (59.4%, 74.8%)	726.1/1549 = 46.9% (39.1%, 54.8%)
URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	206	809.5/1549 = 52.3% (44.3%, 60.1%)	1306.8/1549 = 84.4% (77.2%, 89.6%)	1039.5/1549 = 67.1% (59.0%, 74.3%)
URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	78	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	78	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	78	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	197	68.7/1482.1 = 4.6% (2.0%, 10.2%)	158.3/1482.1 = 10.7% (6.5%, 17.0%)	73.8/1482.1 = 5.0% (2.3%, 10.4%)
URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	197	760/1482.1 = 51.3% (43.2%, 59.3%)	884/1482.1 = 59.6% (51.4%, 67.4%)	630.2/1482.1 = 42.5% (34.9%, 50.5%)
URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	197	523.2/1482.1 = 35.3% (28.7%, 42.6%)	931.8/1482.1 = 62.9% (54.7%, 70.4%)	682.3/1482.1 = 46.0% (38.4%, 53.8%)
Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	257	230.1/5128.8 = 4.5% (2.5%, 8.0%)	522.6/5128.8 = 10.2% (7.0%, 14.6%)	305.5/5128.8 = 6.0% (3.6%, 9.8%)
Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	257	2665.7/5128.8 = 52.0% (45.5%, 58.4%)	3199.1/5128.8 = 62.4% (55.8%, 68.5%)	2208.2/5128.8 = 43.1% (36.9%, 49.5%)

(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)	257	2171.5/5128.8 = 42.3% (36.5%, 48.4%)	3963.1/5128.8 = 77.3% (71.2%, 82.4%)	2980.3/5128.8 = 58.1% (51.6%, 64.3%)
Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	77	27.7/530 = 5.2% (1.9%, 13.8%)	140.3/530 = 26.5% (17.4%, 38.1%)	46.1/530 = 8.7% (4.0%, 17.7%)
Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	77	373.5/530 = 70.5% (58.3%, 80.3%)	405.9/530 = 76.6% (64.6%, 85.4%)	314.6/530 = 59.4% (47.9%, 69.9%)
Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	77	282.4/530 = 53.3% (43.0%, 63.3%)	427.4/530 = 80.6% (68.8%, 88.7%)	335.4/530 = 63.3% (52.2%, 73.2%)
Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	29	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	29	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	29	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	80	27.6/574.9 = 4.8% (1.9%, 11.6%)	83.3/574.9 = 14.5% (8.3%, 24.1%)	41.3/574.9 = 7.2% (3.3%, 14.8%)
Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	80	291.8/574.9 = 50.8% (38.9%, 62.6%)	346.4/574.9 = 60.2% (47.6%, 71.6%)	217.7/574.9 = 37.9% (27.4%, 49.6%)
Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	80	170.5/574.9 = 29.6% (19.9%, 41.7%)	328.8/574.9 = 57.2% (44.9%, 68.7%)	224.9/574.9 = 39.1% (28.3%, 51.1%)

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 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)	323	339.1/9229.2 = 3.7% (2.0%, 6.7%)	1034.6/9229.2 = 11.2% (7.9%, 15.6%)	419.4/9229.2 = 4.5% (2.6%, 7.9%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	323	3921.5/9229.2 = 42.5% (36.6%, 48.6%)	4603.3/9229.2 = 49.9% (43.8%, 56.0%)	3196.6/9229.2 = 34.6% (29.1%, 40.6%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	323	2865.7/9229.2 = 31.1% (25.9%, 36.8%)	5932.7/9229.2 = 64.3% (58.2%, 69.9%)	4066/9229.2 = 44.1% (38.2%, 50.1%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	104	63.7/1035.9 = 6.1% (2.3%, 15.5%)	151.4/1035.9 = 14.6% (8.3%, 24.5%)	105.1/1035.9 = 10.1% (5.0%, 19.6%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	104	529.1/1035.9 = 51.1% (40.2%, 61.8%)	599.7/1035.9 = 57.9% (46.6%, 68.4%)	368.1/1035.9 = 35.5% (25.7%, 46.7%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	104	407/1035.9 = 39.3% (29.1%, 50.5%)	811.3/1035.9 = 78.3% (68.1%, 85.9%)	602.6/1035.9 = 58.2% (47.2%, 68.3%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	38	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	98	19.1/950 = 2.0% (0.3%, 13.4%)	58.1/950 = 6.1% (2.2%, 15.6%)	19.1/950 = 2.0% (0.3%, 13.4%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	98	382.9/950 = 40.3% (29.7%, 51.9%)	475.3/950 = 50.0% (38.8%, 61.3%)	292.1/950 = 30.7% (21.2%, 42.3%)

(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)	98	170.1/950 = 17.9% (10.5%, 28.9%)	470.3/950 = 49.5% (38.3%, 60.8%)	300.4/950 = 31.6% (22.0%, 43.1%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	130	93.8/3379.8 = 2.8% (0.9%, 8.3%)	198.9/3379.8 = 5.9% (2.8%, 12.0%)	146.3/3379.8 = 4.3% (1.8%, 10.1%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	130	1465.3/3379.8 = 43.4% (34.8%, 52.4%)	1849.2/3379.8 = 54.7% (45.7%, 63.4%)	1115.2/3379.8 = 33.0% (25.2%, 41.8%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	130	917.3/3379.8 = 27.1% (20.0%, 35.6%)	2327/3379.8 = 68.8% (60.0%, 76.5%)	1542.9/3379.8 = 45.7% (36.9%, 54.7%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	10.6/326.1 = 3.2% (0.4%, 21.4%)	60.4/326.1 = 18.5% (8.5%, 35.6%)	10.6/326.1 = 3.2% (0.4%, 21.4%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	177.2/326.1 = 54.3% (37.1%, 70.6%)	202.1/326.1 = 62.0% (44.2%, 77.0%)	127.8/326.1 = 39.2% (24.1%, 56.6%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	92.3/326.1 = 28.3% (15.6%, 45.7%)	223.5/326.1 = 68.5% (50.6%, 82.2%)	135/326.1 = 41.4% (26.1%, 58.6%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	15	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	15	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	15	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	43	7.4/394 = 1.9% (0.2%, 13.1%)	40.1/394 = 10.2% (4.1%, 23.1%)	14.7/394 = 3.7% (0.9%, 14.2%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	43	162.6/394 = 41.3% (26.8%, 57.4%)	209.6/394 = 53.2% (37.1%, 68.6%)	105/394 = 26.7% (14.9%, 42.9%)

(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)	43	104.5/394 = 26.5% (14.8%, 42.8%)	185.1/394 = 47.0% (31.4%, 63.2%)	111.8/394 = 28.4% (16.2%, 44.8%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	328	656.6/4945 = 13.3% (9.6%, 18.1%)	1296.6/4945 = 26.2% (21.2%, 32.0%)	762.7/4945 = 15.4% (11.5%, 20.4%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	328	3892.1/4945 = 78.7% (73.3%, 83.3%)	4283.7/4945 = 86.6% (81.8%, 90.3%)	3531.1/4945 = 71.4% (65.7%, 76.5%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	328	3670.6/4945 = 74.2% (68.5%, 79.3%)	4649.3/4945 = 94.0% (90.1%, 96.4%)	4176.9/4945 = 84.5% (79.5%, 88.4%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	102	83.1/513.2 = 16.2% (9.8%, 25.7%)	152.6/513.2 = 29.7% (20.9%, 40.3%)	107.2/513.2 = 20.9% (13.3%, 31.2%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	102	398.7/513.2 = 77.7% (66.5%, 85.9%)	446.9/513.2 = 87.1% (77.6%, 92.9%)	358/513.2 = 69.8% (58.3%, 79.2%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	102	402.5/513.2 = 78.4% (67.3%, 86.6%)	495.4/513.2 = 96.5% (87.8%, 99.1%)	436.9/513.2 = 85.1% (74.5%, 91.8%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	99	49.6/532.1 = 9.3% (4.0%, 20.3%)	100.1/532.1 = 18.8% (11.0%, 30.3%)	54.7/532.1 = 10.3% (4.7%, 21.1%)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	99	377.1/532.1 = 70.9% (59.9%, 79.8%)	408.7/532.1 = 76.8% (65.8%, 85.1%)	338.1/532.1 = 63.5% (52.5%, 73.4%)

(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)	99	353.1/532.1 = 66.4% (55.5%, 75.7%)	461.5/532.1 = 86.7% (76.9%, 92.8%)	381.9/532.1 = 71.8% (60.8%, 80.7%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	127	136.4/1749 = 7.8% (4.1%, 14.3%)	323.8/1749 = 18.5% (12.5%, 26.6%)	159.2/1749 = 9.1% (5.1%, 15.7%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	127	1200.4/1749 = 68.6% (59.4%, 76.6%)	1349.9/1749 = 77.2% (68.4%, 84.1%)	1093/1749 = 62.5% (53.2%, 70.9%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	127	1254.2/1749 = 71.7% (62.8%, 79.2%)	1636.2/1749 = 93.5% (87.3%, 96.8%)	1437.4/1749 = 82.2% (74.2%, 88.1%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	40	17.2/203.8 = 8.4% (2.7%, 23.2%)	79.9/203.8 = 39.2% (23.8%, 57.1%)	35.6/203.8 = 17.4% (7.6%, 35.1%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	40	196.3/203.8 = 96.3% (76.1%, 99.5%)	203.8/203.8 = 100.0% (100.0%, 100.0%)	186.8/203.8 = 91.7% (73.8%, 97.7%)
Age ≥ 60 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	40	190.1/203.8 = 93.2% (77.8%, 98.2%)	203.8/203.8 = 100.0% (100.0%, 100.0%)	200.4/203.8 = 98.3% (88.3%, 99.8%)
Age ≥ 60 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	14	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	14	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	14	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	37	20.2/180.9 = 11.2% (3.9%, 28.1%)	43.1/180.9 = 23.8% (11.8%, 42.2%)	26.6/180.9 = 14.7% (5.8%, 32.4%)
Age ≥ 60 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	37	129.2/180.9 = 71.4% (54.5%, 83.8%)	136.8/180.9 = 75.6% (58.4%, 87.3%)	112.6/180.9 = 62.3% (44.7%, 77.1%)

(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	66/180.9 = 36.5% (21.6%, 54.4%)	143.6/180.9 = 79.4% (61.5%, 90.3%)	113.1/180.9 = 62.5% (44.4%, 77.7%)

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 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)	453	487.1/8452 = 5.8% (4.0%, 8.3%)	997/8452 = 11.8% (9.1%, 15.1%)	571.4/8452 = 6.8% (4.8%, 9.5%)
United States	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	4397.4/8452 = 52.0% (47.2%, 56.8%)	5155.3/8452 = 61.0% (56.2%, 65.6%)	3710.9/8452 = 43.9% (39.3%, 48.6%)
United States	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	3727.8/8452 = 44.1% (39.6%, 48.7%)	6373.6/8452 = 75.4% (70.8%, 79.5%)	4829.9/8452 = 57.1% (52.4%, 61.8%)
United States	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	65.3/913 = 7.2% (3.9%, 12.9%)	239.3/913 = 26.2% (19.3%, 34.6%)	107/913 = 11.7% (7.2%, 18.5%)
United States	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	626.1/913 = 68.6% (59.8%, 76.2%)	683.2/913 = 74.8% (66.2%, 81.8%)	527.5/913 = 57.8% (49.3%, 65.8%)
United States	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	532.9/913 = 58.4% (50.4%, 65.9%)	752.6/913 = 82.4% (74.4%, 88.4%)	624.1/913 = 68.4% (60.2%, 75.5%)
United States	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	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)	53	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)	53	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)	139	29.4/922 = 3.2% (1.3%, 7.6%)	113.1/922 = 12.3% (7.7%, 19.0%)	46.1/922 = 5.0% (2.5%, 9.9%)
United States	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	139	490.6/922 = 53.2% (44.2%, 62.0%)	557.2/922 = 60.4% (51.3%, 68.9%)	375.4/922 = 40.7% (32.4%, 49.6%)
United States	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	139	304.6/922 = 33.0% (25.3%, 41.9%)	551.9/922 = 59.9% (50.8%, 68.2%)	420/922 = 45.6% (36.8%, 54.6%)
Argentina	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	51	19.9/1858.9 = 1.1% (0.1%, 7.7%)	352.3/1858.9 = 19.0% (10.4%, 32.0%)	19.9/1858.9 = 1.1% (0.1%, 7.7%)
Argentina	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	51	825.9/1858.9 = 44.4% (30.8%, 59.0%)	999.8/1858.9 = 53.8% (38.9%, 68.0%)	825.9/1858.9 = 44.4% (30.8%, 59.0%)
Argentina	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	51	710.5/1858.9 = 38.2% (25.9%, 52.2%)	1176.2/1858.9 = 63.3% (47.7%, 76.5%)	954.2/1858.9 = 51.3% (36.8%, 65.7%)

(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	5.5/109.2 = 5.0% (0.4%, 39.7%)	11/109.2 = 10.1% (1.7%, 41.8%)	5.5/109.2 = 5.0% (0.4%, 39.7%)
Argentina	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	80.8/109.2 = 74.0% (28.3%, 95.4%)	80.8/109.2 = 74.0% (28.3%, 95.4%)	75.3/109.2 = 69.0% (26.8%, 93.1%)
Argentina	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	80.8/109.2 = 74.0% (28.3%, 95.4%)	109.2/109.2 = 100.0% (100.0%, 100.0%)	91/109.2 = 83.4% (28.7%, 98.4%)
Argentina	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	2	0/675.7 = 0.0%	0/675.7 = 0.0%	0/675.7 = 0.0%
Argentina	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0/675.7 = 0.0%	0/675.7 = 0.0%	0/675.7 = 0.0%
Argentina	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0/675.7 = 0.0%	0/675.7 = 0.0%	0/675.7 = 0.0%
Argentina	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	14	0/180.5 = 0.0% (0.0%, 0.0%)	6.2/180.5 = 3.4% (0.4%, 26.3%)	0/180.5 = 0.0% (0.0%, 0.0%)
Argentina	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	14	62.4/180.5 = 34.5% (12.5%, 66.1%)	74.8/180.5 = 41.4% (16.5%, 71.6%)	43.8/180.5 = 24.3% (6.8%, 58.3%)
Argentina	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	14	30.9/180.5 = 17.1% (5.0%, 44.6%)	99.5/180.5 = 55.1% (25.7%, 81.4%)	43.3/180.5 = 24.0% (8.1%, 53.1%)
Brazil	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	102	317.2/3432.6 = 9.2% (5.0%, 16.6%)	588.9/3432.6 = 17.2% (11.1%, 25.5%)	337.1/3432.6 = 9.8% (5.4%, 17.2%)
Brazil	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	102	2013.8/3432.6 = 58.7% (48.2%, 68.4%)	2236.9/3432.6 = 65.2% (54.5%, 74.5%)	1527.5/3432.6 = 44.5% (35.0%, 54.4%)
Brazil	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	102	1492.7/3432.6 = 43.5% (34.2%, 53.3%)	2691.3/3432.6 = 78.4% (68.0%, 86.1%)	2009.4/3432.6 = 58.5% (48.2%, 68.2%)
Brazil	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	27	18.2/329.1 = 5.5% (0.7%, 33.3%)	44/329.1 = 13.4% (4.1%, 35.6%)	29.2/329.1 = 8.9% (2.1%, 30.2%)
Brazil	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	27	184.8/329.1 = 56.2% (34.8%, 75.4%)	230.1/329.1 = 69.9% (46.6%, 86.1%)	122.7/329.1 = 37.3% (20.0%, 58.6%)
Brazil	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	27	134.1/329.1 = 40.8% (22.5%, 62.0%)	286/329.1 = 86.9% (63.4%, 96.2%)	223.8/329.1 = 68.0% (45.1%, 84.6%)
Brazil	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	11	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	11	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 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
Brazil	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	11	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	21	30.5/269.5 = 11.3% (2.4%, 40.1%)	30.5/269.5 = 11.3% (2.4%, 40.1%)	30.5/269.5 = 11.3% (2.4%, 40.1%)
Brazil	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	21	145.2/269.5 = 53.9% (30.2%, 75.9%)	182.8/269.5 = 67.8% (42.1%, 86.0%)	145.2/269.5 = 53.9% (30.2%, 75.9%)
Brazil	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	21	112.8/269.5 = 41.8% (22.0%, 64.8%)	156.6/269.5 = 58.1% (34.1%, 78.8%)	131.8/269.5 = 48.9% (27.2%, 71.1%)
Chile	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	9	0/317.9 = 0.0% (0.0%, 0.0%)	19.9/317.9 = 6.3% (0.4%, 50.9%)	0/317.9 = 0.0% (0.0%, 0.0%)
Chile	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	9	185.7/317.9 = 58.4% (19.2%, 89.3%)	185.7/317.9 = 58.4% (19.2%, 89.3%)	132.1/317.9 = 41.5% (10.3%, 81.4%)
Chile	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	9	189.5/317.9 = 59.6% (18.3%, 90.7%)	226.9/317.9 = 71.4% (23.0%, 95.4%)	226.9/317.9 = 71.4% (23.0%, 95.4%)
Chile	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	7	0/73.2 = 0.0% (0.0%, 0.0%)	11/73.2 = 15.0% (1.6%, 65.3%)	0/73.2 = 0.0% (0.0%, 0.0%)
Chile	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	7	34.7/73.2 = 47.4% (7.3%, 91.1%)	34.7/73.2 = 47.4% (7.3%, 91.1%)	11/73.2 = 15.0% (1.6%, 65.3%)
Chile	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	7	29.2/73.2 = 39.9% (5.2%, 88.9%)	40.2/73.2 = 54.9% (9.2%, 93.6%)	29.2/73.2 = 39.9% (5.2%, 88.9%)
Chile	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/284.1 = 0.0%	0/284.1 = 0.0%	0/284.1 = 0.0%
Chile	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/284.1 = 0.0%	0/284.1 = 0.0%	0/284.1 = 0.0%
Chile	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/284.1 = 0.0%	0/284.1 = 0.0%	0/284.1 = 0.0%
Chile	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	4	11.4/35.2 = 32.4% (0.3%, 98.8%)	11.4/35.2 = 32.4% (0.3%, 98.8%)	11.4/35.2 = 32.4% (0.3%, 98.8%)
Chile	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	4	22.8/35.2 = 64.9% (2.7%, 99.2%)	35.2/35.2 = 100.0% (100.0%, 100.0%)	22.8/35.2 = 64.9% (2.7%, 99.2%)
Chile	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	4	29/35.2 = 82.4% (3.0%, 99.9%)	35.2/35.2 = 100.0% (100.0%, 100.0%)	29/35.2 = 82.4% (3.0%, 99.9%)
Columbia	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	41	149.6/1507.3 = 9.9% (3.5%, 25.1%)	325.9/1507.3 = 21.6% (10.9%, 38.4%)	223.1/1507.3 = 14.8% (6.3%, 31.1%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
Columbia	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	41	964.7/1507.3 = 64.0% (47.7%, 77.6%)	1038.3/1507.3 = 68.9% (52.9%, 81.3%)	857.5/1507.3 = 56.9% (40.4%, 72.0%)
Columbia	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	41	684.9/1507.3 = 45.4% (29.9%, 61.9%)	1185/1507.3 = 78.6% (61.4%, 89.5%)	911.8/1507.3 = 60.5% (43.3%, 75.4%)
Columbia	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	16	10.2/222.6 = 4.6% (0.5%, 31.3%)	28.3/222.6 = 12.7% (2.5%, 44.9%)	28.3/222.6 = 12.7% (2.5%, 44.9%)
Columbia	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	16	83.8/222.6 = 37.7% (16.0%, 65.6%)	113.5/222.6 = 51.0% (25.0%, 76.5%)	73.6/222.6 = 33.1% (13.0%, 62.1%)
Columbia	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	16	87.2/222.6 = 39.2% (17.2%, 66.6%)	174.8/222.6 = 78.5% (46.4%, 93.9%)	120.1/222.6 = 54.0% (27.6%, 78.3%)
Columbia	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	8	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	22	17.6/263.7 = 6.7% (1.4%, 26.8%)	29/263.7 = 11.0% (3.2%, 31.8%)	17.6/263.7 = 6.7% (1.4%, 26.8%)
Columbia	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	22	139.4/263.7 = 52.9% (29.8%, 74.8%)	151.8/263.7 = 57.6% (33.4%, 78.6%)	114.7/263.7 = 43.5% (22.7%, 66.9%)
Columbia	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	22	89.4/263.7 = 33.9% (16.7%, 56.8%)	177/263.7 = 67.1% (41.4%, 85.5%)	114.6/263.7 = 43.5% (23.2%, 66.1%)
Mexico	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	6	29.3/213.8 = 13.7% (0.1%, 94.9%)	29.3/213.8 = 13.7% (0.1%, 94.9%)	29.3/213.8 = 13.7% (0.1%, 94.9%)
Mexico	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	6	86.7/213.8 = 40.5% (1.7%, 96.4%)	86.7/213.8 = 40.5% (1.7%, 96.4%)	86.7/213.8 = 40.5% (1.7%, 96.4%)
Mexico	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	6	86.7/213.8 = 40.5% (1.7%, 96.4%)	86.7/213.8 = 40.5% (1.7%, 96.4%)	86.7/213.8 = 40.5% (1.7%, 96.4%)
Mexico	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/152.3 = 0.0%	0/152.3 = 0.0%	0/152.3 = 0.0%
Mexico	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/152.3 = 0.0%	0/152.3 = 0.0%	0/152.3 = 0.0%
Mexico	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/152.3 = 0.0%	0/152.3 = 0.0%	0/152.3 = 0.0%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Mexico	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0/31.4 = 0.0%	0/31.4 = 0.0%	0/31.4 = 0.0%
Mexico	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	12.4/31.4 = 39.4%	12.4/31.4 = 39.4%	0/31.4 = 0.0%
Mexico	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	12.4/31.4 = 39.4%	12.4/31.4 = 39.4%	12.4/31.4 = 39.4%
Peru	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	17	19.9/613.5 = 3.3% (0.4%, 23.9%)	77.3/613.5 = 12.6% (3.3%, 37.9%)	39.9/613.5 = 6.5% (1.4%, 26.1%)
Peru	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	17	320.4/613.5 = 52.2% (26.2%, 77.1%)	320.4/613.5 = 52.2%	320.4/613.5 = 52.2% (26.2%, 77.1%)
Peru	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	17	249.3/613.5 = 40.6% (18.7%, 67.1%)	468.8/613.5 = 76.4% (44.1%, 93.0%)	302.9/613.5 = 49.4% (24.3%, 74.8%)
Peru	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	10	52/127 = 41.0% (12.0%, 77.9%)	62.2/127 = 49.0% (16.5%, 82.3%)	62.2/127 = 49.0% (16.5%, 82.3%)
Peru	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	10	96.5/127 = 76.0% (34.0%, 95.1%)	106.6/127 = 84.0% (38.6%, 97.8%)	96.5/127 = 76.0% (34.0%, 95.1%)
Peru	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	10	102/127 = 80.3% (35.2%, 96.8%)	127/127 = 100.0% (100.0%, 100.0%)	112.1/127 = 88.3% (35.6%, 99.0%)
Peru	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	5	0/1396.3 = 0.0%	0/1396.3 = 0.0%	0/1396.3 = 0.0%
Peru	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	5	0/1396.3 = 0.0%	0/1396.3 = 0.0%	0/1396.3 = 0.0%
Peru	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	5	0/1396.3 = 0.0%	0/1396.3 = 0.0%	0/1396.3 = 0.0%
Peru	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	6	0/65.6 = 0.0% (0.0%, 0.0%)	30.5/65.6 = 46.4% (4.7%, 93.9%)	0/65.6 = 0.0% (0.0%, 0.0%)
Peru	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	6	53.3/65.6 = 81.2% (22.4%, 98.5%)	53.3/65.6 = 81.2% (22.4%, 98.5%)	41.9/65.6 = 63.8% (10.3%, 96.4%)
Peru	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	6	41.9/65.6 = 63.8% (10.3%, 96.4%)	59.5/65.6 = 90.6% (22.2%, 99.7%)	48.1/65.6 = 73.2% (12.4%, 98.1%)
South Africa	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	229	202.8/2907 = 7.0% (4.3%, 11.1%)	463.1/2907 = 15.9% (11.6%, 21.5%)	266.8/2907 = 9.2% (6.1%, 13.5%)
South Africa	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	229	1684.8/2907 = 58.0% (51.0%, 64.6%)	2063.1/2907 = 71.0% (64.1%, 77.0%)	1475/2907 = 50.7% (43.9%, 57.6%)
South Africa	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	229	1566.5/2907 = 53.9% (47.0%, 60.6%)	2336.7/2907 = 80.4% (73.9%, 85.5%)	1901.3/2907 = 65.4% (58.4%, 71.8%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 ×LLOQ	% Greater than 4 ×LLOQ
South Africa	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	23.3/305 = 7.7% (4.1%, 13.8%)	48.4/305 = 15.9% (9.6%, 25.2%)	26.2/305 = 8.6% (4.9%, 14.8%)
South Africa	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	194.6/305 = 63.8% (50.7%, 75.1%)	203.6/305 = 66.8% (53.4%, 77.9%)	134.2/305 = 44.0% (32.5%, 56.2%)
South Africa	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	125.7/305 = 41.2% (30.5%, 52.9%)	244.5/305 = 80.2% (66.7%, 89.1%)	174.6/305 = 57.2% (44.8%, 68.8%)
South Africa	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	69	7.4/289 = 2.6% (0.6%, 9.7%)	20.9/289 = 7.2% (3.3%, 15.2%)	9.5/289 = 3.3% (1.0%, 10.1%)
South Africa	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	69	125.7/289 = 43.5% (32.9%, 54.7%)	163/289 = 56.4% (43.6%, 68.4%)	104.1/289 = 36.0% (27.4%, 45.6%)
South Africa	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	69	72.7/289 = 25.2% (17.5%, 34.8%)	168.5/289 = 58.3% (45.2%, 70.3%)	108/289 = 37.4% (26.7%, 49.4%)

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 5l. Percentage of responders, and participants with concentrations $\geq 2 \times \text{LLOQ}$ or $\geq 4 \times \text{LLOQ}$ for binding antibody markers by HIV Infection

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than $2 \times \text{LLOQ}$	% Greater than $4 \times \text{LLOQ}$
HIV Infection								
Negative	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	843	1169.7/18206.8 = 6.4% (4.9%, 8.4%)	2666.8/18206.8 = 14.6% (12.3%, 17.4%)	1411.3/18206.8 = 7.8% (6.0%, 9.9%)
Negative	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	843	9874.6/18206.8 = 54.2% (50.5%, 58.0%)	11427.5/18206.8 = 62.8% (59.0%, 66.4%)	8360.6/18206.8 = 45.9% (42.3%, 49.6%)
Negative	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	843	8198.3/18206.8 = 45.0% (41.6%, 48.5%)	13755.7/18206.8 = 75.6% (72.0%, 78.8%)	10597.1/18206.8 = 58.2% (54.5%, 61.8%)
Negative	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	255	148.6/1888 = 7.9% (4.8%, 12.6%)	411.8/1888 = 21.8% (16.7%, 27.9%)	229.6/1888 = 12.2% (8.3%, 17.5%)
Negative	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	255	1144.4/1888 = 60.6% (53.6%, 67.2%)	1288.1/1888 = 68.2% (61.1%, 74.6%)	914.2/1888 = 48.4% (41.7%, 55.2%)
Negative	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	255	982.5/1888 = 52.0% (45.3%, 58.7%)	1557.3/1888 = 82.5% (76.1%, 87.4%)	1242.8/1888 = 65.8% (58.9%, 72.2%)
Negative	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	101	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)
Negative	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	101	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)
Negative	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	101	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)
Negative	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	257	88.9/1920.5 = 4.6% (2.3%, 8.9%)	230.4/1920.5 = 12.0% (8.2%, 17.3%)	107.7/1920.5 = 5.6% (3.1%, 9.9%)
Negative	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	257	982.2/1920.5 = 51.1% (44.3%, 58.0%)	1160.9/1920.5 = 60.4% (53.4%, 67.1%)	782.2/1920.5 = 40.7% (34.3%, 47.5%)
Negative	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	257	642.6/1920.5 = 33.5% (27.7%, 39.8%)	1187.6/1920.5 = 61.8% (54.9%, 68.3%)	847.2/1920.5 = 44.1% (37.6%, 50.8%)
Positive	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	65	56.1/1096.2 = 5.1% (1.5%, 15.7%)	187/1096.2 = 17.1% (8.9%, 30.3%)	76.2/1096.2 = 7.0% (2.6%, 17.1%)
Positive	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	65	604.7/1096.2 = 55.2% (40.5%, 69.0%)	658.6/1096.2 = 60.1% (44.8%, 73.6%)	575.4/1096.2 = 52.5% (38.0%, 66.6%)
Positive	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	65	509.6/1096.2 = 46.5% (32.8%, 60.7%)	789.5/1096.2 = 72.0% (55.8%, 84.0%)	626/1096.2 = 57.1% (42.1%, 70.9%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% Greater than 2 × LLOQ	% Greater than 4 × LLOQ
Positive	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	28	25.9/191 = 13.6% (3.1%, 43.5%)	32.5/191 = 17.0% (5.1%, 43.8%)	28.8/191 = 15.1% (4.0%, 43.3%)
Positive	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	28	156.9/191 = 82.2% (61.4%, 93.0%)	164.4/191 = 86.1% (66.3%, 95.1%)	126.5/191 = 66.2% (44.8%, 82.6%)
Positive	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	28	109.4/191 = 57.3% (34.5%, 77.4%)	176.9/191 = 92.6% (72.8%, 98.3%)	132.1/191 = 69.1% (44.9%, 86.0%)
Positive	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	6	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)
Positive	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)
Positive	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	6	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)
Positive	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	20	7.4/136.5 = 5.4% (1.1%, 22.6%)	11.1/136.5 = 8.1% (2.2%, 25.6%)	7.4/136.5 = 5.4% (1.1%, 22.6%)
Positive	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	20	69.6/136.5 = 51.0% (23.4%, 77.9%)	69.6/136.5 = 51.0% (23.4%, 77.9%)	65.6/136.5 = 48.1% (21.4%, 75.9%)
Positive	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	20	51.1/136.5 = 37.4% (14.5%, 67.8%)	73/136.5 = 53.4% (25.0%, 79.8%)	60.1/136.5 = 44.0% (18.8%, 72.7%)

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.

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)	908	1225.8/19303 = 6.4% (4.9%, 8.2%)	5055.8/19303 = 26.2% (23.2%, 29.4%)	2853.8/19303 = 14.8% (12.5%, 17.4%)
	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	908	10479.3/19303 = 54.3% (50.7%, 57.9%)	14909.7/19303 = 77.2% (73.9%, 80.3%)	12086.1/19303 = 62.6% (59.0%, 66.1%)
	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	908	8707.8/19303 = 45.1% (41.8%, 48.5%)	16740.9/19303 = 86.7% (83.8%, 89.2%)	14545.2/19303 = 75.4% (71.9%, 78.5%)
	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	283	174.5/2079 = 8.4% (5.3%, 13.0%)	803.8/2079 = 38.7% (32.5%, 45.2%)	444.3/2079 = 21.4% (16.5%, 27.1%)
	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	283	1301.3/2079 = 62.6% (55.8%, 68.9%)	1825/2079 = 87.8% (82.5%, 91.6%)	1452.5/2079 = 69.9% (63.2%, 75.8%)
	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	283	1091.9/2079 = 52.5% (46.1%, 58.9%)	1969/2079 = 94.7% (90.2%, 97.2%)	1734.1/2079 = 83.4% (77.5%, 88.0%)
	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	107	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	107	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	107	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)	0/19210 = 0.0% (0.0%, 0.0%)
	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	277	96.3/2057 = 4.7% (2.5%, 8.7%)	529/2057 = 25.7% (20.3%, 32.0%)	241.5/2057 = 11.7% (8.1%, 16.7%)
	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	277	1051.8/2057 = 51.1% (44.5%, 57.7%)	1563.2/2057 = 76.0% (69.7%, 81.3%)	1230.4/2057 = 59.8% (53.0%, 66.3%)

Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	277	693.7/2057 = 33.7% (28.2%, 39.8%)	1614.5/2057 = 78.5% (72.2%, 83.7%)	1260.6/2057 = 61.3% (54.5%, 67.6%)
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Binding Antibody Responders are defined as participants with concentration above the specified positivity cut-off, with a separate cut-off for each antigen Spike, RBD, N (10.8424, 14.0858, and 23.4711 respectively, in IU/ml).

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



Table 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)	453	432.8/12609 = 3.4% (2.0%, 5.8%)	2267.8/12609 = 18.0% (14.4%, 22.2%)	1233.5/12609 = 9.8% (7.2%, 13.2%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	5386.8/12609 = 42.7% (37.8%, 47.8%)	8677.9/12609 = 68.8% (63.9%, 73.3%)	6452.5/12609 = 51.2% (46.1%, 56.2%)
Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	3783/12609 = 30.0% (25.7%, 34.7%)	10130.7/12609 = 80.3% (75.9%, 84.1%)	8259.7/12609 = 65.5% (60.5%, 70.2%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	74.2/1362 = 5.4% (2.2%, 12.7%)	436.1/1362 = 32.0% (24.2%, 41.0%)	211.8/1362 = 15.6% (9.9%, 23.6%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	706.3/1362 = 51.9% (42.7%, 60.9%)	1129.5/1362 = 82.9% (75.2%, 88.6%)	801.8/1362 = 58.9% (49.4%, 67.7%)
Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	499.3/1362 = 36.7% (28.2%, 46.0%)	1252/1362 = 91.9% (85.1%, 95.8%)	1034.9/1362 = 76.0% (67.4%, 82.9%)
Age 18 - 59	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)	0/12429 = 0.0% (0.0%, 0.0%)
Age 18 - 59	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	141	26.4/1344 = 2.0% (0.4%, 8.7%)	263.6/1344 = 19.6% (13.2%, 28.2%)	98.2/1344 = 7.3% (3.7%, 14.0%)
Age 18 - 59	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	141	545.5/1344 = 40.6% (31.8%, 50.0%)	896.7/1344 = 66.7% (57.5%, 74.8%)	684.9/1344 = 51.0% (41.7%, 60.1%)
Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	141	274.6/1344 = 20.4% (13.9%, 29.1%)	913.3/1344 = 68.0% (58.6%, 76.0%)	655.4/1344 = 48.8% (39.5%, 58.1%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	455	793/6694 = 11.8% (8.9%, 15.6%)	2788/6694 = 41.6% (36.7%, 46.8%)	1620.3/6694 = 24.2% (20.1%, 28.9%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	455	5092.5/6694 = 76.1% (71.5%, 80.1%)	6231.8/6694 = 93.1% (90.0%, 95.3%)	5633.7/6694 = 84.2% (80.0%, 87.6%)
Age ≥ 60	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	455	4924.8/6694 = 73.6% (68.8%, 77.8%)	6610.2/6694 = 98.7% (97.1%, 99.5%)	6285.5/6694 = 93.9% (90.8%, 96.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age ≥ 60	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	142	100.3/717 = 14.0% (8.9%, 21.4%)	367.7/717 = 51.3% (42.1%, 60.3%)	232.4/717 = 32.4% (24.6%, 41.3%)
Age ≥ 60	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	595.1/717 = 83.0% (74.4%, 89.1%)	695.5/717 = 97.0% (91.4%, 99.0%)	650.8/717 = 90.8% (83.8%, 94.9%)
Age ≥ 60	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	592.6/717 = 82.6% (74.0%, 88.8%)	717/717 = 100.0% (100.0%, 100.0%)	699.3/717 = 97.5% (91.1%, 99.3%)
Age ≥ 60	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	54	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)	0/6781 = 0.0% (0.0%, 0.0%)
Age ≥ 60	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	136	69.9/713 = 9.8% (5.0%, 18.2%)	265.4/713 = 37.2% (28.3%, 47.1%)	143.3/713 = 20.1% (13.2%, 29.4%)
Age ≥ 60	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	136	506.2/713 = 71.0% (62.0%, 78.6%)	666.5/713 = 93.5% (88.1%, 96.5%)	545.5/713 = 76.5% (67.5%, 83.6%)
Age ≥ 60	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	136	419.1/713 = 58.8% (49.8%, 67.2%)	701.2/713 = 98.3% (95.5%, 99.4%)	605.2/713 = 84.9% (76.8%, 90.5%)

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 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)	454	430.1/7714 = 5.6% (3.7%, 8.2%)	2208.7/7714 = 28.6% (24.3%, 33.4%)	1299.9/7714 = 16.9% (13.4%, 21.0%)
At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	454	4263.7/7714 = 55.3% (50.2%, 60.2%)	6137.2/7714 = 79.6% (74.9%, 83.5%)	4816.4/7714 = 62.4% (57.4%, 67.3%)
At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	454	3773.9/7714 = 48.9% (44.1%, 53.8%)	6838/7714 = 88.6% (84.8%, 91.6%)	5981.5/7714 = 77.5% (72.8%, 81.7%)
At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	142	38.4/822 = 4.7% (2.5%, 8.4%)	342.7/822 = 41.7% (33.3%, 50.6%)	161.4/822 = 19.6% (13.8%, 27.1%)
At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	511.6/822 = 62.2% (52.6%, 71.0%)	719.5/822 = 87.5% (79.3%, 92.8%)	582.4/822 = 70.8% (60.7%, 79.3%)
At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	421.9/822 = 51.3% (42.0%, 60.6%)	776.6/822 = 94.5% (86.0%, 97.9%)	691.1/822 = 84.1% (74.6%, 90.5%)
At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)	0/7701 = 0.0% (0.0%, 0.0%)
At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	139	17.4/781 = 2.2% (0.7%, 7.0%)	121.7/781 = 15.6% (10.6%, 22.3%)	73.4/781 = 9.4% (5.6%, 15.4%)
At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	139	364.7/781 = 46.7% (37.3%, 56.3%)	576.1/781 = 73.8% (64.6%, 81.3%)	464.5/781 = 59.5% (49.6%, 68.6%)
At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	139	194/781 = 24.8% (18.2%, 33.0%)	610.4/781 = 78.2% (68.9%, 85.3%)	465.2/781 = 59.6% (50.1%, 68.4%)
Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	454	795.7/11589 = 6.9% (4.8%, 9.7%)	2847.1/11589 = 24.6% (20.7%, 28.9%)	1553.9/11589 = 13.4% (10.4%, 17.1%)
Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	454	6215.6/11589 = 53.6% (48.6%, 58.6%)	8772.5/11589 = 75.7% (70.9%, 79.9%)	7269.7/11589 = 62.7% (57.7%, 67.5%)
Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	454	4933.9/11589 = 42.6% (38.1%, 47.2%)	9902.9/11589 = 85.5% (81.1%, 88.9%)	8563.7/11589 = 73.9% (69.0%, 78.2%)

(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)	141	136.1/1257 = 10.8% (6.1%, 18.4%)	461.1/1257 = 36.7% (28.3%, 46.0%)	282.9/1257 = 22.5% (15.8%, 31.1%)
Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	789.7/1257 = 62.8% (53.4%, 71.3%)	1105.5/1257 = 87.9% (80.4%, 92.8%)	870.2/1257 = 69.2% (60.1%, 77.1%)
Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	670/1257 = 53.3% (44.6%, 61.8%)	1192.3/1257 = 94.9% (88.4%, 97.8%)	1043/1257 = 83.0% (74.9%, 88.9%)
Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	54	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)	0/11509 = 0.0% (0.0%, 0.0%)
Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	138	78.9/1276 = 6.2% (3.0%, 12.5%)	407.3/1276 = 31.9% (23.8%, 41.3%)	168.2/1276 = 13.2% (8.1%, 20.8%)
Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	138	687.1/1276 = 53.8% (44.8%, 62.7%)	987.1/1276 = 77.4% (68.4%, 84.3%)	765.9/1276 = 60.0% (50.7%, 68.7%)
Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	138	499.6/1276 = 39.2% (31.3%, 47.7%)	1004.2/1276 = 78.7% (69.7%, 85.5%)	795.3/1276 = 62.3% (53.0%, 70.8%)

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 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	163.9/5014 = 3.3% (1.5%, 6.9%)	1033.6/5014 = 20.6% (15.4%, 27.1%)	557.6/5014 = 11.1% (7.2%, 16.7%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	2149.7/5014 = 42.9% (36.0%, 50.0%)	3630/5014 = 72.4% (65.6%, 78.3%)	2547.4/5014 = 50.8% (43.7%, 57.9%)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	1670.9/5014 = 33.3% (27.0%, 40.4%)	4205/5014 = 83.9% (78.1%, 88.3%)	3416.3/5014 = 68.1% (61.1%, 74.4%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	0/560 = 0.0% (0.0%, 0.0%)	187.2/560 = 33.4% (23.0%, 45.8%)	63.8/560 = 11.4% (5.6%, 21.8%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	278/560 = 49.6% (36.8%, 62.5%)	468.9/560 = 83.7% (71.8%, 91.2%)	346.7/560 = 61.9% (48.0%, 74.1%)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	198.9/560 = 35.5% (23.7%, 49.4%)	514.6/560 = 91.9% (79.7%, 97.0%)	431.1/560 = 77.0% (63.6%, 86.5%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)	0/4984 = 0.0% (0.0%, 0.0%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	70	7.4/521 = 1.4% (0.2%, 9.8%)	55/521 = 10.5% (5.5%, 19.2%)	39.2/521 = 7.5% (3.4%, 15.8%)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	70	203.1/521 = 39.0% (27.0%, 52.4%)	343.3/521 = 65.9% (53.2%, 76.7%)	274.6/521 = 52.7% (39.6%, 65.5%)

(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)	70	75.8/521 = 14.5% (7.5%, 26.2%)	358.4/521 = 68.8% (55.6%, 79.5%)	242.7/521 = 46.6% (34.0%, 59.6%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	229	269/7595 = 3.5% (1.7%, 7.3%)	1234.2/7595 = 16.3% (11.7%, 22.0%)	675.9/7595 = 8.9% (5.7%, 13.7%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	229	3237.1/7595 = 42.6% (35.9%, 49.6%)	5047.8/7595 = 66.5% (59.5%, 72.8%)	3905.1/7595 = 51.4% (44.4%, 58.3%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	229	2112.1/7595 = 27.8% (22.2%, 34.2%)	5925.7/7595 = 78.0% (71.5%, 83.4%)	4843.4/7595 = 63.8% (56.8%, 70.2%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	74.2/802 = 9.3% (3.7%, 21.2%)	248.9/802 = 31.0% (20.4%, 44.2%)	148.1/802 = 18.5% (10.3%, 30.9%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	428.3/802 = 53.4% (40.6%, 65.8%)	660.7/802 = 82.4% (71.1%, 89.9%)	455.1/802 = 56.7% (43.8%, 68.9%)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	300.4/802 = 37.5% (26.1%, 50.3%)	737.3/802 = 91.9% (82.0%, 96.6%)	603.8/802 = 75.3% (63.3%, 84.3%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)	0/7445 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	71	19.1/823 = 2.3% (0.3%, 15.4%)	208.6/823 = 25.4% (15.5%, 38.5%)	59/823 = 7.2% (2.5%, 18.7%)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	71	342.5/823 = 41.6% (29.7%, 54.6%)	553.4/823 = 67.2% (54.2%, 78.1%)	410.3/823 = 49.9% (37.3%, 62.5%)

(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)	71	198.8/823 = 24.2% (14.8%, 36.8%)	554.9/823 = 67.4% (54.2%, 78.3%)	412.7/823 = 50.1% (37.4%, 62.9%)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	230	266.3/2700 = 9.9% (6.4%, 15.0%)	1175.1/2700 = 43.5% (36.7%, 50.7%)	742.3/2700 = 27.5% (21.6%, 34.3%)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	230	2113.9/2700 = 78.3% (72.0%, 83.5%)	2507.2/2700 = 92.9% (88.2%, 95.8%)	2269/2700 = 84.0% (78.2%, 88.6%)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	230	2103/2700 = 77.9% (71.5%, 83.2%)	2633/2700 = 97.5% (93.7%, 99.0%)	2565.2/2700 = 95.0% (91.0%, 97.3%)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	72	38.4/262 = 14.7% (7.9%, 25.7%)	155.5/262 = 59.4% (46.7%, 70.9%)	97.6/262 = 37.3% (26.0%, 50.1%)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	72	233.7/262 = 89.2% (79.1%, 94.7%)	250.7/262 = 95.7% (88.5%, 98.5%)	235.7/262 = 89.9% (79.7%, 95.3%)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	72	222.9/262 = 85.1% (73.7%, 92.1%)	262/262 = 100.0% (100.0%, 100.0%)	260/262 = 99.2% (94.6%, 99.9%)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)
Age \geq 60 At-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)	0/2717 = 0.0% (0.0%, 0.0%)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	69	10/260 = 3.8% (0.9%, 15.2%)	66.7/260 = 25.7% (15.8%, 38.8%)	34.1/260 = 13.1% (6.5%, 24.7%)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	69	161.6/260 = 62.2% (48.8%, 73.9%)	232.8/260 = 89.5% (78.0%, 95.4%)	189.9/260 = 73.1% (59.7%, 83.2%)

(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)	69	118.2/260 = 45.5% (33.3%, 58.2%)	251.9/260 = 96.9% (90.2%, 99.1%)	222.5/260 = 85.6% (74.2%, 92.5%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	225	526.7/3994 = 13.2% (9.0%, 18.8%)	1612.9/3994 = 40.4% (33.6%, 47.5%)	878/3994 = 22.0% (16.6%, 28.5%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	225	2978.5/3994 = 74.6% (68.0%, 80.2%)	3724.6/3994 = 93.3% (88.6%, 96.1%)	3364.7/3994 = 84.2% (78.2%, 88.8%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	225	2821.8/3994 = 70.7% (63.7%, 76.7%)	3977.2/3994 = 99.6% (97.0%, 99.9%)	3720.3/3994 = 93.1% (88.3%, 96.1%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	61.8/455 = 13.6% (7.1%, 24.4%)	212.2/455 = 46.6% (34.4%, 59.4%)	134.8/455 = 29.6% (19.6%, 42.1%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	361.4/455 = 79.4% (66.6%, 88.2%)	444.8/455 = 97.8% (85.1%, 99.7%)	415.1/455 = 91.2% (80.5%, 96.3%)
Age \geq 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	369.6/455 = 81.2% (68.5%, 89.6%)	455/455 = 100.0% (100.0%, 100.0%)	439.3/455 = 96.5% (85.9%, 99.2%)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)	0/4064 = 0.0% (0.0%, 0.0%)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	67	59.9/453 = 13.2% (6.2%, 26.0%)	198.7/453 = 43.9% (31.1%, 57.4%)	109.1/453 = 24.1% (14.3%, 37.7%)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	67	344.6/453 = 76.1% (63.5%, 85.3%)	433.7/453 = 95.7% (88.6%, 98.5%)	355.6/453 = 78.5% (65.8%, 87.4%)

(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)	67	300.9/453 = 66.4% (53.9%, 77.0%)	449.3/453 = 99.2% (94.2%, 99.9%)	382.6/453 = 84.5% (72.5%, 91.8%)

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 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)	908	1225.8/19303 = 6.4% (4.9%, 8.2%)	5055.8/19303 = 26.2% (23.2%, 29.4%)	2853.8/19303 = 14.8% (12.5%, 17.4%)
Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	908	10479.3/19303 = 54.3% (50.7%, 57.9%)	14909.7/19303 = 77.2% (73.9%, 80.3%)	12086.1/19303 = 62.6% (59.0%, 66.1%)
Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	908	8707.8/19303 = 45.1% (41.8%, 48.5%)	16740.9/19303 = 86.7% (83.8%, 89.2%)	14545.2/19303 = 75.4% (71.9%, 78.5%)
Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	283	174.5/2079 = 8.4% (5.3%, 13.0%)	803.8/2079 = 38.7% (32.5%, 45.2%)	444.3/2079 = 21.4% (16.5%, 27.1%)
Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	283	1301.3/2079 = 62.6% (55.8%, 68.9%)	1825/2079 = 87.8% (82.5%, 91.6%)	1452.5/2079 = 69.9% (63.2%, 75.8%)
Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	283	1091.9/2079 = 52.5% (46.1%, 58.9%)	1969/2079 = 94.7% (90.2%, 97.2%)	1734.1/2079 = 83.4% (77.5%, 88.0%)
Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	66	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	66	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	66	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)	0/12074.3 = 0.0% (0.0%, 0.0%)
Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	123	28.3/878.3 = 3.2% (0.8%, 12.3%)	169.8/878.3 = 19.3% (12.3%, 29.0%)	60/878.3 = 6.8% (3.1%, 14.5%)
Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	123	370.2/878.3 = 42.1% (32.6%, 52.4%)	660.9/878.3 = 75.3% (65.1%, 83.2%)	469.8/878.3 = 53.5% (43.1%, 63.6%)
Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	123	238.1/878.3 = 27.1% (19.3%, 36.7%)	714.6/878.3 = 81.4% (71.9%, 88.2%)	477.5/878.3 = 54.4% (44.1%, 64.3%)
Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	41	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	41	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 0.0% (0.0%, 0.0%)
Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	41	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 0.0% (0.0%, 0.0%)	0/7135.7 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	154	68/1178.7 = 5.8% (2.9%, 11.1%)	359.2/1178.7 = 30.5% (22.7%, 39.5%)	181.5/1178.7 = 15.4% (10.1%, 22.8%)
Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	154	681.6/1178.7 = 57.8% (48.8%, 66.3%)	902.3/1178.7 = 76.5% (67.6%, 83.6%)	760.6/1178.7 = 64.5% (55.4%, 72.7%)
Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	154	455.6/1178.7 = 38.6% (30.8%, 47.1%)	899.9/1178.7 = 76.3% (67.2%, 83.5%)	783.1/1178.7 = 66.4% (57.4%, 74.4%)

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 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)	17	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	17	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	17	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)	0/3962.7 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	77	7.4/751.5 = 1.0% (0.1%, 6.9%)	180/751.5 = 24.0% (14.6%, 36.7%)	60.5/751.5 = 8.1% (3.3%, 18.3%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	77	329.5/751.5 = 43.8% (31.9%, 56.6%)	495.1/751.5 = 65.9% (53.0%, 76.8%)	388.5/751.5 = 51.7% (39.3%, 63.9%)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	77	170.9/751.5 = 22.7% (13.7%, 35.4%)	480.2/751.5 = 63.9% (50.8%, 75.2%)	388.5/751.5 = 51.7% (39.1%, 64.1%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	453	432.8/12609 = 3.4% (2.0%, 5.8%)	2267.8/12609 = 18.0% (14.4%, 22.2%)	1233.5/12609 = 9.8% (7.2%, 13.2%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	5386.8/12609 = 42.7% (37.8%, 47.8%)	8677.9/12609 = 68.8% (63.9%, 73.3%)	6452.5/12609 = 51.2% (46.1%, 56.2%)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	3783/12609 = 30.0% (25.7%, 34.7%)	10130.7/12609 = 80.3% (75.9%, 84.1%)	8259.7/12609 = 65.5% (60.5%, 70.2%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	74.2/1362 = 5.4% (2.2%, 12.7%)	436.1/1362 = 32.0% (24.2%, 41.0%)	211.8/1362 = 15.6% (9.9%, 23.6%)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	706.3/1362 = 51.9% (42.7%, 60.9%)	1129.5/1362 = 82.9% (75.2%, 88.6%)	801.8/1362 = 58.9% (49.4%, 67.7%)

(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)	141	499.3/1362 = 36.7% (28.2%, 46.0%)	1252/1362 = 91.9% (85.1%, 95.8%)	1034.9/1362 = 76.0% (67.4%, 82.9%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	36	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	36	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	36	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)	0/8466.3 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	64	19.1/592.5 = 3.2% (0.4%, 20.3%)	83.5/592.5 = 14.1% (6.5%, 27.8%)	37.7/592.5 = 6.4% (2.0%, 18.6%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	64	216.1/592.5 = 36.5% (24.5%, 50.4%)	401.6/592.5 = 67.8% (53.9%, 79.1%)	296.4/592.5 = 50.0% (36.5%, 63.5%)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	64	103.7/592.5 = 17.5% (9.2%, 30.7%)	433.1/592.5 = 73.1% (59.8%, 83.2%)	266.9/592.5 = 45.0% (32.1%, 58.7%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	24	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	24	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	24	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)	0/3173 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	77	60.6/427.3 = 14.2% (6.8%, 27.3%)	179.1/427.3 = 41.9% (29.7%, 55.2%)	121/427.3 = 28.3% (17.8%, 41.9%)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	77	352.1/427.3 = 82.4% (71.6%, 89.7%)	407.2/427.3 = 95.3% (87.5%, 98.3%)	372.1/427.3 = 87.1% (76.6%, 93.3%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	77	284.6/427.3 = 66.6% (55.2%, 76.3%)	419.7/427.3 = 98.2% (93.0%, 99.6%)	394.6/427.3 = 92.3% (84.6%, 96.4%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	455	793/6694 = 11.8% (8.9%, 15.6%)	2788/6694 = 41.6% (36.7%, 46.8%)	1620.3/6694 = 24.2% (20.1%, 28.9%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	455	5092.5/6694 = 76.1% (71.5%, 80.1%)	6231.8/6694 = 93.1% (90.0%, 95.3%)	5633.7/6694 = 84.2% (80.0%, 87.6%)
Age ≥ 60 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	455	4924.8/6694 = 73.6% (68.8%, 77.8%)	6610.2/6694 = 98.7% (97.1%, 99.5%)	6285.5/6694 = 93.9% (90.8%, 96.0%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	142	100.3/717 = 14.0% (8.9%, 21.4%)	367.7/717 = 51.3% (42.1%, 60.3%)	232.4/717 = 32.4% (24.6%, 41.3%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	595.1/717 = 83.0% (74.4%, 89.1%)	695.5/717 = 97.0% (91.4%, 99.0%)	650.8/717 = 90.8% (83.8%, 94.9%)
Age ≥ 60 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	592.6/717 = 82.6% (74.0%, 88.8%)	717/717 = 100.0% (100.0%, 100.0%)	699.3/717 = 97.5% (91.1%, 99.3%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	30	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	30	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	30	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)	0/3608 = 0.0% (0.0%, 0.0%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	9.2/285.7 = 3.2% (0.7%, 12.9%)	86.3/285.7 = 30.2% (18.2%, 45.6%)	22.3/285.7 = 7.8% (3.0%, 18.5%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	154.1/285.7 = 53.9% (39.5%, 67.7%)	259.3/285.7 = 90.7% (80.2%, 95.9%)	173.4/285.7 = 60.7% (45.6%, 74.0%)
Age ≥ 60 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	134.5/285.7 = 47.1% (33.1%, 61.5%)	281.5/285.7 = 98.5% (94.1%, 99.6%)	210.6/285.7 = 73.7% (58.3%, 84.9%)

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 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)	357	707.4/9873.9 = 7.2% (4.9%, 10.4%)	2606/9873.9 = 26.4% (21.8%, 31.5%)	1631.8/9873.9 = 16.5% (12.8%, 21.0%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	357	5285.8/9873.9 = 53.5% (47.9%, 59.1%)	7532.6/9873.9 = 76.3% (70.8%, 81.0%)	5870.6/9873.9 = 59.5% (53.7%, 64.9%)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	357	4180.3/9873.9 = 42.3% (37.2%, 47.7%)	8411.4/9873.9 = 85.2% (80.3%, 89.0%)	7187.3/9873.9 = 72.8% (67.2%, 77.7%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	122	126.3/1145.7 = 11.0% (6.1%, 19.1%)	436.7/1145.7 = 38.1% (29.0%, 48.2%)	244.3/1145.7 = 21.3% (14.4%, 30.4%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	122	676.7/1145.7 = 59.1% (48.8%, 68.6%)	1036.5/1145.7 = 90.5% (82.1%, 95.2%)	783/1145.7 = 68.3% (57.9%, 77.2%)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	122	607.4/1145.7 = 53.0% (42.9%, 62.9%)	1078.4/1145.7 = 94.1% (86.4%, 97.6%)	976.9/1145.7 = 85.3% (76.0%, 91.4%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)	0/8544.9 = 0.0% (0.0%, 0.0%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	104	65/1001.7 = 6.5% (2.7%, 14.7%)	303.9/1001.7 = 30.3% (21.6%, 40.7%)	138.1/1001.7 = 13.8% (7.9%, 23.0%)
Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	104	549.2/1001.7 = 54.8% (44.0%, 65.2%)	763.3/1001.7 = 76.2% (65.8%, 84.2%)	623.6/1001.7 = 62.3% (51.1%, 72.2%)

(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)	104	377.6/1001.7 = 37.7% (29.0%, 47.3%)	787.6/1001.7 = 78.6% (68.0%, 86.4%)	641.2/1001.7 = 64.0% (53.2%, 73.6%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	495	405.6/8389.3 = 4.8% (3.3%, 7.1%)	2148.7/8389.3 = 25.6% (21.8%, 29.8%)	1057.5/8389.3 = 12.6% (9.9%, 15.9%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	495	4588.3/8389.3 = 54.7% (49.9%, 59.4%)	6471.7/8389.3 = 77.1% (72.7%, 81.1%)	5517.2/8389.3 = 65.8% (61.0%, 70.2%)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	495	3930.7/8389.3 = 46.9% (42.3%, 51.4%)	7436.5/8389.3 = 88.6% (84.9%, 91.5%)	6526.8/8389.3 = 77.8% (73.4%, 81.6%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	146	48.2/834 = 5.8% (3.0%, 10.7%)	320.1/834 = 38.4% (30.4%, 47.0%)	186/834 = 22.3% (16.1%, 30.1%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	146	576/834 = 69.1% (60.2%, 76.7%)	713.9/834 = 85.6% (77.6%, 91.1%)	610.4/834 = 73.2% (64.5%, 80.4%)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	146	436.7/834 = 52.4% (44.3%, 60.3%)	791.2/834 = 94.9% (87.9%, 97.9%)	675.6/834 = 81.0% (72.5%, 87.3%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	52	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)	0/7906 = 0.0% (0.0%, 0.0%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	155	31.3/932.4 = 3.4% (1.5%, 7.6%)	205.9/932.4 = 22.1% (15.4%, 30.6%)	101.3/932.4 = 10.9% (6.8%, 16.9%)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	155	453.2/932.4 = 48.6% (40.1%, 57.2%)	720.8/932.4 = 77.3% (68.8%, 84.0%)	546.7/932.4 = 58.6% (49.7%, 67.1%)

(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)	155	299.5/932.4 = 32.1% (24.6%, 40.8%)	737/932.4 = 79.0% (70.5%, 85.6%)	540.2/932.4 = 57.9% (49.0%, 66.4%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	56	112.9/1039.8 = 10.9% (4.6%, 23.5%)	301.1/1039.8 = 29.0% (17.9%, 43.2%)	164.5/1039.8 = 15.8% (8.0%, 28.8%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	56	605.2/1039.8 = 58.2% (43.4%, 71.6%)	905.4/1039.8 = 87.1% (71.9%, 94.6%)	698.3/1039.8 = 67.2% (52.1%, 79.3%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	56	596.8/1039.8 = 57.4% (42.4%, 71.1%)	893/1039.8 = 85.9% (70.9%, 93.8%)	831.1/1039.8 = 79.9% (65.2%, 89.4%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	15	0/99.4 = 0.0% (0.0%, 0.0%)	47/99.4 = 47.3% (18.5%, 78.0%)	13.9/99.4 = 14.0% (2.0%, 57.2%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	15	48.6/99.4 = 48.9% (20.2%, 78.4%)	74.7/99.4 = 75.2% (37.0%, 94.0%)	59.2/99.4 = 59.6% (26.2%, 85.9%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	15	47.8/99.4 = 48.1% (19.0%, 78.5%)	99.4/99.4 = 100.0% (100.0%, 100.0%)	81.6/99.4 = 82.2% (39.8%, 97.0%)
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	15	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	15	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	15	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)	0/2759.2 = 0.0% (0.0%, 0.0%)
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	18	0/122.9 = 0.0% (0.0%, 0.0%)	19.2/122.9 = 15.6% (3.4%, 49.5%)	2.1/122.9 = 1.7% (0.2%, 15.6%)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	18	49.4/122.9 = 40.2% (16.7%, 69.3%)	79.2/122.9 = 64.4% (32.6%, 87.1%)	60.1/122.9 = 48.9% (21.4%, 77.1%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	18	16.5/122.9 = 13.5% (4.0%, 37.0%)	89.9/122.9 = 73.2% (40.7%, 91.6%)	79.2/122.9 = 64.4% (32.6%, 87.1%)

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 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)	200	99.1/4040.9 = 2.5% (1.0%, 5.8%)	945.3/4040.9 = 23.4% (18.0%, 29.8%)	346.7/4040.9 = 8.6% (5.5%, 13.2%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	200	2004.1/4040.9 = 49.6% (42.4%, 56.8%)	3045.1/4040.9 = 75.4% (68.2%, 81.3%)	2434.4/4040.9 = 60.2% (52.9%, 67.2%)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	200	1688.2/4040.9 = 41.8% (35.3%, 48.6%)	3603.6/4040.9 = 89.2% (83.2%, 93.2%)	3167.8/4040.9 = 78.4% (71.5%, 84.0%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	57	17.3/397.5 = 4.4% (1.1%, 15.5%)	171.7/397.5 = 43.2% (30.2%, 57.2%)	96.4/397.5 = 24.2% (14.4%, 37.8%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	57	287.3/397.5 = 72.3% (58.2%, 83.0%)	330/397.5 = 83.0% (69.2%, 91.4%)	301.7/397.5 = 75.9% (61.5%, 86.1%)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	57	202.9/397.5 = 51.0% (39.0%, 63.0%)	376.4/397.5 = 94.7% (80.8%, 98.7%)	312.7/397.5 = 78.7% (64.1%, 88.4%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	22	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	22	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	22	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)	0/3855.5 = 0.0% (0.0%, 0.0%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	60	20.1/423.6 = 4.7% (1.5%, 14.1%)	107.3/423.6 = 25.3% (15.2%, 39.2%)	75.7/423.6 = 17.9% (9.8%, 30.3%)
White Non-Hispanic	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	60	227.8/423.6 = 53.8% (39.8%, 67.2%)	332.4/423.6 = 78.5% (63.5%, 88.4%)	264.8/423.6 = 62.5% (47.8%, 75.2%)

(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)	60	131.3/423.6 = 31.0% (19.6%, 45.3%)	319/423.6 = 75.3% (60.1%, 86.0%)	228.2/423.6 = 53.9% (39.9%, 67.2%)
Black or African American	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	340	370.5/5195.6 = 7.1% (4.9%, 10.3%)	1373.3/5195.6 = 26.4% (21.8%, 31.7%)	808.8/5195.6 = 15.6% (11.9%, 20.1%)
Black or African American	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	340	2800.5/5195.6 = 53.9% (48.0%, 59.7%)	4016.6/5195.6 = 77.3% (71.6%, 82.2%)	3389.2/5195.6 = 65.2% (59.3%, 70.7%)
Black or African American	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	340	2753.8/5195.6 = 53.0% (47.1%, 58.8%)	4566.2/5195.6 = 87.9% (83.2%, 91.4%)	4109.1/5195.6 = 79.1% (73.8%, 83.5%)
Black or African American	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	102	33.3/531.3 = 6.3% (3.0%, 12.5%)	164.5/531.3 = 31.0% (22.4%, 41.1%)	81.8/531.3 = 15.4% (9.4%, 24.1%)
Black or African American	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	102	319.8/531.3 = 60.2% (48.6%, 70.8%)	466.3/531.3 = 87.8% (78.3%, 93.4%)	344.3/531.3 = 64.8% (52.9%, 75.1%)
Black or African American	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	102	249.6/531.3 = 47.0% (36.8%, 57.3%)	504.3/531.3 = 94.9% (86.6%, 98.2%)	429.4/531.3 = 80.8% (69.1%, 88.8%)
Black or African American	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	38	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 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	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 0.0% (0.0%, 0.0%)	0/4958.3 = 0.0% (0.0%, 0.0%)
Black or African American	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	103	3.7/540.9 = 0.7% (0.1%, 4.9%)	124.4/540.9 = 23.0% (14.2%, 34.9%)	63.8/540.9 = 11.8% (5.5%, 23.6%)
Black or African American	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	103	257/540.9 = 47.5% (37.1%, 58.2%)	415.9/540.9 = 76.9% (66.3%, 84.9%)	306.4/540.9 = 56.6% (45.6%, 67.0%)
Black or African American	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	103	180.1/540.9 = 33.3% (24.0%, 44.1%)	453.1/540.9 = 83.8% (73.9%, 90.4%)	342.4/540.9 = 63.3% (52.3%, 73.1%)
Asian	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	15	0/339.7 = 0.0% (0.0%, 0.0%)	66.1/339.7 = 19.4% (4.5%, 55.5%)	0/339.7 = 0.0% (0.0%, 0.0%)
Asian	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	15	186.1/339.7 = 54.8% (20.6%, 85.0%)	232.5/339.7 = 68.4% (25.0%, 93.4%)	221.1/339.7 = 65.1% (24.5%, 91.5%)
Asian	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	15	82.3/339.7 = 24.2% (7.2%, 56.9%)	286.1/339.7 = 84.2% (29.0%, 98.6%)	200.8/339.7 = 59.1% (22.4%, 87.9%)
Asian	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	3	0/20.1 = 0.0%	5.5/20.1 = 27.4%	5.5/20.1 = 27.4%
Asian	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	3	13/20.1 = 64.8%	13/20.1 = 64.8%	13/20.1 = 64.8%
Asian	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	3	5.5/20.1 = 27.4%	20.1/20.1 = 100.0%	20.1/20.1 = 100.0%
Asian	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0/802.7 = 0.0%	0/802.7 = 0.0%	0/802.7 = 0.0%
Asian	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0/802.7 = 0.0%	0/802.7 = 0.0%	0/802.7 = 0.0%
Asian	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0/802.7 = 0.0%	0/802.7 = 0.0%	0/802.7 = 0.0%
Asian	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	5	0/44.6 = 0.0%	0/44.6 = 0.0%	0/44.6 = 0.0%
Asian	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	10.7/44.6 = 24.0%	29.9/44.6 = 67.1%	17.6/44.6 = 39.4%
Asian	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	0/44.6 = 0.0%	33.8/44.6 = 75.8%	23.1/44.6 = 51.8%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	135	282.2/4537.6 = 6.2% (3.4%, 11.2%)	1157.5/4537.6 = 25.5% (18.8%, 33.6%)	799.6/4537.6 = 17.6% (12.2%, 24.8%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	135	2548/4537.6 = 56.2% (47.2%, 64.7%)	3550.7/4537.6 = 78.2% (69.5%, 85.0%)	2819.5/4537.6 = 62.1% (53.0%, 70.4%)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	135	1991.8/4537.6 = 43.9% (35.7%, 52.4%)	3972.8/4537.6 = 87.6% (79.5%, 92.7%)	3318.9/4537.6 = 73.1% (64.1%, 80.6%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	70.2/458.1 = 15.3% (5.9%, 34.1%)	218.2/458.1 = 47.6% (31.0%, 64.8%)	109.5/458.1 = 23.9% (11.8%, 42.4%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	303.6/458.1 = 66.3% (47.6%, 80.9%)	425.1/458.1 = 92.8% (73.6%, 98.3%)	353.6/458.1 = 77.2% (57.7%, 89.4%)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	246.1/458.1 = 53.7% (35.6%, 70.9%)	443.3/458.1 = 96.8% (78.9%, 99.6%)	425.1/458.1 = 92.8% (73.6%, 98.3%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	19	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	19	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 0.0% (0.0%, 0.0%)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	19	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 0.0% (0.0%, 0.0%)	0/4936.1 = 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	Positive	Anti N IgG (IU/ml)	48	53.3/548.1 = 9.7% (3.5%, 24.3%)	168.7/548.1 = 30.8% (18.5%, 46.5%)	70.9/548.1 = 12.9% (5.6%, 27.1%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	48	302.5/548.1 = 55.2% (39.5%, 69.9%)	422.7/548.1 = 77.1% (60.7%, 88.0%)	333.4/548.1 = 60.8% (44.6%, 74.9%)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	48	214.8/548.1 = 39.2% (26.1%, 54.1%)	435.5/548.1 = 79.5% (63.2%, 89.7%)	344.1/548.1 = 62.8% (46.7%, 76.4%)
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1	0/14.7 = 0.0%	0/14.7 = 0.0%	0/14.7 = 0.0%
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	14.7/14.7 = 100.0%	14.7/14.7 = 100.0%	14.7/14.7 = 100.0%
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	14.7/14.7 = 100.0%	14.7/14.7 = 100.0%	14.7/14.7 = 100.0%
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	1	0/10.2 = 0.0%	0/10.2 = 0.0%	0/10.2 = 0.0%
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	1	10.2/10.2 = 100.0%	10.2/10.2 = 100.0%	10.2/10.2 = 100.0%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	1	10.2/10.2 = 100.0%	10.2/10.2 = 100.0%	10.2/10.2 = 100.0%
Multiracial	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	25	79.4/517.3 = 15.4% (4.8%, 39.7%)	101.9/517.3 = 19.7% (7.4%, 42.9%)	86.2/517.3 = 16.7% (5.5%, 40.5%)
Multiracial	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	240.3/517.3 = 46.5% (23.4%, 71.2%)	365.1/517.3 = 70.6% (42.3%, 88.7%)	272.8/517.3 = 52.7% (27.8%, 76.4%)
Multiracial	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	232.7/517.3 = 45.0% (22.3%, 70.0%)	419.6/517.3 = 81.1% (55.1%, 93.8%)	352.7/517.3 = 68.2% (40.1%, 87.3%)
Multiracial	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	12	7.5/91.1 = 8.2% (0.5%, 62.9%)	47.1/91.1 = 51.7% (14.7%, 86.9%)	34.4/91.1 = 37.7% (8.3%, 80.2%)
Multiracial	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	39.3/91.1 = 43.1% (12.0%, 80.8%)	81.9/91.1 = 89.9% (32.4%, 99.4%)	61.6/91.1 = 67.6% (21.5%, 94.1%)
Multiracial	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	69.3/91.1 = 76.0% (31.2%, 95.7%)	81.9/91.1 = 89.9% (32.4%, 99.4%)	74.8/91.1 = 82.1% (33.3%, 97.7%)
Multiracial	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0/1228.5 = 0.0%	0/1228.5 = 0.0%	0/1228.5 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0/1228.5 = 0.0%	0/1228.5 = 0.0%	0/1228.5 = 0.0%
Multiracial	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0/1228.5 = 0.0%	0/1228.5 = 0.0%	0/1228.5 = 0.0%
Multiracial	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	9	3.8/70.6 = 5.4% (0.1%, 85.7%)	20/70.6 = 28.4% (1.2%, 92.6%)	3.8/70.6 = 5.4% (0.1%, 85.7%)
Multiracial	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	9	38.5/70.6 = 54.6% (3.8%, 97.4%)	44.7/70.6 = 63.3% (3.8%, 98.7%)	38.5/70.6 = 54.6% (3.8%, 97.4%)
Multiracial	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	9	30.8/70.6 = 43.6% (2.8%, 95.3%)	51.5/70.6 = 73.0% (2.7%, 99.6%)	51.5/70.6 = 73.0% (2.7%, 99.6%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	8	38/181.5 = 20.9% (1.3%, 84.6%)	65.1/181.5 = 35.9% (4.4%, 87.2%)	38/181.5 = 20.9% (1.3%, 84.6%)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	8	116.7/181.5 = 64.3% (10.8%, 96.4%)	154.2/181.5 = 85.0% (15.2%, 99.4%)	116.7/181.5 = 64.3% (10.8%, 96.4%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	8	44.8/181.5 = 24.7% (2.0%, 83.7%)	181.5/181.5 = 100.0% (100.0%, 100.0%)	129.8/181.5 = 71.6% (13.9%, 97.5%)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	5	2.9/33.7 = 8.6%	15.9/33.7 = 47.4%	10.4/33.7 = 30.9%
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	18.8/33.7 = 56.0%	33.7/33.7 = 100.0%	18.8/33.7 = 56.0%
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	15.9/33.7 = 47.4%	33.7/33.7 = 100.0%	33.7/33.7 = 100.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/145.4 = 0.0%	0/145.4 = 0.0%	0/145.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/145.4 = 0.0%	0/145.4 = 0.0%	0/145.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/145.4 = 0.0%	0/145.4 = 0.0%	0/145.4 = 0.0%
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	3	3.7/12 = 30.9%	3.7/12 = 30.9%	3.7/12 = 30.9%
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	3	9.9/12 = 82.4%	9.9/12 = 82.4%	9.9/12 = 82.4%
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	3	9.9/12 = 82.4%	12/12 = 100.0%	9.9/12 = 82.4%

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	995.7/14174.2 = 7.0% (5.2%, 9.4%)	3772.2/14174.2 = 26.6% (23.1%, 30.5%)	2331.2/14174.2 = 16.4% (13.6%, 19.8%)
URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	651	7813.6/14174.2 = 55.1% (50.8%, 59.4%)	10951.2/14174.2 = 77.3% (73.2%, 80.9%)	8887/14174.2 = 62.7% (58.4%, 66.8%)
URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	651	6536.3/14174.2 = 46.1% (42.1%, 50.2%)	12228.5/14174.2 = 86.3% (82.6%, 89.2%)	10582.1/14174.2 = 74.7% (70.5%, 78.4%)
URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	206	146.8/1549 = 9.5% (5.7%, 15.4%)	563/1549 = 36.3% (29.1%, 44.2%)	304/1549 = 19.6% (14.1%, 26.6%)
URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	206	927.8/1549 = 59.9% (51.7%, 67.6%)	1380.2/1549 = 89.1% (82.7%, 93.3%)	1046.6/1549 = 67.6% (59.4%, 74.8%)
URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	206	809.5/1549 = 52.3% (44.3%, 60.1%)	1460.1/1549 = 94.3% (88.5%, 97.2%)	1306.8/1549 = 84.4% (77.2%, 89.6%)
URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	78	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	78	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	78	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)	0/13923.4 = 0.0% (0.0%, 0.0%)
URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	197	68.7/1482.1 = 4.6% (2.0%, 10.2%)	386.3/1482.1 = 26.1% (19.6%, 33.8%)	158.3/1482.1 = 10.7% (6.5%, 17.0%)
URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	197	760/1482.1 = 51.3% (43.2%, 59.3%)	1130.2/1482.1 = 76.3% (68.5%, 82.6%)	884/1482.1 = 59.6% (51.4%, 67.4%)
URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	197	523.2/1482.1 = 35.3% (28.7%, 42.6%)	1182.1/1482.1 = 79.8% (72.0%, 85.8%)	931.8/1482.1 = 62.9% (54.7%, 70.4%)
Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	257	230.1/5128.8 = 4.5% (2.5%, 8.0%)	1283.6/5128.8 = 25.0% (20.0%, 30.8%)	522.6/5128.8 = 10.2% (7.0%, 14.6%)
Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	257	2665.7/5128.8 = 52.0% (45.5%, 58.4%)	3958.4/5128.8 = 77.2% (71.0%, 82.4%)	3199.1/5128.8 = 62.4% (55.8%, 68.5%)

(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)	257	2171.5/5128.8 = 42.3% (36.5%, 48.4%)	4512.4/5128.8 = 88.0% (82.7%, 91.8%)	3963.1/5128.8 = 77.3% (71.2%, 82.4%)
Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	77	27.7/530 = 5.2% (1.9%, 13.8%)	240.8/530 = 45.4% (34.1%, 57.3%)	140.3/530 = 26.5% (17.4%, 38.1%)
Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	77	373.5/530 = 70.5% (58.3%, 80.3%)	444.8/530 = 83.9% (72.4%, 91.2%)	405.9/530 = 76.6% (64.6%, 85.4%)
Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	77	282.4/530 = 53.3% (43.0%, 63.3%)	508.8/530 = 96.0% (85.3%, 99.0%)	427.4/530 = 80.6% (68.8%, 88.7%)
Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	29	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	29	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	29	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)	0/5286.6 = 0.0% (0.0%, 0.0%)
Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	80	27.6/574.9 = 4.8% (1.9%, 11.6%)	142.7/574.9 = 24.8% (15.9%, 36.5%)	83.3/574.9 = 14.5% (8.3%, 24.1%)
Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	80	291.8/574.9 = 50.8% (38.9%, 62.6%)	433/574.9 = 75.3% (63.0%, 84.5%)	346.4/574.9 = 60.2% (47.6%, 71.6%)
Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	80	170.5/574.9 = 29.6% (19.9%, 41.7%)	432.4/574.9 = 75.2% (62.7%, 84.6%)	328.8/574.9 = 57.2% (44.9%, 68.7%)

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 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)	323	339.1/9229.2 = 3.7% (2.0%, 6.7%)	1663.8/9229.2 = 18.0% (13.8%, 23.2%)	1034.6/9229.2 = 11.2% (7.9%, 15.6%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	323	3921.5/9229.2 = 42.5% (36.6%, 48.6%)	6344.2/9229.2 = 68.7% (62.8%, 74.1%)	4603.3/9229.2 = 49.9% (43.8%, 56.0%)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	323	2865.7/9229.2 = 31.1% (25.9%, 36.8%)	7339.1/9229.2 = 79.5% (74.1%, 84.1%)	5932.7/9229.2 = 64.3% (58.2%, 69.9%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	104	63.7/1035.9 = 6.1% (2.3%, 15.5%)	318.8/1035.9 = 30.8% (21.7%, 41.6%)	151.4/1035.9 = 14.6% (8.3%, 24.5%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	104	529.1/1035.9 = 51.1% (40.2%, 61.8%)	888.6/1035.9 = 85.8% (76.6%, 91.8%)	599.7/1035.9 = 57.9% (46.6%, 68.4%)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	104	407/1035.9 = 39.3% (29.1%, 50.5%)	947/1035.9 = 91.4% (83.0%, 95.9%)	811.3/1035.9 = 78.3% (68.1%, 85.9%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	38	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)	0/8869.6 = 0.0% (0.0%, 0.0%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	98	19.1/950 = 2.0% (0.3%, 13.4%)	180.6/950 = 19.0% (11.5%, 29.8%)	58.1/950 = 6.1% (2.2%, 15.6%)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	98	382.9/950 = 40.3% (29.7%, 51.9%)	628.6/950 = 66.2% (54.8%, 75.9%)	475.3/950 = 50.0% (38.8%, 61.3%)

(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)	98	170.1/950 = 17.9% (10.5%, 28.9%)	655.9/950 = 69.0% (57.5%, 78.6%)	470.3/950 = 49.5% (38.3%, 60.8%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	130	93.8/3379.8 = 2.8% (0.9%, 8.3%)	604/3379.8 = 17.9% (12.0%, 25.7%)	198.9/3379.8 = 5.9% (2.8%, 12.0%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	130	1465.3/3379.8 = 43.4% (34.8%, 52.4%)	2333.7/3379.8 = 69.0% (60.2%, 76.7%)	1849.2/3379.8 = 54.7% (45.7%, 63.4%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	130	917.3/3379.8 = 27.1% (20.0%, 35.6%)	2791.6/3379.8 = 82.6% (74.7%, 88.4%)	2327/3379.8 = 68.8% (60.0%, 76.5%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	10.6/326.1 = 3.2% (0.4%, 21.4%)	117.4/326.1 = 36.0% (21.8%, 53.1%)	60.4/326.1 = 18.5% (8.5%, 35.6%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	177.2/326.1 = 54.3% (37.1%, 70.6%)	241/326.1 = 73.9% (56.4%, 86.1%)	202.1/326.1 = 62.0% (44.2%, 77.0%)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	92.3/326.1 = 28.3% (15.6%, 45.7%)	305/326.1 = 93.5% (76.5%, 98.5%)	223.5/326.1 = 68.5% (50.6%, 82.2%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	15	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	15	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	15	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)	0/3559.4 = 0.0% (0.0%, 0.0%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	43	7.4/394 = 1.9% (0.2%, 13.1%)	83/394 = 21.1% (10.8%, 37.1%)	40.1/394 = 10.2% (4.1%, 23.1%)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	43	162.6/394 = 41.3% (26.8%, 57.4%)	268.1/394 = 68.1% (51.5%, 81.0%)	209.6/394 = 53.2% (37.1%, 68.6%)

(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)	43	104.5/394 = 26.5% (14.8%, 42.8%)	257.4/394 = 65.3% (48.6%, 79.0%)	185.1/394 = 47.0% (31.4%, 63.2%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	328	656.6/4945 = 13.3% (9.6%, 18.1%)	2108.4/4945 = 42.6% (36.7%, 48.8%)	1296.6/4945 = 26.2% (21.2%, 32.0%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	328	3892.1/4945 = 78.7% (73.3%, 83.3%)	4607/4945 = 93.2% (89.3%, 95.7%)	4283.7/4945 = 86.6% (81.8%, 90.3%)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	328	3670.6/4945 = 74.2% (68.5%, 79.3%)	4889.4/4945 = 98.9% (96.8%, 99.6%)	4649.3/4945 = 94.0% (90.1%, 96.4%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	102	83.1/513.2 = 16.2% (9.8%, 25.7%)	244.3/513.2 = 47.6% (36.8%, 58.6%)	152.6/513.2 = 29.7% (20.9%, 40.3%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	102	398.7/513.2 = 77.7% (66.5%, 85.9%)	491.7/513.2 = 95.8% (88.2%, 98.6%)	446.9/513.2 = 87.1% (77.6%, 92.9%)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	102	402.5/513.2 = 78.4% (67.3%, 86.6%)	513.2/513.2 = 100.0% (100.0%, 100.0%)	495.4/513.2 = 96.5% (87.8%, 99.1%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)	0/5053.9 = 0.0% (0.0%, 0.0%)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	99	49.6/532.1 = 9.3% (4.0%, 20.3%)	205.8/532.1 = 38.7% (28.0%, 50.6%)	100.1/532.1 = 18.8% (11.0%, 30.3%)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	99	377.1/532.1 = 70.9% (59.9%, 79.8%)	501.7/532.1 = 94.3% (87.9%, 97.4%)	408.7/532.1 = 76.8% (65.8%, 85.1%)

(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)	99	353.1/532.1 = 66.4% (55.5%, 75.7%)	526.2/532.1 = 98.9% (95.4%, 99.7%)	461.5/532.1 = 86.7% (76.9%, 92.8%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	127	136.4/1749 = 7.8% (4.1%, 14.3%)	679.6/1749 = 38.9% (30.4%, 48.0%)	323.8/1749 = 18.5% (12.5%, 26.6%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	127	1200.4/1749 = 68.6% (59.4%, 76.6%)	1624.8/1749 = 92.9% (86.6%, 96.4%)	1349.9/1749 = 77.2% (68.4%, 84.1%)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	127	1254.2/1749 = 71.7% (62.8%, 79.2%)	1720.8/1749 = 98.4% (93.5%, 99.6%)	1636.2/1749 = 93.5% (87.3%, 96.8%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	40	17.2/203.8 = 8.4% (2.7%, 23.2%)	123.4/203.8 = 60.6% (42.2%, 76.3%)	79.9/203.8 = 39.2% (23.8%, 57.1%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	40	196.3/203.8 = 96.3% (76.1%, 99.5%)	203.8/203.8 = 100.0% (100.0%, 100.0%)	203.8/203.8 = 100.0% (100.0%, 100.0%)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	40	190.1/203.8 = 93.2% (77.8%, 98.2%)	203.8/203.8 = 100.0% (100.0%, 100.0%)	203.8/203.8 = 100.0% (100.0%, 100.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	14	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	14	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	14	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)	0/1727.1 = 0.0% (0.0%, 0.0%)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	37	20.2/180.9 = 11.2% (3.9%, 28.1%)	59.6/180.9 = 33.0% (18.7%, 51.2%)	43.1/180.9 = 23.8% (11.8%, 42.2%)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	37	129.2/180.9 = 71.4% (54.5%, 83.8%)	164.8/180.9 = 91.1% (76.1%, 97.0%)	136.8/180.9 = 75.6% (58.4%, 87.3%)

(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	66/180.9 = 36.5% (21.6%, 54.4%)	175/180.9 = 96.7% (86.4%, 99.3%)	143.6/180.9 = 79.4% (61.5%, 90.3%)

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 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)	453	487.1/8452 = 5.8% (4.0%, 8.3%)	2030.4/8452 = 24.0% (20.3%, 28.2%)	997/8452 = 11.8% (9.1%, 15.1%)
United States	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	4397.4/8452 = 52.0% (47.2%, 56.8%)	6445.5/8452 = 76.3% (71.7%, 80.3%)	5155.3/8452 = 61.0% (56.2%, 65.6%)
United States	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	3727.8/8452 = 44.1% (39.6%, 48.7%)	7232.3/8452 = 85.6% (81.5%, 88.8%)	6373.6/8452 = 75.4% (70.8%, 79.5%)
United States	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	65.3/913 = 7.2% (3.9%, 12.9%)	384.1/913 = 42.1% (33.9%, 50.7%)	239.3/913 = 26.2% (19.3%, 34.6%)
United States	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	626.1/913 = 68.6% (59.8%, 76.2%)	785.2/913 = 86.0% (78.3%, 91.3%)	683.2/913 = 74.8% (66.2%, 81.8%)
United States	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	532.9/913 = 58.4% (50.4%, 65.9%)	868.6/913 = 95.1% (88.6%, 98.0%)	752.6/913 = 82.4% (74.4%, 88.4%)
United States	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	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)	53	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)	53	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)	139	29.4/922 = 3.2% (1.3%, 7.6%)	248.3/922 = 26.9% (19.6%, 35.7%)	113.1/922 = 12.3% (7.7%, 19.0%)
United States	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	139	490.6/922 = 53.2% (44.2%, 62.0%)	712/922 = 77.2% (68.9%, 83.9%)	557.2/922 = 60.4% (51.3%, 68.9%)
United States	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	139	304.6/922 = 33.0% (25.3%, 41.9%)	743.5/922 = 80.6% (72.3%, 87.0%)	551.9/922 = 59.9% (50.8%, 68.2%)
Argentina	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	51	19.9/1858.9 = 1.1% (0.1%, 7.7%)	533.6/1858.9 = 28.7% (17.8%, 42.8%)	352.3/1858.9 = 19.0% (10.4%, 32.0%)
Argentina	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	51	825.9/1858.9 = 44.4% (30.8%, 59.0%)	1359.6/1858.9 = 73.1% (57.3%, 84.7%)	999.8/1858.9 = 53.8% (38.9%, 68.0%)
Argentina	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	51	710.5/1858.9 = 38.2% (25.9%, 52.2%)	1516/1858.9 = 81.6% (65.8%, 91.0%)	1176.2/1858.9 = 63.3% (47.7%, 76.5%)

(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	5.5/109.2 = 5.0% (0.4%, 39.7%)	65.2/109.2 = 59.7% (22.1%, 88.6%)	11/109.2 = 10.1% (1.7%, 41.8%)
Argentina	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	80.8/109.2 = 74.0% (28.3%, 95.4%)	99/109.2 = 90.7% (43.8%, 99.2%)	80.8/109.2 = 74.0% (28.3%, 95.4%)
Argentina	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	80.8/109.2 = 74.0% (28.3%, 95.4%)	109.2/109.2 = 100.0% (100.0%, 100.0%)	109.2/109.2 = 100.0% (100.0%, 100.0%)
Argentina	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	2	0/675.7 = 0.0%	0/675.7 = 0.0%	0/675.7 = 0.0%
Argentina	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0/675.7 = 0.0%	0/675.7 = 0.0%	0/675.7 = 0.0%
Argentina	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0/675.7 = 0.0%	0/675.7 = 0.0%	0/675.7 = 0.0%
Argentina	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	14	0/180.5 = 0.0% (0.0%, 0.0%)	36.6/180.5 = 20.3% (5.0%, 55.3%)	6.2/180.5 = 3.4% (0.4%, 26.3%)
Argentina	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	14	62.4/180.5 = 34.5% (12.5%, 66.1%)	110.9/180.5 = 61.5% (29.7%, 85.7%)	74.8/180.5 = 41.4% (16.5%, 71.6%)
Argentina	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	14	30.9/180.5 = 17.1% (5.0%, 44.6%)	130/180.5 = 72.0% (36.3%, 92.1%)	99.5/180.5 = 55.1% (25.7%, 81.4%)
Brazil	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	102	317.2/3432.6 = 9.2% (5.0%, 16.6%)	866.2/3432.6 = 25.2% (17.8%, 34.5%)	588.9/3432.6 = 17.2% (11.1%, 25.5%)
Brazil	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	102	2013.8/3432.6 = 58.7% (48.2%, 68.4%)	2655.2/3432.6 = 77.4% (66.9%, 85.3%)	2236.9/3432.6 = 65.2% (54.5%, 74.5%)
Brazil	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	102	1492.7/3432.6 = 43.5% (34.2%, 53.3%)	3089.7/3432.6 = 90.0% (80.5%, 95.2%)	2691.3/3432.6 = 78.4% (68.0%, 86.1%)
Brazil	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	27	18.2/329.1 = 5.5% (0.7%, 33.3%)	96/329.1 = 29.2% (13.5%, 52.1%)	44/329.1 = 13.4% (4.1%, 35.6%)
Brazil	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	27	184.8/329.1 = 56.2% (34.8%, 75.4%)	314.3/329.1 = 95.5% (71.8%, 99.4%)	230.1/329.1 = 69.9% (46.6%, 86.1%)
Brazil	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	27	134.1/329.1 = 40.8% (22.5%, 62.0%)	329.1/329.1 = 100.0% (100.0%, 100.0%)	286/329.1 = 86.9% (63.4%, 96.2%)
Brazil	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	11	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	11	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 0.0% (0.0%, 0.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Brazil	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	11	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 0.0% (0.0%, 0.0%)	0/2609.9 = 0.0% (0.0%, 0.0%)
Brazil	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	21	30.5/269.5 = 11.3% (2.4%, 40.1%)	97.6/269.5 = 36.2% (16.8%, 61.5%)	30.5/269.5 = 11.3% (2.4%, 40.1%)
Brazil	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	21	145.2/269.5 = 53.9% (30.2%, 75.9%)	212.8/269.5 = 79.0% (51.4%, 93.0%)	182.8/269.5 = 67.8% (42.1%, 86.0%)
Brazil	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	21	112.8/269.5 = 41.8% (22.0%, 64.8%)	194.2/269.5 = 72.1% (45.7%, 88.8%)	156.6/269.5 = 58.1% (34.1%, 78.8%)
Chile	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	9	0/317.9 = 0.0% (0.0%, 0.0%)	111/317.9 = 34.9% (7.2%, 78.8%)	19.9/317.9 = 6.3% (0.4%, 50.9%)
Chile	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	9	185.7/317.9 = 58.4% (19.2%, 89.3%)	243.1/317.9 = 76.5% (28.8%, 96.3%)	185.7/317.9 = 58.4% (19.2%, 89.3%)
Chile	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	9	189.5/317.9 = 59.6% (18.3%, 90.7%)	317.9/317.9 = 100.0% (100.0%, 100.0%)	226.9/317.9 = 71.4% (23.0%, 95.4%)
Chile	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	7	0/73.2 = 0.0% (0.0%, 0.0%)	29.2/73.2 = 39.9% (5.2%, 88.9%)	11/73.2 = 15.0% (1.6%, 65.3%)
Chile	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	7	34.7/73.2 = 47.4% (7.3%, 91.1%)	40.2/73.2 = 54.9% (9.2%, 93.6%)	34.7/73.2 = 47.4% (7.3%, 91.1%)
Chile	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	7	29.2/73.2 = 39.9% (5.2%, 88.9%)	40.2/73.2 = 54.9% (9.2%, 93.6%)	40.2/73.2 = 54.9% (9.2%, 93.6%)
Chile	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/284.1 = 0.0%	0/284.1 = 0.0%	0/284.1 = 0.0%
Chile	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/284.1 = 0.0%	0/284.1 = 0.0%	0/284.1 = 0.0%
Chile	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/284.1 = 0.0%	0/284.1 = 0.0%	0/284.1 = 0.0%
Chile	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	4	11.4/35.2 = 32.4% (0.3%, 98.8%)	11.4/35.2 = 32.4% (0.3%, 98.8%)	11.4/35.2 = 32.4% (0.3%, 98.8%)
Chile	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	4	22.8/35.2 = 64.9% (2.7%, 99.2%)	35.2/35.2 = 100.0% (100.0%, 100.0%)	35.2/35.2 = 100.0% (100.0%, 100.0%)
Chile	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	4	29/35.2 = 82.4% (3.0%, 99.9%)	35.2/35.2 = 100.0% (100.0%, 100.0%)	35.2/35.2 = 100.0% (100.0%, 100.0%)
Columbia	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	41	149.6/1507.3 = 9.9% (3.5%, 25.1%)	515.4/1507.3 = 34.2% (20.5%, 51.1%)	325.9/1507.3 = 21.6% (10.9%, 38.4%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Columbia	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	41	964.7/1507.3 = 64.0% (47.7%, 77.6%)	1284/1507.3 = 85.2% (69.5%, 93.5%)	1038.3/1507.3 = 68.9% (52.9%, 81.3%)
Columbia	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	41	684.9/1507.3 = 45.4% (29.9%, 61.9%)	1305.3/1507.3 = 86.6% (70.0%, 94.7%)	1185/1507.3 = 78.6% (61.4%, 89.5%)
Columbia	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	16	10.2/222.6 = 4.6% (0.5%, 31.3%)	48.7/222.6 = 21.9% (6.7%, 52.3%)	28.3/222.6 = 12.7% (2.5%, 44.9%)
Columbia	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	16	83.8/222.6 = 37.7% (16.0%, 65.6%)	204.4/222.6 = 91.8% (53.8%, 99.1%)	113.5/222.6 = 51.0% (25.0%, 76.5%)
Columbia	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	16	87.2/222.6 = 39.2% (17.2%, 66.6%)	207.8/222.6 = 93.3% (58.6%, 99.3%)	174.8/222.6 = 78.5% (46.4%, 93.9%)
Columbia	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	8	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)	0/2666.7 = 0.0% (0.0%, 0.0%)
Columbia	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	22	17.6/263.7 = 6.7% (1.4%, 26.8%)	60.4/263.7 = 22.9% (9.0%, 47.2%)	29/263.7 = 11.0% (3.2%, 31.8%)
Columbia	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	22	139.4/263.7 = 52.9% (29.8%, 74.8%)	200.8/263.7 = 76.2% (48.8%, 91.4%)	151.8/263.7 = 57.6% (33.4%, 78.6%)
Columbia	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	22	89.4/263.7 = 33.9% (16.7%, 56.8%)	213.2/263.7 = 80.9% (52.4%, 94.2%)	177/263.7 = 67.1% (41.4%, 85.5%)
Mexico	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	6	29.3/213.8 = 13.7% (0.1%, 94.9%)	49.2/213.8 = 23.0% (0.6%, 93.3%)	29.3/213.8 = 13.7% (0.1%, 94.9%)
Mexico	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	6	86.7/213.8 = 40.5% (1.7%, 96.4%)	140.3/213.8 = 65.6% (3.1%, 99.1%)	86.7/213.8 = 40.5% (1.7%, 96.4%)
Mexico	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	6	86.7/213.8 = 40.5% (1.7%, 96.4%)	140.3/213.8 = 65.6% (3.1%, 99.1%)	86.7/213.8 = 40.5% (1.7%, 96.4%)
Mexico	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0/152.3 = 0.0%	0/152.3 = 0.0%	0/152.3 = 0.0%
Mexico	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0/152.3 = 0.0%	0/152.3 = 0.0%	0/152.3 = 0.0%
Mexico	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0/152.3 = 0.0%	0/152.3 = 0.0%	0/152.3 = 0.0%

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Mexico	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0/31.4 = 0.0%	0/31.4 = 0.0%	0/31.4 = 0.0%
Mexico	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	12.4/31.4 = 39.4%	12.4/31.4 = 39.4%	12.4/31.4 = 39.4%
Mexico	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	12.4/31.4 = 39.4%	12.4/31.4 = 39.4%	12.4/31.4 = 39.4%
Peru	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	17	19.9/613.5 = 3.3% (0.4%, 23.9%)	134.7/613.5 = 22.0% (7.8%, 48.3%)	77.3/613.5 = 12.6% (3.3%, 37.9%)
Peru	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	17	320.4/613.5 = 52.2% (26.2%, 77.1%)	415.2/613.5 = 67.7% (37.2%, 88.1%)	320.4/613.5 = 52.2% (26.2%, 77.1%)
Peru	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	17	249.3/613.5 = 40.6% (18.7%, 67.1%)	468.8/613.5 = 76.4% (44.1%, 93.0%)	468.8/613.5 = 76.4% (44.1%, 93.0%)
Peru	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	10	52/127 = 41.0% (12.0%, 77.9%)	72.3/127 = 57.0% (21.5%, 86.5%)	62.2/127 = 49.0% (16.5%, 82.3%)
Peru	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	10	96.5/127 = 76.0% (34.0%, 95.1%)	127/127 = 100.0% (100.0%, 100.0%)	106.6/127 = 84.0% (38.6%, 97.8%)
Peru	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	10	102/127 = 80.3% (35.2%, 96.8%)	127/127 = 100.0% (100.0%, 100.0%)	127/127 = 100.0% (100.0%, 100.0%)
Peru	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	5	0/1396.3 = 0.0%	0/1396.3 = 0.0%	0/1396.3 = 0.0%
Peru	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	5	0/1396.3 = 0.0%	0/1396.3 = 0.0%	0/1396.3 = 0.0%
Peru	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	5	0/1396.3 = 0.0%	0/1396.3 = 0.0%	0/1396.3 = 0.0%
Peru	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	6	0/65.6 = 0.0% (0.0%, 0.0%)	41.9/65.6 = 63.8% (10.3%, 96.4%)	30.5/65.6 = 46.4% (4.7%, 93.9%)
Peru	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	6	53.3/65.6 = 81.2% (22.4%, 98.5%)	59.5/65.6 = 90.6% (22.2%, 99.7%)	53.3/65.6 = 81.2% (22.4%, 98.5%)
Peru	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	6	41.9/65.6 = 63.8% (10.3%, 96.4%)	65.6/65.6 = 100.0% (100.0%, 100.0%)	59.5/65.6 = 90.6% (22.2%, 99.7%)
South Africa	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	229	202.8/2907 = 7.0% (4.3%, 11.1%)	815.3/2907 = 28.0% (22.4%, 34.5%)	463.1/2907 = 15.9% (11.6%, 21.5%)
South Africa	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	229	1684.8/2907 = 58.0% (51.0%, 64.6%)	2366.8/2907 = 81.4% (75.0%, 86.5%)	2063.1/2907 = 71.0% (64.1%, 77.0%)
South Africa	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	229	1566.5/2907 = 53.9% (47.0%, 60.6%)	2670.6/2907 = 91.9% (86.6%, 95.2%)	2336.7/2907 = 80.4% (73.9%, 85.5%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
South Africa	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	23.3/305 = 7.7% (4.1%, 13.8%)	108.4/305 = 35.5% (25.2%, 47.4%)	48.4/305 = 15.9% (9.6%, 25.2%)
South Africa	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	194.6/305 = 63.8% (50.7%, 75.1%)	254.9/305 = 83.6% (70.5%, 91.5%)	203.6/305 = 66.8% (53.4%, 77.9%)
South Africa	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	125.7/305 = 41.2% (30.5%, 52.9%)	287.2/305 = 94.2% (82.7%, 98.2%)	244.5/305 = 80.2% (66.7%, 89.1%)
South Africa	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	26	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	26	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	26	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)	0/2912 = 0.0% (0.0%, 0.0%)
South Africa	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	69	7.4/289 = 2.6% (0.6%, 9.7%)	32.8/289 = 11.3% (6.1%, 20.0%)	20.9/289 = 7.2% (3.3%, 15.2%)
South Africa	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	69	125.7/289 = 43.5% (32.9%, 54.7%)	219.5/289 = 76.0% (62.8%, 85.6%)	163/289 = 56.4% (43.6%, 68.4%)
South Africa	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	69	72.7/289 = 25.2% (17.5%, 34.8%)	220.4/289 = 76.2% (62.9%, 85.9%)	168.5/289 = 58.3% (45.2%, 70.3%)

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 6l. Percentage of responders, and participants with 2-fold rise, and participants with 4-fold rise for binding antibody markers by HIV Infection

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
HIV Infection								
Negative	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	843	1169.7/18206.8 = 6.4% (4.9%, 8.4%)	4715.4/18206.8 = 25.9% (22.8%, 29.2%)	2666.8/18206.8 = 14.6% (12.3%, 17.4%)
Negative	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	843	9874.6/18206.8 = 54.2% (50.5%, 58.0%)	14107.6/18206.8 = 77.5% (74.0%, 80.6%)	11427.5/18206.8 = 62.8% (59.0%, 66.4%)
Negative	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	843	8198.3/18206.8 = 45.0% (41.6%, 48.5%)	15824.8/18206.8 = 86.9% (83.9%, 89.4%)	13755.7/18206.8 = 75.6% (72.0%, 78.8%)
Negative	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	255	148.6/1888 = 7.9% (4.8%, 12.6%)	738.4/1888 = 39.1% (32.6%, 46.0%)	411.8/1888 = 21.8% (16.7%, 27.9%)
Negative	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	255	1144.4/1888 = 60.6% (53.6%, 67.2%)	1648.1/1888 = 87.3% (81.6%, 91.4%)	1288.1/1888 = 68.2% (61.1%, 74.6%)
Negative	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	255	982.5/1888 = 52.0% (45.3%, 58.7%)	1778/1888 = 94.2% (89.2%, 96.9%)	1557.3/1888 = 82.5% (76.1%, 87.4%)
Negative	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	101	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)
Negative	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	101	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)
Negative	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	101	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)	0/18266.3 = 0.0% (0.0%, 0.0%)
Negative	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	257	88.9/1920.5 = 4.6% (2.3%, 8.9%)	517.9/1920.5 = 27.0% (21.2%, 33.6%)	230.4/1920.5 = 12.0% (8.2%, 17.3%)
Negative	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	257	982.2/1920.5 = 51.1% (44.3%, 58.0%)	1476/1920.5 = 76.9% (70.4%, 82.3%)	1160.9/1920.5 = 60.4% (53.4%, 67.1%)
Negative	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	257	642.6/1920.5 = 33.5% (27.7%, 39.8%)	1516.3/1920.5 = 79.0% (72.4%, 84.3%)	1187.6/1920.5 = 61.8% (54.9%, 68.3%)
Positive	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	65	56.1/1096.2 = 5.1% (1.5%, 15.7%)	340.3/1096.2 = 31.0% (19.8%, 45.2%)	187/1096.2 = 17.1% (8.9%, 30.3%)
Positive	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	65	604.7/1096.2 = 55.2% (40.5%, 69.0%)	802.1/1096.2 = 73.2% (57.7%, 84.5%)	658.6/1096.2 = 60.1% (44.8%, 73.6%)
Positive	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	65	509.6/1096.2 = 46.5% (32.8%, 60.7%)	916.1/1096.2 = 83.6% (65.6%, 93.1%)	789.5/1096.2 = 72.0% (55.8%, 84.0%)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Responder	% 2-Fold Rise	% 4-Fold Rise
Positive	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	28	25.9/191 = 13.6% (3.1%, 43.5%)	65.5/191 = 34.3% (16.1%, 58.7%)	32.5/191 = 17.0% (5.1%, 43.8%)
Positive	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	28	156.9/191 = 82.2% (61.4%, 93.0%)	176.9/191 = 92.6% (72.8%, 98.3%)	164.4/191 = 86.1% (66.3%, 95.1%)
Positive	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	28	109.4/191 = 57.3% (34.5%, 77.4%)	191/191 = 100.0% (100.0%, 100.0%)	176.9/191 = 92.6% (72.8%, 98.3%)
Positive	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	6	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)
Positive	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)
Positive	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	6	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)	0/943.7 = 0.0% (0.0%, 0.0%)
Positive	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	20	7.4/136.5 = 5.4% (1.1%, 22.6%)	11.1/136.5 = 8.1% (2.2%, 25.6%)	11.1/136.5 = 8.1% (2.2%, 25.6%)
Positive	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	20	69.6/136.5 = 51.0% (23.4%, 77.9%)	87.2/136.5 = 63.9% (31.8%, 87.0%)	69.6/136.5 = 51.0% (23.4%, 77.9%)
Positive	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	20	51.1/136.5 = 37.4% (14.5%, 67.8%)	98.2/136.5 = 72.0% (36.0%, 92.1%)	73/136.5 = 53.4% (25.0%, 79.8%)

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.

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)	908	0.05 (0.05, 0.05)
	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	908	0.80 (0.79, 0.80)
	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	908	0.15 (0.15, 0.15)
	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	283	0.05 (0.05, 0.05)
	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	283	0.80 (0.80, 0.81)
	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	283	0.15 (0.15, 0.16)
	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)	277	0.05 (0.05, 0.05)
	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	277	0.81 (0.79, 0.83)
	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	277	0.15 (0.15, 0.16)
	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	908	1.44 (1.26, 1.64)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	908	16.33 (14.70, 18.14)
	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	908	8.93 (8.17, 9.77)
	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	283	2.13 (1.68, 2.69)
	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	283	22.71 (19.02, 27.10)
	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	283	13.07 (11.28, 15.14)
	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)	277	1.09 (0.85, 1.39)
	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	277	14.65 (11.83, 18.15)
	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	277	6.10 (5.01, 7.43)

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)	453	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	0.80 (0.79, 0.81)
Age 18 - 59	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	0.15 (0.15, 0.15)
Age 18 - 59	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.79, 0.81)
Age 18 - 59	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.16)
Age 18 - 59	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	53	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)
Age 18 - 59	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)
Age 18 - 59	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)
Age 18 - 59	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	141	0.81 (0.78, 0.84)
Age 18 - 59	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.15)
Age 18 - 59	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	453	0.94 (0.79, 1.12)
Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	10.47 (9.09, 12.05)
Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	5.60 (4.96, 6.33)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	1.46 (1.05, 2.01)
Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	13.72 (10.87, 17.30)
Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	8.24 (6.82, 9.96)
Age 18 - 59	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0.05 (0.05, 0.05)
Age 18 - 59	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)
Age 18 - 59	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)
Age 18 - 59	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	141	0.73 (0.52, 1.03)
Age 18 - 59	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	141	9.48 (7.04, 12.78)
Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	141	3.78 (2.87, 4.98)
Age ≥ 60	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	455	0.05 (0.05, 0.05)
Age ≥ 60	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	455	0.80 (0.80, 0.80)
Age ≥ 60	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	455	0.15 (0.15, 0.16)
Age ≥ 60	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	142	0.05 (0.05, 0.05)
Age ≥ 60	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	0.80 (0.79, 0.81)
Age ≥ 60	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	0.16 (0.15, 0.16)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	54	0.05 (0.05, 0.05)
Age \geq 60	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0.80 (0.80, 0.80)
Age \geq 60	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	54	0.15 (0.15, 0.15)
Age \geq 60	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	136	0.05 (0.05, 0.05)
Age \geq 60	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	136	0.80 (0.79, 0.81)
Age \geq 60	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	136	0.15 (0.15, 0.16)
Age \geq 60	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	455	3.20 (2.69, 3.82)
Age \geq 60	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	455	37.76 (32.67, 43.63)
Age \geq 60	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	455	21.50 (19.13, 24.15)
Age \geq 60	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	142	4.39 (3.29, 5.86)
Age \geq 60	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	59.13 (46.16, 75.75)
Age \geq 60	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	31.40 (25.36, 38.89)
Age \geq 60	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	54	0.05 (0.05, 0.05)
Age \geq 60	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	54	0.80 (0.80, 0.80)
Age \geq 60	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
Age \geq 60	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	136	2.29 (1.71, 3.08)
Age \geq 60	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	136	33.30 (26.07, 42.54)
Age \geq 60	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	136	15.03 (12.13, 18.64)

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)	454	0.05 (0.05, 0.05)
At-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	454	0.80 (0.80, 0.80)
At-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	454	0.15 (0.15, 0.15)
At-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	142	0.05 (0.05, 0.05)
At-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	0.81 (0.79, 0.82)
At-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	0.15 (0.15, 0.16)
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)	139	0.05 (0.05, 0.05)
At-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	139	0.80 (0.79, 0.81)
At-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	139	0.15 (0.15, 0.15)
At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	454	1.60 (1.35, 1.91)
At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	454	17.41 (15.12, 20.04)
At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	454	9.79 (8.70, 11.01)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	142	2.01 (1.48, 2.73)
At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	23.25 (17.90, 30.19)
At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	13.18 (10.76, 16.15)
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)	139	0.73 (0.53, 1.00)
At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	139	11.56 (8.93, 14.96)
At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	139	4.77 (3.74, 6.07)
Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	454	0.05 (0.05, 0.05)
Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	454	0.80 (0.79, 0.81)
Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	454	0.15 (0.15, 0.15)
Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)
Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.80, 0.80)
Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.16)

(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)	138	0.05 (0.05, 0.05)
Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	138	0.81 (0.78, 0.84)
Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	138	0.15 (0.15, 0.16)
Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	454	1.33 (1.11, 1.60)
Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	454	15.65 (13.50, 18.15)
Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	454	8.41 (7.41, 9.54)
Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	2.21 (1.59, 3.09)
Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	22.36 (17.63, 28.36)
Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	13.00 (10.60, 15.93)
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)	138	1.38 (0.98, 1.95)
Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	138	16.95 (12.47, 23.03)
Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	138	7.10 (5.36, 9.40)

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 (0.05, 0.05)
Age 18 - 59 At-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.79, 0.82)
Age 18 - 59 At-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	0.16 (0.15, 0.16)
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)	70	0.05 (0.05, 0.05)
Age 18 - 59 At-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.80, 0.80)
Age 18 - 59 At-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	70	0.15 (0.15, 0.15)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	224	1.11 (0.88, 1.41)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	11.33 (9.42, 13.62)
Age 18 - 59 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	6.32 (5.41, 7.40)

(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	1.34 (0.90, 1.99)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	14.68 (10.41, 20.70)
Age 18 - 59 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	8.36 (6.43, 10.87)
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)	70	0.51 (0.34, 0.78)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	70	8.43 (5.92, 12.00)
Age 18 - 59 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	70	3.08 (2.21, 4.27)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	229	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	229	0.80 (0.79, 0.81)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	229	0.15 (0.15, 0.15)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	71	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	0.80 (0.80, 0.80)
Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age 18 - 59 Not at-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Age 18 - 59 Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	71	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	71	0.82 (0.78, 0.87)
Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	71	0.15 (0.15, 0.15)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	229	0.84 (0.65, 1.07)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	229	9.93 (8.13, 12.13)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	229	5.18 (4.35, 6.15)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	1.54 (0.96, 2.48)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	13.08 (9.57, 17.89)
Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	8.15 (6.26, 10.62)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Age 18 - 59 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	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)	71	0.91 (0.56, 1.48)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	71	10.21 (6.63, 15.75)
Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	71	4.31 (2.89, 6.43)
Age \geq 60 At-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	230	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	230	0.80 (0.80, 0.80)
Age \geq 60 At-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	230	0.15 (0.15, 0.15)
Age \geq 60 At-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	72	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	72	0.81 (0.79, 0.84)
Age \geq 60 At-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	72	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)	69	0.05 (0.05, 0.05)
Age \geq 60 At-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	69	0.81 (0.78, 0.84)
Age \geq 60 At-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	69	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)	230	3.16 (2.47, 4.05)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	230	38.68 (31.42, 47.62)
Age \geq 60 At-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	230	22.01 (18.65, 25.98)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	72	4.78 (3.11, 7.33)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	72	62.09 (44.44, 86.75)
Age \geq 60 At-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	72	34.86 (26.67, 45.56)
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)	69	1.47 (0.96, 2.26)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	69	21.76 (16.14, 29.34)
Age \geq 60 At-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	69	11.46 (8.68, 15.14)
Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	225	0.05 (0.05, 0.05)
Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	225	0.80 (0.80, 0.80)
Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	225	0.15 (0.15, 0.16)

(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)	70	0.05 (0.05, 0.05)
Age ≥ 60 Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.80, 0.80)
Age ≥ 60 Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	0.16 (0.15, 0.16)
Age ≥ 60 Not at-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Age ≥ 60 Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Age ≥ 60 Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	67	0.05 (0.05, 0.06)
Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	67	0.80 (0.80, 0.80)
Age ≥ 60 Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	67	0.16 (0.15, 0.16)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	225	3.23 (2.54, 4.11)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	225	37.14 (30.49, 45.25)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	225	21.16 (18.03, 24.83)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	70	4.18 (2.86, 6.12)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	57.49 (40.95, 80.73)
Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	29.57 (21.92, 39.91)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Age \geq 60 Not at-risk	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	67	2.96 (2.00, 4.38)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	67	42.51 (30.16, 59.91)
Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	67	17.57 (13.05, 23.65)

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)	908	0.05 (0.05, 0.05)
Male	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	908	0.80 (0.79, 0.80)
Male	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	908	0.15 (0.15, 0.15)
Male	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	283	0.05 (0.05, 0.05)
Male	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	283	0.80 (0.80, 0.81)
Male	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	283	0.15 (0.15, 0.16)
Male	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	66	0.05 (0.05, 0.05)
Male	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	66	0.80 (0.80, 0.80)
Male	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	66	0.15 (0.15, 0.15)
Male	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	123	0.05 (0.05, 0.05)
Male	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	123	0.80 (0.80, 0.80)
Male	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	123	0.15 (0.15, 0.16)
Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	908	1.44 (1.26, 1.64)
Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	908	16.33 (14.70, 18.14)
Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	908	8.93 (8.17, 9.77)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	283	2.13 (1.68, 2.69)
Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	283	22.71 (19.02, 27.10)
Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	283	13.07 (11.28, 15.14)
Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	66	0.05 (0.05, 0.05)
Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	66	0.80 (0.80, 0.80)
Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	66	0.15 (0.15, 0.15)
Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	123	0.94 (0.67, 1.32)
Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	123	12.55 (9.39, 16.77)
Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	123	5.18 (4.00, 6.70)
Female	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	41	0.05 (0.05, 0.05)
Female	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	41	0.80 (0.80, 0.80)
Female	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	41	0.15 (0.15, 0.15)
Female	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	154	0.05 (0.05, 0.05)
Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	154	0.82 (0.78, 0.85)
Female	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	154	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	41	0.05 (0.05, 0.05)
Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	41	0.80 (0.80, 0.80)
Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	41	0.15 (0.15, 0.15)
Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	154	1.21 (0.85, 1.72)
Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	154	16.45 (12.05, 22.44)
Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	154	6.90 (5.15, 9.24)

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)	17	0.05 (0.05, 0.05)
Age 18 - 59 Female	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	17	0.80 (0.80, 0.80)
Age 18 - 59 Female	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	17	0.15 (0.15, 0.15)
Age 18 - 59 Female	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	77	0.05 (0.05, 0.05)
Age 18 - 59 Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	77	0.82 (0.77, 0.87)
Age 18 - 59 Female	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	77	0.15 (0.15, 0.15)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	17	0.05 (0.05, 0.05)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	17	0.80 (0.80, 0.80)
Age 18 - 59 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	17	0.15 (0.15, 0.15)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	77	0.72 (0.44, 1.18)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	77	9.40 (6.09, 14.49)
Age 18 - 59 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	77	3.87 (2.57, 5.83)
Age 18 - 59 Male	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	453	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	0.80 (0.79, 0.81)
Age 18 - 59 Male	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	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)	141	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.79, 0.81)
Age 18 - 59 Male	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.16)
Age 18 - 59 Male	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	36	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	36	0.80 (0.80, 0.80)
Age 18 - 59 Male	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	36	0.15 (0.15, 0.15)
Age 18 - 59 Male	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	64	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	64	0.80 (0.80, 0.80)
Age 18 - 59 Male	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	64	0.15 (0.15, 0.15)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	453	0.94 (0.79, 1.12)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	10.47 (9.09, 12.05)
Age 18 - 59 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	5.60 (4.96, 6.33)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	1.46 (1.05, 2.01)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	13.72 (10.87, 17.30)
Age 18 - 59 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	8.24 (6.82, 9.96)

(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)	36	0.05 (0.05, 0.05)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	36	0.80 (0.80, 0.80)
Age 18 - 59 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	36	0.15 (0.15, 0.15)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	64	0.74 (0.47, 1.17)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	64	9.59 (6.53, 14.09)
Age 18 - 59 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	64	3.67 (2.62, 5.15)
Age ≥ 60 Female	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	24	0.05 (0.05, 0.05)
Age ≥ 60 Female	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	24	0.80 (0.80, 0.80)
Age ≥ 60 Female	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	24	0.15 (0.15, 0.15)
Age ≥ 60 Female	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	77	0.05 (0.05, 0.06)
Age ≥ 60 Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	77	0.80 (0.79, 0.82)
Age ≥ 60 Female	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	77	0.15 (0.15, 0.15)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	24	0.05 (0.05, 0.05)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	24	0.80 (0.80, 0.80)
Age ≥ 60 Female	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	24	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	77	3.00 (2.00, 4.50)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	77	44.01 (32.13, 60.29)
Age ≥ 60 Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	77	19.06 (14.62, 24.84)
Age ≥ 60 Male	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	455	0.05 (0.05, 0.05)
Age ≥ 60 Male	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	455	0.80 (0.80, 0.80)
Age ≥ 60 Male	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	455	0.15 (0.15, 0.16)
Age ≥ 60 Male	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	142	0.05 (0.05, 0.05)
Age ≥ 60 Male	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	0.80 (0.79, 0.81)
Age ≥ 60 Male	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	0.16 (0.15, 0.16)
Age ≥ 60 Male	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	30	0.05 (0.05, 0.05)
Age ≥ 60 Male	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	30	0.80 (0.80, 0.80)
Age ≥ 60 Male	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	30	0.15 (0.15, 0.15)
Age ≥ 60 Male	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	59	0.05 (0.05, 0.05)
Age ≥ 60 Male	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)
Age ≥ 60 Male	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	59	0.16 (0.15, 0.16)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age \geq 60 Male	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	455	3.20 (2.69, 3.82)
Age \geq 60 Male	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	455	37.76 (32.67, 43.63)
Age \geq 60 Male	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	455	21.50 (19.13, 24.15)
Age \geq 60 Male	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	142	4.39 (3.29, 5.86)
Age \geq 60 Male	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	59.13 (46.16, 75.75)
Age \geq 60 Male	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	31.40 (25.36, 38.89)
Age \geq 60 Male	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	30	0.05 (0.05, 0.05)
Age \geq 60 Male	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	30	0.80 (0.80, 0.80)
Age \geq 60 Male	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	30	0.15 (0.15, 0.15)
Age \geq 60 Male	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	59	1.54 (1.01, 2.34)
Age \geq 60 Male	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	59	21.95 (15.18, 31.74)
Age \geq 60 Male	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	59	10.54 (7.70, 14.45)

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)	357	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	357	0.80 (0.79, 0.81)
Hispanic or Latino	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	357	0.15 (0.15, 0.15)
Hispanic or Latino	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	122	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	122	0.80 (0.80, 0.80)
Hispanic or Latino	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	122	0.15 (0.15, 0.15)
Hispanic or Latino	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)
Hispanic or Latino	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)
Hispanic or Latino	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	104	0.05 (0.05, 0.05)
Hispanic or Latino	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	104	0.80 (0.80, 0.80)
Hispanic or Latino	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	104	0.15 (0.15, 0.16)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	357	1.41 (1.14, 1.75)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	357	16.15 (13.65, 19.10)
Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	357	8.17 (7.07, 9.45)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	122	2.26 (1.58, 3.24)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	122	21.66 (16.63, 28.19)
Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	122	13.20 (10.63, 16.40)
Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)
Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)
Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)
Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	104	1.18 (0.78, 1.78)
Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	104	17.51 (12.01, 25.53)
Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	104	6.63 (4.88, 9.01)
Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	495	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	495	0.80 (0.80, 0.80)
Not Hispanic or Latino	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	495	0.15 (0.15, 0.15)
Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	146	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	146	0.80 (0.79, 0.81)
Not Hispanic or Latino	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	146	0.15 (0.15, 0.16)

(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)	52	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0.80 (0.80, 0.80)
Not Hispanic or Latino	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0.15 (0.15, 0.15)
Not Hispanic or Latino	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	155	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	155	0.82 (0.78, 0.86)
Not Hispanic or Latino	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	155	0.15 (0.15, 0.15)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	495	1.40 (1.19, 1.64)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	495	16.04 (14.02, 18.34)
Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	495	9.64 (8.61, 10.79)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	146	1.96 (1.45, 2.66)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	146	25.81 (20.24, 32.91)
Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	146	12.72 (10.34, 15.64)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	52	0.05 (0.05, 0.05)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0.80 (0.80, 0.80)
Not Hispanic or Latino	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	155	1.01 (0.75, 1.36)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	155	13.28 (10.62, 16.61)
Not Hispanic or Latino	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	155	6.09 (4.66, 7.96)
Not reported and unknown	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	56	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	56	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	56	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	15	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	15	0.82 (0.77, 0.87)
Not reported and unknown	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	15	0.17 (0.14, 0.19)
Not reported and unknown	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	15	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	15	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	15	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	18	0.05 (0.04, 0.07)
Not reported and unknown	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	18	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	18	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)	56	2.07 (1.35, 3.19)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	56	21.04 (13.51, 32.77)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	56	11.25 (7.60, 16.68)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	15	2.09 (0.86, 5.08)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	15	13.36 (6.11, 29.21)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	15	14.63 (6.50, 32.96)
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	15	0.05 (0.05, 0.05)
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	15	0.80 (0.80, 0.80)
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	15	0.15 (0.15, 0.15)
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	18	0.97 (0.38, 2.49)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	18	7.23 (3.33, 15.71)
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	18	3.13 (1.45, 6.77)

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)	200	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	200	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	200	0.15 (0.15, 0.15)
White Non-Hispanic	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	57	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	57	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	57	0.15 (0.15, 0.15)
White Non-Hispanic	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	22	0.15 (0.15, 0.15)
White Non-Hispanic	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	60	0.05 (0.05, 0.05)
White Non-Hispanic	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	60	0.80 (0.80, 0.80)
White Non-Hispanic	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	60	0.15 (0.15, 0.15)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	200	1.24 (0.98, 1.57)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	200	14.26 (11.74, 17.32)
White Non-Hispanic	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	200	9.04 (7.72, 10.58)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
White Non-Hispanic	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	57	1.90 (1.19, 3.04)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	57	26.60 (19.25, 36.74)
White Non-Hispanic	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	57	11.65 (8.52, 15.93)
White Non-Hispanic	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)
White Non-Hispanic	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)
White Non-Hispanic	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	22	0.15 (0.15, 0.15)
White Non-Hispanic	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	60	1.11 (0.67, 1.82)
White Non-Hispanic	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	60	15.93 (10.98, 23.11)
White Non-Hispanic	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	60	5.59 (3.72, 8.40)
Black or African American	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	340	0.05 (0.05, 0.05)
Black or African American	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	340	0.80 (0.80, 0.80)
Black or African American	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	340	0.15 (0.15, 0.15)
Black or African American	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	102	0.05 (0.05, 0.05)
Black or African American	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	102	0.81 (0.79, 0.82)
Black or African American	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	102	0.16 (0.15, 0.16)

(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)	103	0.05 (0.05, 0.05)
Black or African American	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	103	0.80 (0.79, 0.82)
Black or African American	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	103	0.15 (0.15, 0.15)
Black or African American	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	340	1.44 (1.16, 1.79)
Black or African American	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	340	16.42 (13.79, 19.56)
Black or African American	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	340	10.11 (8.70, 11.76)
Black or African American	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	102	1.65 (1.12, 2.44)
Black or African American	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	102	21.31 (15.22, 29.84)
Black or African American	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	102	11.39 (8.77, 14.80)
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)	103	1.00 (0.68, 1.48)
Black or African American	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	103	14.18 (10.40, 19.34)
Black or African American	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	103	7.21 (5.19, 10.01)
Asian	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	15	0.05 (0.05, 0.05)
Asian	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	15	0.80 (0.80, 0.80)
Asian	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	15	0.15 (0.15, 0.15)
Asian	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	3	0.05 (0.05, 0.05)
Asian	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	3	0.80 (0.80, 0.80)
Asian	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	3	0.15 (0.15, 0.15)
Asian	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Asian	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Asian	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)
Asian	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	5	0.06 (0.04, 0.11)
Asian	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)
Asian	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	5	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)	15	0.51 (0.15, 1.65)
Asian	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	15	8.97 (2.83, 28.48)
Asian	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	15	5.29 (2.54, 11.00)
Asian	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	3	1.36 (0.23, 8.10)
Asian	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	3	20.25 (3.37, 121.65)
Asian	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	3	11.71 (5.58, 24.59)
Asian	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Asian	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Asian	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)
Asian	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	5	0.61 (0.29, 1.28)
Asian	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	5	7.83 (3.78, 16.19)
Asian	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5	2.80 (1.84, 4.26)
American Indian or Alaska Native	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	135	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	135	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	135	0.15 (0.15, 0.16)

(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)	37	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	19	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	19	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	19	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	48	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	48	0.83 (0.77, 0.90)
American Indian or Alaska Native	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	48	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	135	1.34 (0.97, 1.87)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	135	17.12 (13.07, 22.42)
American Indian or Alaska Native	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	135	8.93 (7.13, 11.20)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	3.42 (1.86, 6.32)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	21.13 (14.23, 31.37)
American Indian or Alaska Native	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	13.52 (9.79, 18.67)

(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)	19	0.05 (0.05, 0.05)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	19	0.80 (0.80, 0.80)
American Indian or Alaska Native	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	19	0.15 (0.15, 0.15)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	48	1.39 (0.81, 2.39)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	48	18.09 (10.30, 31.77)
American Indian or Alaska Native	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	48	6.89 (4.38, 10.83)
Native Hawaiian or Other Pacific Islander	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Native Hawaiian or Other Pacific Islander	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Native Hawaiian or Other Pacific Islander	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Native Hawaiian or Other Pacific Islander	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Native Hawaiian or Other Pacific Islander	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Native Hawaiian or Other Pacific Islander	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1	2.54 (2.54, 2.54)
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	32.43 (32.43, 32.43)
Native Hawaiian or Other Pacific Islander	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	39.65 (39.65, 39.65)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	1	1.45 (1.45, 1.45)
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	1	28.82 (28.82, 28.82)
Native Hawaiian or Other Pacific Islander	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	1	47.75 (47.75, 47.75)
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)
Multiracial	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	12	0.05 (0.05, 0.05)
Multiracial	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	0.80 (0.80, 0.80)
Multiracial	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	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)	9	0.05 (0.05, 0.05)
Multiracial	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	9	0.80 (0.80, 0.80)
Multiracial	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	9	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Multiracial	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	25	2.29 (1.21, 4.34)
Multiracial	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	14.57 (8.18, 25.96)
Multiracial	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	8.38 (4.83, 14.55)
Multiracial	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	12	2.55 (0.72, 9.05)
Multiracial	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	17.93 (6.75, 47.59)
Multiracial	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	15.29 (7.01, 33.34)
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)	9	0.72 (0.13, 3.99)
Multiracial	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	9	11.32 (2.28, 56.15)
Multiracial	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	9	7.04 (2.59, 19.09)
Not reported and unknown	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	8	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	8	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	8	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Not reported and unknown	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Not reported and unknown	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Not reported and unknown	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	3	0.06 (0.04, 0.11)
Not reported and unknown	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	3	0.80 (0.80, 0.80)
Not reported and unknown	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	3	0.15 (0.15, 0.15)
Not reported and unknown	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	8	1.34 (0.26, 7.00)
Not reported and unknown	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	8	26.51 (8.01, 87.71)
Not reported and unknown	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	8	8.32 (3.48, 19.88)
Not reported and unknown	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	5	2.28 (0.30, 17.38)
Not reported and unknown	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	40.77 (5.96, 278.96)
Not reported and unknown	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	29.32 (7.19, 119.46)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Not reported and unknown	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Not reported and unknown	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Not reported and unknown	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Not reported and unknown	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	3	3.68 (0.73, 18.49)
Not reported and unknown	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	3	40.96 (4.54, 369.82)
Not reported and unknown	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	3	67.57 (15.85, 288.02)

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 (0.79, 0.81)
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)	206	0.05 (0.05, 0.05)
URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	206	0.80 (0.80, 0.81)
URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	206	0.15 (0.15, 0.16)
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)	197	0.05 (0.05, 0.05)
URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	197	0.81 (0.79, 0.84)
URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	197	0.15 (0.15, 0.16)
URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	651	1.49 (1.27, 1.74)
URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	651	16.73 (14.72, 19.02)
URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	651	8.92 (7.99, 9.97)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	206	2.09 (1.57, 2.78)
URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	206	21.20 (17.05, 26.35)
URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	206	12.86 (10.81, 15.30)
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)	197	1.07 (0.79, 1.45)
URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	197	14.87 (11.36, 19.48)
URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	197	6.50 (5.12, 8.25)
Non-URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	257	0.05 (0.05, 0.05)
Non-URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	257	0.80 (0.80, 0.80)
Non-URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	257	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 (0.79, 0.81)
Non-URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	77	0.16 (0.15, 0.16)

(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)	80	0.05 (0.05, 0.06)
Non-URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	80	0.80 (0.80, 0.80)
Non-URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	80	0.15 (0.15, 0.15)
Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	257	1.31 (1.06, 1.62)
Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	257	15.26 (12.79, 18.22)
Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	257	8.96 (7.76, 10.35)
Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	77	2.25 (1.51, 3.36)
Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	77	27.75 (20.88, 36.86)
Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	77	13.71 (10.39, 18.09)
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)	80	1.12 (0.73, 1.73)
Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	80	14.11 (10.11, 19.70)
Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	80	5.19 (3.64, 7.42)

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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)	323	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	323	0.80 (0.79, 0.81)
Age 18 - 59 URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	323	0.15 (0.15, 0.15)
Age 18 - 59 URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	104	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	104	0.80 (0.79, 0.81)
Age 18 - 59 URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	104	0.15 (0.15, 0.16)
Age 18 - 59 URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	38	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0.80 (0.80, 0.80)
Age 18 - 59 URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0.15 (0.15, 0.15)
Age 18 - 59 URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	98	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	98	0.82 (0.78, 0.86)
Age 18 - 59 URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	98	0.15 (0.15, 0.15)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	323	0.93 (0.75, 1.16)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	323	10.51 (8.85, 12.49)
Age 18 - 59 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	323	5.52 (4.75, 6.42)

(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)	104	1.52 (1.03, 2.23)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	104	13.71 (10.35, 18.17)
Age 18 - 59 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	104	8.70 (6.96, 10.87)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	38	0.05 (0.05, 0.05)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0.80 (0.80, 0.80)
Age 18 - 59 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0.15 (0.15, 0.15)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	98	0.68 (0.44, 1.03)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	98	9.49 (6.47, 13.94)
Age 18 - 59 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	98	3.87 (2.75, 5.43)
Age 18 - 59 Non-URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	130	0.05 (0.05, 0.05)
Age 18 - 59 Non-URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	130	0.80 (0.80, 0.80)
Age 18 - 59 Non-URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	130	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)	43	0.05 (0.05, 0.06)
Age 18 - 59 Non-URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	43	0.80 (0.80, 0.80)
Age 18 - 59 Non-URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	43	0.15 (0.15, 0.15)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	130	0.95 (0.71, 1.26)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	130	10.34 (8.16, 13.09)
Age 18 - 59 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	130	5.83 (4.81, 7.07)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	37	1.28 (0.71, 2.28)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	13.73 (9.40, 20.06)
Age 18 - 59 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	6.94 (4.87, 9.89)
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)	43	0.88 (0.50, 1.54)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	43	9.45 (6.25, 14.28)
Age 18 - 59 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	43	3.59 (2.27, 5.69)
Age \geq 60 URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	328	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	328	0.80 (0.80, 0.80)
Age \geq 60 URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	328	0.15 (0.15, 0.16)
Age \geq 60 URM	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	102	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	102	0.80 (0.79, 0.81)
Age \geq 60 URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	102	0.15 (0.15, 0.15)
Age \geq 60 URM	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)
Age \geq 60 URM	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)
Age \geq 60 URM	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	99	0.05 (0.05, 0.05)
Age \geq 60 URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	99	0.80 (0.79, 0.82)
Age \geq 60 URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	99	0.16 (0.15, 0.16)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	328	3.53 (2.86, 4.36)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	328	39.84 (33.48, 47.42)
Age ≥ 60 URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	328	21.84 (18.94, 25.19)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	102	3.99 (2.77, 5.75)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	102	51.08 (37.30, 69.97)
Age ≥ 60 URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	102	28.33 (21.92, 36.61)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)
Age ≥ 60 URM	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	99	2.43 (1.73, 3.42)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	99	33.13 (24.74, 44.38)
Age ≥ 60 URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	99	16.42 (12.82, 21.03)
Age ≥ 60 Non-URM	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	127	0.05 (0.05, 0.05)
Age ≥ 60 Non-URM	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	127	0.80 (0.80, 0.80)
Age ≥ 60 Non-URM	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	127	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	0.81 (0.79, 0.83)
Age \geq 60 Non-URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	40	0.16 (0.15, 0.17)
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 (0.05, 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)	127	2.43 (1.80, 3.27)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	127	32.43 (25.26, 41.62)
Age \geq 60 Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	127	20.56 (17.01, 24.85)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	40	5.57 (3.61, 8.61)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	40	85.47 (58.59, 124.67)
Age \geq 60 Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	40	40.71 (28.73, 57.69)

(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	1.94 (1.08, 3.47)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	37	33.80 (21.82, 52.35)
Age \geq 60 Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	37	11.59 (7.51, 17.89)



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)	453	0.05 (0.05, 0.05)
United States	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	0.80 (0.80, 0.80)
United States	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	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 (0.79, 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)	53	0.05 (0.05, 0.05)
United States	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)
United States	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)
United States	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	139	0.05 (0.05, 0.05)
United States	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	139	0.80 (0.79, 0.81)
United States	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	139	0.15 (0.15, 0.16)
United States	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	453	1.38 (1.18, 1.61)
United States	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	14.98 (13.07, 17.17)
United States	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	8.63 (7.70, 9.66)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
United States	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	141	2.38 (1.73, 3.27)
United States	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	28.71 (22.57, 36.53)
United States	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	14.91 (12.05, 18.45)
United States	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	53	0.05 (0.05, 0.05)
United States	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)
United States	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)
United States	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	139	1.08 (0.79, 1.48)
United States	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	139	14.38 (11.37, 18.19)
United States	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	139	5.95 (4.62, 7.67)
Argentina	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	51	0.05 (0.05, 0.05)
Argentina	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	51	0.80 (0.80, 0.80)
Argentina	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	51	0.15 (0.15, 0.15)
Argentina	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	11	0.05 (0.05, 0.05)
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)	2	0.05 (0.05, 0.05)
Argentina	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)
Argentina	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)
Argentina	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	14	0.05 (0.05, 0.05)
Argentina	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	14	0.80 (0.80, 0.80)
Argentina	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	14	0.15 (0.15, 0.15)
Argentina	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	51	1.25 (0.74, 2.10)
Argentina	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	51	13.41 (8.55, 21.02)
Argentina	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	51	6.96 (4.93, 9.83)
Argentina	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	11	3.05 (1.25, 7.46)
Argentina	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	33.02 (15.13, 72.03)
Argentina	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	18.81 (9.94, 35.61)
Argentina	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)
Argentina	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	2	0.80 (0.80, 0.80)
Argentina	Day 29	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
Argentina	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	14	0.76 (0.29, 2.03)
Argentina	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	14	7.90 (3.82, 16.35)
Argentina	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	14	3.55 (2.17, 5.80)
Brazil	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	102	0.05 (0.05, 0.05)
Brazil	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	102	0.80 (0.80, 0.80)
Brazil	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	102	0.15 (0.15, 0.16)
Brazil	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)
Brazil	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)
Brazil	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)
Brazil	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	11	0.05 (0.05, 0.05)
Brazil	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)
Brazil	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	11	0.15 (0.15, 0.15)
Brazil	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	21	0.05 (0.04, 0.06)
Brazil	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	21	0.87 (0.74, 1.02)
Brazil	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	21	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)	102	1.41 (0.94, 2.11)
Brazil	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	102	17.91 (13.37, 23.99)
Brazil	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	102	9.40 (7.20, 12.29)
Brazil	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	27	1.74 (0.87, 3.48)
Brazil	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	27	15.47 (10.40, 23.02)
Brazil	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	27	10.92 (7.79, 15.32)
Brazil	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	11	0.05 (0.05, 0.05)
Brazil	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)
Brazil	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	11	0.15 (0.15, 0.15)
Brazil	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	21	1.13 (0.38, 3.34)
Brazil	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	21	19.33 (7.17, 52.11)
Brazil	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	21	6.86 (2.89, 16.26)
Chile	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	9	0.05 (0.05, 0.05)
Chile	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	9	0.80 (0.80, 0.80)
Chile	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	9	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)	7	0.05 (0.05, 0.05)
Chile	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	7	0.80 (0.80, 0.80)
Chile	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	7	0.15 (0.15, 0.15)
Chile	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Chile	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Chile	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Chile	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)
Chile	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)
Chile	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)
Chile	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	9	2.61 (1.48, 4.60)
Chile	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	9	15.75 (7.96, 31.17)
Chile	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	9	10.66 (5.32, 21.37)
Chile	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	7	0.80 (0.18, 3.55)
Chile	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	7	5.03 (1.18, 21.44)
Chile	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	7	6.29 (1.81, 21.93)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Chile	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Chile	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Chile	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Chile	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	4	4.11 (0.79, 21.21)
Chile	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	4	44.18 (11.93, 163.56)
Chile	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	4	24.98 (8.42, 74.16)
Columbia	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	41	0.05 (0.05, 0.05)
Columbia	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	41	0.82 (0.77, 0.88)
Columbia	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	41	0.15 (0.15, 0.15)
Columbia	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	16	0.05 (0.04, 0.05)
Columbia	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	16	0.80 (0.80, 0.80)
Columbia	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	16	0.15 (0.15, 0.15)
Columbia	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	8	0.05 (0.05, 0.05)
Columbia	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0.80 (0.80, 0.80)
Columbia	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Columbia	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)
Columbia	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)
Columbia	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	22	0.15 (0.15, 0.15)
Columbia	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	41	1.84 (0.99, 3.40)
Columbia	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	41	22.88 (14.33, 36.52)
Columbia	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	41	9.47 (5.93, 15.13)
Columbia	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	16	1.35 (0.63, 2.89)
Columbia	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	16	17.83 (9.71, 32.72)
Columbia	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	16	8.57 (5.19, 14.17)
Columbia	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	8	0.05 (0.05, 0.05)
Columbia	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0.80 (0.80, 0.80)
Columbia	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0.15 (0.15, 0.15)
Columbia	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	22	1.35 (0.64, 2.84)
Columbia	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	22	15.26 (7.31, 31.86)
Columbia	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	22	6.11 (3.44, 10.87)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Mexico	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)
Mexico	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)
Mexico	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)
Mexico	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Mexico	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Mexico	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)
Mexico	Day 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)
Mexico	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	6	1.25 (0.33, 4.75)
Mexico	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	6	11.61 (3.73, 36.17)
Mexico	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	6	6.00 (1.54, 23.37)
Mexico	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)
Mexico	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)
Mexico	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Mexico	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	2	0.28 (0.20, 0.40)
Mexico	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	2	5.71 (1.50, 21.77)
Mexico	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	2	2.55 (0.34, 18.86)
Peru	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	17	0.05 (0.05, 0.05)
Peru	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	17	0.80 (0.80, 0.80)
Peru	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	17	0.15 (0.15, 0.15)
Peru	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	10	0.05 (0.05, 0.05)
Peru	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	10	0.80 (0.80, 0.80)
Peru	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	10	0.16 (0.15, 0.18)
Peru	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)
Peru	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)
Peru	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)
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)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Peru	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	17	1.02 (0.33, 3.11)
Peru	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	17	14.51 (5.71, 36.83)
Peru	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	17	7.22 (2.92, 17.88)
Peru	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	10	9.32 (3.49, 24.88)
Peru	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	10	36.76 (17.78, 76.01)
Peru	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	10	31.56 (16.32, 61.03)
Peru	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)
Peru	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)
Peru	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)
Peru	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	6	3.80 (1.15, 12.59)
Peru	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	6	52.76 (17.90, 155.51)
Peru	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	6	27.35 (8.79, 85.06)
South Africa	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	229	0.05 (0.05, 0.05)
South Africa	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	229	0.80 (0.80, 0.80)
South Africa	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	229	0.15 (0.15, 0.15)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
South Africa	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	71	0.05 (0.05, 0.05)
South Africa	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	0.82 (0.79, 0.84)
South Africa	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	0.16 (0.15, 0.16)
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)	69	0.05 (0.05, 0.05)
South Africa	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	69	0.80 (0.80, 0.80)
South Africa	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	69	0.15 (0.15, 0.15)
South Africa	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	229	1.63 (1.29, 2.05)
South Africa	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	229	18.93 (15.35, 23.33)
South Africa	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	229	11.19 (9.46, 13.23)
South Africa	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	71	1.60 (1.04, 2.48)
South Africa	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	20.85 (13.77, 31.55)
South Africa	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	10.54 (8.08, 13.74)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
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)	69	0.80 (0.55, 1.18)
South Africa	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	69	12.35 (9.25, 16.49)
South Africa	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	69	5.47 (4.05, 7.39)

Table 7l. Geometric mean titers (GMTs) and geometric mean concentrations (GMCs) by HIV Infection

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
HIV Infection						
Negative	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	843	0.05 (0.05, 0.05)
Negative	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	843	0.80 (0.79, 0.80)
Negative	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	843	0.15 (0.15, 0.15)
Negative	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	255	0.05 (0.05, 0.05)
Negative	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	255	0.80 (0.80, 0.81)
Negative	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	255	0.15 (0.15, 0.16)
Negative	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	101	0.05 (0.05, 0.05)
Negative	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	101	0.80 (0.80, 0.80)
Negative	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	101	0.15 (0.15, 0.15)
Negative	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	257	0.05 (0.05, 0.05)
Negative	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	257	0.81 (0.79, 0.83)
Negative	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	257	0.15 (0.15, 0.16)
Negative	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	843	1.44 (1.26, 1.65)
Negative	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	843	16.31 (14.64, 18.18)
Negative	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	843	8.94 (8.15, 9.81)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Negative	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	255	2.09 (1.63, 2.69)
Negative	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	255	22.34 (18.50, 26.99)
Negative	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	255	12.80 (10.93, 14.98)
Negative	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	101	0.05 (0.05, 0.05)
Negative	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	101	0.80 (0.80, 0.80)
Negative	Day 29	Placebo	Negative	Anti Spike IgG (IU/ml)	101	0.15 (0.15, 0.15)
Negative	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	257	1.13 (0.87, 1.45)
Negative	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	257	14.75 (11.84, 18.37)
Negative	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	257	6.12 (4.98, 7.54)
Positive	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	65	0.05 (0.05, 0.05)
Positive	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	65	0.80 (0.80, 0.80)
Positive	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	65	0.15 (0.15, 0.16)
Positive	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	28	0.05 (0.05, 0.05)
Positive	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	28	0.81 (0.79, 0.83)
Positive	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	28	0.16 (0.15, 0.17)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	GMT/GMC
Positive	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)
Positive	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)
Positive	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)
Positive	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	20	0.05 (0.05, 0.05)
Positive	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	20	0.80 (0.80, 0.80)
Positive	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	20	0.15 (0.15, 0.15)
Positive	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	65	1.32 (0.72, 2.43)
Positive	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	65	16.64 (10.07, 27.52)
Positive	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	65	8.79 (5.88, 13.16)
Positive	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	28	2.55 (1.34, 4.87)
Positive	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	28	26.62 (17.22, 41.15)
Positive	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	28	16.13 (10.96, 23.72)
Positive	Day 29	Placebo	Negative	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)
Positive	Day 29	Placebo	Negative	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)
Positive	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
Positive	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	20	0.65 (0.22, 1.96)
Positive	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	20	13.40 (4.69, 38.27)
Positive	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	20	5.80 (2.79, 12.05)

MOCK

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)	908	0.05 (0.05, 0.05)	1.44 (1.26, 1.64)	1.60 (1.50, 1.71)
	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	908	0.80 (0.79, 0.80)	16.33 (14.70, 18.14)	6.74 (6.11, 7.44)
	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	908	0.15 (0.15, 0.15)	8.93 (8.17, 9.77)	9.62 (8.81, 10.50)
	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	283	0.05 (0.05, 0.05)	2.13 (1.68, 2.69)	1.99 (1.75, 2.27)
	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	283	0.80 (0.80, 0.81)	22.71 (19.02, 27.10)	9.34 (7.92, 11.02)
	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	283	0.15 (0.15, 0.16)	13.07 (11.28, 15.14)	13.91 (11.94, 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)	277	0.05 (0.05, 0.05)	1.09 (0.85, 1.39)	1.51 (1.35, 1.67)
	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	277	0.81 (0.79, 0.83)	14.65 (11.83, 18.15)	6.19 (5.10, 7.52)
	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	277	0.15 (0.15, 0.16)	6.10 (5.01, 7.43)	6.78 (5.62, 8.18)

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)	453	0.05 (0.05, 0.05)	0.94 (0.79, 1.12)	1.34 (1.25, 1.44)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	0.80 (0.79, 0.81)	10.47 (9.09, 12.05)	4.40 (3.87, 5.01)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	0.15 (0.15, 0.15)	5.60 (4.96, 6.33)	6.01 (5.34, 6.77)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)	1.46 (1.05, 2.01)	1.70 (1.43, 2.01)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.79, 0.81)	13.72 (10.87, 17.30)	5.77 (4.68, 7.12)
Age 18 - 59	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.16)	8.24 (6.82, 9.96)	8.68 (7.10, 10.60)
Age 18 - 59	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 18 - 59	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 18 - 59	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 18 - 59	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)	0.73 (0.52, 1.03)	1.34 (1.17, 1.52)
Age 18 - 59	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	141	0.81 (0.78, 0.84)	9.48 (7.04, 12.78)	4.17 (3.20, 5.43)
Age 18 - 59	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.15)	3.78 (2.87, 4.98)	4.28 (3.30, 5.55)
Age \geq 60	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	455	0.05 (0.05, 0.05)	3.20 (2.69, 3.82)	2.23 (1.97, 2.53)
Age \geq 60	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	455	0.80 (0.80, 0.80)	37.76 (32.67, 43.63)	15.05 (13.05, 17.36)
Age \geq 60	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	455	0.15 (0.15, 0.16)	21.50 (19.13, 24.15)	23.32 (20.77, 26.19)

(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)	142	0.05 (0.05, 0.05)	4.39 (3.29, 5.86)	2.70 (2.20, 3.33)
Age \geq 60	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	0.80 (0.79, 0.81)	59.13 (46.16, 75.75)	23.33 (18.15, 29.98)
Age \geq 60	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	0.16 (0.15, 0.16)	31.40 (25.36, 38.89)	34.08 (27.52, 42.21)
Age \geq 60	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 \geq 60	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 \geq 60	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 \geq 60	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	136	0.05 (0.05, 0.05)	2.29 (1.71, 3.08)	1.89 (1.56, 2.28)
Age \geq 60	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	136	0.80 (0.79, 0.81)	33.30 (26.07, 42.54)	13.07 (10.20, 16.76)
Age \geq 60	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	136	0.15 (0.15, 0.16)	15.03 (12.13, 18.64)	16.15 (13.00, 20.06)



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)	454	0.05 (0.05, 0.05)	1.60 (1.35, 1.91)	1.66 (1.52, 1.82)
At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	454	0.80 (0.80, 0.80)	17.41 (15.12, 20.04)	7.03 (6.14, 8.05)
At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	454	0.15 (0.15, 0.15)	9.79 (8.70, 11.01)	10.35 (9.16, 11.69)
At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	142	0.05 (0.05, 0.05)	2.01 (1.48, 2.73)	1.91 (1.67, 2.19)
At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	0.81 (0.79, 0.82)	23.25 (17.90, 30.19)	9.65 (7.64, 12.21)
At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	0.15 (0.15, 0.16)	13.18 (10.76, 16.15)	13.93 (11.22, 17.29)
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)	139	0.05 (0.05, 0.05)	0.73 (0.53, 1.00)	1.29 (1.16, 1.43)
At-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	139	0.80 (0.79, 0.81)	11.56 (8.93, 14.96)	4.97 (3.98, 6.20)
At-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	139	0.15 (0.15, 0.15)	4.77 (3.74, 6.07)	5.42 (4.38, 6.71)
Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	454	0.05 (0.05, 0.05)	1.33 (1.11, 1.60)	1.56 (1.43, 1.71)
Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	454	0.80 (0.79, 0.81)	15.65 (13.50, 18.15)	6.55 (5.72, 7.51)
Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	454	0.15 (0.15, 0.15)	8.41 (7.41, 9.54)	9.17 (8.12, 10.35)

(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)	141	0.05 (0.05, 0.05)	2.21 (1.59, 3.09)	2.05 (1.68, 2.50)
Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.80, 0.80)	22.36 (17.63, 28.36)	9.15 (7.30, 11.46)
Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.16)	13.00 (10.60, 15.93)	13.90 (11.27, 17.15)
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)	138	0.05 (0.05, 0.05)	1.38 (0.98, 1.95)	1.66 (1.41, 1.94)
Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	138	0.81 (0.78, 0.84)	16.95 (12.47, 23.03)	7.09 (5.35, 9.40)
Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	138	0.15 (0.15, 0.16)	7.10 (5.36, 9.40)	7.78 (5.92, 10.21)

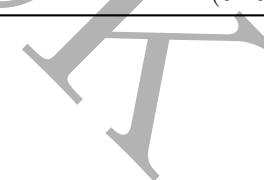


Table 8d. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age, Risk for Severe Covid-19

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)	1.11 (0.88, 1.41)	1.40 (1.26, 1.56)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	224	0.80 (0.80, 0.80)	11.33 (9.42, 13.62)	4.58 (3.83, 5.47)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	224	0.15 (0.15, 0.15)	6.32 (5.41, 7.40)	6.60 (5.60, 7.77)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	70	0.05 (0.05, 0.05)	1.34 (0.90, 1.99)	1.53 (1.32, 1.76)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.79, 0.82)	14.68 (10.41, 20.70)	6.26 (4.65, 8.44)
Age 18 - 59 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	0.16 (0.15, 0.16)	8.36 (6.43, 10.87)	8.73 (6.57, 11.59)
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)	70	0.05 (0.05, 0.05)	0.51 (0.34, 0.78)	1.20 (1.06, 1.36)
Age 18 - 59 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.80, 0.80)	8.43 (5.92, 12.00)	3.81 (2.85, 5.10)
Age 18 - 59 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	70	0.15 (0.15, 0.15)	3.08 (2.21, 4.27)	3.62 (2.74, 4.79)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	229	0.05 (0.05, 0.05)	0.84 (0.65, 1.07)	1.31 (1.19, 1.44)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	229	0.80 (0.79, 0.81)	9.93 (8.13, 12.13)	4.28 (3.58, 5.13)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	229	0.15 (0.15, 0.15)	5.18 (4.35, 6.15)	5.66 (4.80, 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)	71	0.05 (0.05, 0.05)	1.54 (0.96, 2.48)	1.83 (1.40, 2.39)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	0.80 (0.80, 0.80)	13.08 (9.57, 17.89)	5.45 (4.09, 7.28)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	0.15 (0.15, 0.15)	8.15 (6.26, 10.62)	8.65 (6.56, 11.40)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	71	0.05 (0.05, 0.05)	0.91 (0.56, 1.48)	1.43 (1.18, 1.74)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	71	0.82 (0.78, 0.87)	10.21 (6.63, 15.75)	4.41 (2.99, 6.52)
Age 18 - 59 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	71	0.15 (0.15, 0.15)	4.31 (2.89, 6.43)	4.76 (3.24, 6.99)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	230	0.05 (0.05, 0.05)	3.16 (2.47, 4.05)	2.27 (1.92, 2.69)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	230	0.80 (0.80, 0.80)	38.68 (31.42, 47.62)	15.58 (12.75, 19.04)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	230	0.15 (0.15, 0.15)	22.01 (18.65, 25.98)	23.87 (20.26, 28.13)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	72	0.05 (0.05, 0.05)	4.78 (3.11, 7.33)	3.08 (2.32, 4.09)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	72	0.81 (0.79, 0.84)	62.09 (44.44, 86.75)	24.36 (17.33, 34.24)
Age \geq 60 At-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	72	0.15 (0.15, 0.15)	34.86 (26.67, 45.56)	37.83 (28.94, 49.44)

(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)	69	0.05 (0.05, 0.05)	1.47 (0.96, 2.26)	1.49 (1.21, 1.83)
Age \geq 60 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	69	0.81 (0.78, 0.84)	21.76 (16.14, 29.34)	8.44 (6.19, 11.52)
Age \geq 60 At-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	69	0.15 (0.15, 0.15)	11.46 (8.68, 15.14)	12.20 (9.18, 16.23)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	225	0.05 (0.05, 0.05)	3.23 (2.54, 4.11)	2.20 (1.85, 2.63)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	225	0.80 (0.80, 0.80)	37.14 (30.49, 45.25)	14.71 (12.08, 17.91)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	225	0.15 (0.15, 0.16)	21.16 (18.03, 24.83)	22.96 (19.56, 26.94)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	70	0.05 (0.05, 0.05)	4.18 (2.86, 6.12)	2.51 (1.89, 3.33)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	70	0.80 (0.80, 0.80)	57.49 (40.95, 80.73)	22.76 (16.14, 32.08)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	70	0.16 (0.15, 0.16)	29.57 (21.92, 39.91)	32.09 (23.78, 43.31)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	67	0.05 (0.05, 0.06)	2.96 (2.00, 4.38)	2.16 (1.64, 2.84)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	67	0.80 (0.80, 0.80)	42.51 (30.16, 59.91)	16.80 (11.88, 23.74)
Age \geq 60 Not at-risk	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	67	0.16 (0.15, 0.16)	17.57 (13.05, 23.65)	18.96 (14.06, 25.56)

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)	908	0.05 (0.05, 0.05)	1.44 (1.26, 1.64)	1.60 (1.50, 1.71)
Male	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	908	0.80 (0.79, 0.80)	16.33 (14.70, 18.14)	6.74 (6.11, 7.44)
Male	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	908	0.15 (0.15, 0.15)	8.93 (8.17, 9.77)	9.62 (8.81, 10.50)
Male	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	283	0.05 (0.05, 0.05)	2.13 (1.68, 2.69)	1.99 (1.75, 2.27)
Male	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	283	0.80 (0.80, 0.81)	22.71 (19.02, 27.10)	9.34 (7.92, 11.02)
Male	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	283	0.15 (0.15, 0.16)	13.07 (11.28, 15.14)	13.91 (11.94, 16.21)
Male	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	66	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)	66	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)	66	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)	123	0.05 (0.05, 0.05)	0.94 (0.67, 1.32)	1.34 (1.14, 1.58)
Male	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	123	0.80 (0.80, 0.80)	12.55 (9.39, 16.77)	5.15 (3.89, 6.82)
Male	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	123	0.15 (0.15, 0.16)	5.18 (4.00, 6.70)	5.76 (4.49, 7.38)
Female	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	41	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)	41	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)	41	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
Female	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	154	0.05 (0.05, 0.05)	1.21 (0.85, 1.72)	1.64 (1.42, 1.89)
Female	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	154	0.82 (0.78, 0.85)	16.45 (12.05, 22.44)	7.10 (5.41, 9.33)
Female	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	154	0.15 (0.15, 0.15)	6.90 (5.15, 9.24)	7.66 (5.81, 10.11)

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)	17	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)	17	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)	17	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)	77	0.05 (0.05, 0.05)	0.72 (0.44, 1.18)	1.39 (1.19, 1.62)
Age 18 - 59 Female	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	77	0.82 (0.77, 0.87)	9.40 (6.09, 14.49)	4.27 (2.95, 6.18)
Age 18 - 59 Female	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	77	0.15 (0.15, 0.15)	3.87 (2.57, 5.83)	4.39 (2.99, 6.44)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	453	0.05 (0.05, 0.05)	0.94 (0.79, 1.12)	1.34 (1.25, 1.44)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	0.80 (0.79, 0.81)	10.47 (9.09, 12.05)	4.40 (3.87, 5.01)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	0.15 (0.15, 0.15)	5.60 (4.96, 6.33)	6.01 (5.34, 6.77)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)	1.46 (1.05, 2.01)	1.70 (1.43, 2.01)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.79, 0.81)	13.72 (10.87, 17.30)	5.77 (4.68, 7.12)
Age 18 - 59 Male	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.16)	8.24 (6.82, 9.96)	8.68 (7.10, 10.60)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	36	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	36	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	36	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)

(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)	64	0.05 (0.05, 0.05)	0.74 (0.47, 1.17)	1.27 (1.02, 1.59)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	64	0.80 (0.80, 0.80)	9.59 (6.53, 14.09)	4.04 (2.80, 5.84)
Age 18 - 59 Male	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	64	0.15 (0.15, 0.15)	3.67 (2.62, 5.15)	4.15 (3.01, 5.72)
Age \geq 60 Female	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)
Age \geq 60 Female	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)
Age \geq 60 Female	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)
Age \geq 60 Female	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	77	0.05 (0.05, 0.06)	3.00 (2.00, 4.50)	2.20 (1.67, 2.91)
Age \geq 60 Female	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	77	0.80 (0.79, 0.82)	44.01 (32.13, 60.29)	17.37 (12.63, 23.89)
Age \geq 60 Female	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	77	0.15 (0.15, 0.15)	19.06 (14.62, 24.84)	20.44 (15.62, 26.74)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	455	0.05 (0.05, 0.05)	3.20 (2.69, 3.82)	2.23 (1.97, 2.53)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	455	0.80 (0.80, 0.80)	37.76 (32.67, 43.63)	15.05 (13.05, 17.36)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	455	0.15 (0.15, 0.16)	21.50 (19.13, 24.15)	23.32 (20.77, 26.19)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	142	0.05 (0.05, 0.05)	4.39 (3.29, 5.86)	2.70 (2.20, 3.33)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	142	0.80 (0.79, 0.81)	59.13 (46.16, 75.75)	23.33 (18.15, 29.98)
Age \geq 60 Male	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	142	0.16 (0.15, 0.16)	31.40 (25.36, 38.89)	34.08 (27.52, 42.21)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	30	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)	30	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)	30	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)	59	0.05 (0.05, 0.05)	1.54 (1.01, 2.34)	1.49 (1.22, 1.83)
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	59	0.80 (0.80, 0.80)	21.95 (15.18, 31.74)	8.54 (5.86, 12.45)
Age \geq 60 Male	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	59	0.16 (0.15, 0.16)	10.54 (7.70, 14.45)	11.35 (8.27, 15.57)

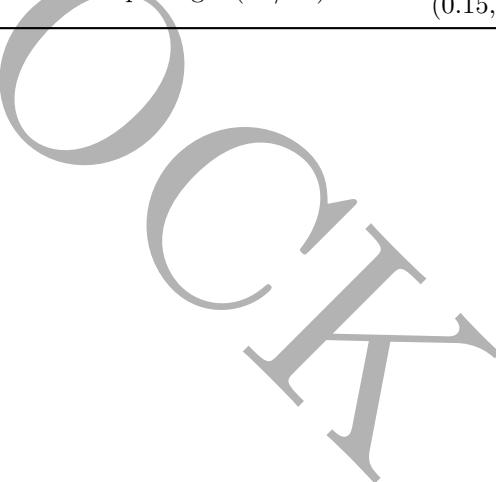


Table 8g. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Hispanic or Latino ethnicity

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)	357	0.05 (0.05, 0.05)	1.41 (1.14, 1.75)	1.66 (1.50, 1.85)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	357	0.80 (0.79, 0.81)	16.15 (13.65, 19.10)	6.64 (5.68, 7.77)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	357	0.15 (0.15, 0.15)	8.17 (7.07, 9.45)	8.87 (7.71, 10.21)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	122	0.05 (0.05, 0.05)	2.26 (1.58, 3.24)	2.05 (1.67, 2.53)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	122	0.80 (0.80, 0.80)	21.66 (16.63, 28.19)	9.04 (7.11, 11.50)
Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	122	0.15 (0.15, 0.15)	13.20 (10.63, 16.40)	13.98 (11.14, 17.55)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	104	0.05 (0.05, 0.05)	1.18 (0.78, 1.78)	1.62 (1.35, 1.95)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	104	0.80 (0.80, 0.80)	17.51 (12.01, 25.53)	7.48 (5.32, 10.52)
Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	104	0.15 (0.15, 0.16)	6.63 (4.88, 9.01)	7.32 (5.46, 9.82)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	495	0.05 (0.05, 0.05)	1.40 (1.19, 1.64)	1.52 (1.41, 1.64)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	495	0.80 (0.80, 0.80)	16.04 (14.02, 18.34)	6.64 (5.86, 7.52)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	495	0.15 (0.15, 0.15)	9.64 (8.61, 10.79)	10.30 (9.18, 11.55)

(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)	146	0.05 (0.05, 0.05)	1.96 (1.45, 2.66)	1.94 (1.66, 2.26)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	146	0.80 (0.79, 0.81)	25.81 (20.24, 32.91)	10.32 (8.13, 13.11)
Not Hispanic or Latino	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	146	0.15 (0.15, 0.16)	12.72 (10.34, 15.64)	13.59 (10.99, 16.81)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	52	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	52	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	52	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	155	0.05 (0.05, 0.05)	1.01 (0.75, 1.36)	1.44 (1.27, 1.63)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	155	0.82 (0.78, 0.86)	13.28 (10.62, 16.61)	5.38 (4.35, 6.65)
Not Hispanic or Latino	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	155	0.15 (0.15, 0.15)	6.09 (4.66, 7.96)	6.64 (5.11, 8.62)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	56	0.05 (0.05, 0.05)	2.07 (1.35, 3.19)	1.66 (1.27, 2.17)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	56	0.80 (0.80, 0.80)	21.04 (13.51, 32.77)	8.76 (5.82, 13.19)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	56	0.15 (0.15, 0.15)	11.25 (7.60, 16.68)	11.95 (8.01, 17.82)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	15	0.05 (0.05, 0.05)	2.09 (0.86, 5.08)	1.77 (1.20, 2.63)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	15	0.82 (0.77, 0.87)	13.36 (6.11, 29.21)	5.90 (2.92, 11.93)

(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)	15	0.17 (0.14, 0.19)	14.63 (6.50, 32.96)	15.88 (7.05, 35.77)
Not reported and unknown	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)
Not reported and unknown	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)
Not reported and unknown	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)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	18	0.05 (0.04, 0.07)	0.97 (0.38, 2.49)	1.17 (0.98, 1.38)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	18	0.80 (0.80, 0.80)	7.23 (3.33, 15.71)	3.86 (2.12, 7.01)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	18	0.15 (0.15, 0.15)	3.13 (1.45, 6.77)	4.28 (2.54, 7.21)

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)	200	0.05 (0.05, 0.05)	1.24 (0.98, 1.57)	1.41 (1.28, 1.56)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	200	0.80 (0.80, 0.80)	14.26 (11.74, 17.32)	5.83 (4.85, 7.00)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	200	0.15 (0.15, 0.15)	9.04 (7.72, 10.58)	9.62 (8.18, 11.31)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	57	0.05 (0.05, 0.05)	1.90 (1.19, 3.04)	1.93 (1.54, 2.42)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	57	0.80 (0.80, 0.80)	26.60 (19.25, 36.74)	10.08 (7.13, 14.26)
White Non-Hispanic	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	57	0.15 (0.15, 0.15)	11.65 (8.52, 15.93)	12.40 (8.97, 17.13)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	22	0.15 (0.15, 0.15)	0.15 (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)	60	0.05 (0.05, 0.05)	1.11 (0.67, 1.82)	1.59 (1.27, 2.00)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	60	0.80 (0.80, 0.80)	15.93 (10.98, 23.11)	6.29 (4.35, 9.10)
White Non-Hispanic	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	60	0.15 (0.15, 0.15)	5.59 (3.72, 8.40)	5.99 (4.01, 8.95)
Black or African American	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	340	0.05 (0.05, 0.05)	1.44 (1.16, 1.79)	1.60 (1.45, 1.77)
Black or African American	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	340	0.80 (0.80, 0.80)	16.42 (13.79, 19.56)	6.83 (5.78, 8.06)

(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)	340	0.15 (0.15, 0.15)	10.11 (8.70, 11.76)	10.93 (9.41, 12.69)
Black or African American	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	102	0.05 (0.05, 0.05)	1.65 (1.12, 2.44)	1.78 (1.44, 2.20)
Black or African American	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	102	0.81 (0.79, 0.82)	21.31 (15.22, 29.84)	8.99 (6.58, 12.29)
Black or African American	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	102	0.16 (0.15, 0.16)	11.39 (8.77, 14.80)	12.17 (9.31, 15.90)
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)	103	0.05 (0.05, 0.05)	1.00 (0.68, 1.48)	1.42 (1.20, 1.67)
Black or African American	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	103	0.80 (0.79, 0.82)	14.18 (10.40, 19.34)	5.64 (4.14, 7.68)
Black or African American	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	103	0.15 (0.15, 0.15)	7.21 (5.19, 10.01)	7.76 (5.58, 10.80)
Asian	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	15	0.05 (0.05, 0.05)	0.51 (0.15, 1.65)	1.20 (1.00, 1.43)
Asian	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	15	0.80 (0.80, 0.80)	8.97 (2.83, 28.48)	5.13 (2.32, 11.33)
Asian	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	15	0.15 (0.15, 0.15)	5.29 (2.54, 11.00)	6.03 (3.12, 11.67)

(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)	3	0.05 (0.05, 0.05)	1.36 (0.23, 8.10)	1.55 (0.72, 3.34)
Asian	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	3	0.80 (0.80, 0.80)	20.25 (3.37, 121.65)	8.16 (1.39, 48.09)
Asian	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	3	0.15 (0.15, 0.15)	11.71 (5.58, 24.59)	12.71 (6.06, 26.69)
Asian	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)
Asian	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)
Asian	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)
Asian	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	5	0.06 (0.04, 0.11)	0.61 (0.29, 1.28)	1.00 (1.00, 1.00)
Asian	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)	7.83 (3.78, 16.19)	2.98 (1.36, 6.54)
Asian	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)	2.80 (1.84, 4.26)	2.73 (1.59, 4.66)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	135	0.05 (0.05, 0.05)	1.34 (0.97, 1.87)	1.65 (1.40, 1.93)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	135	0.80 (0.80, 0.80)	17.12 (13.07, 22.42)	7.14 (5.57, 9.15)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	135	0.15 (0.15, 0.16)	8.93 (7.13, 11.20)	9.67 (7.77, 12.04)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	37	0.05 (0.05, 0.05)	3.42 (1.86, 6.32)	2.44 (1.66, 3.59)
American Indian or Alaska Native	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)	21.13 (14.23, 31.37)	8.53 (5.82, 12.51)

(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)	37	0.15 (0.15, 0.15)	13.52 (9.79, 18.67)	14.49 (10.37, 20.23)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	19	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	19	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	19	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)	48	0.05 (0.05, 0.05)	1.39 (0.81, 2.39)	1.70 (1.27, 2.27)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	48	0.83 (0.77, 0.90)	18.09 (10.30, 31.77)	7.83 (4.66, 13.16)
American Indian or Alaska Native	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	48	0.15 (0.15, 0.15)	6.89 (4.38, 10.83)	7.66 (4.93, 11.90)
Native Hawaiian or Other Pacific Islander	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)	2.54 (2.54, 2.54)	1.00 (1.00, 1.00)
Native Hawaiian or Other Pacific Islander	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)	32.43 (32.43, 32.43)	12.91 (12.91, 12.91)
Native Hawaiian or Other Pacific Islander	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)	39.65 (39.65, 39.65)	43.03 (43.03, 43.03)
Native Hawaiian or Other Pacific Islander	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)	1.45 (1.45, 1.45)	1.00 (1.00, 1.00)
Native Hawaiian or Other Pacific Islander	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)	28.82 (28.82, 28.82)	11.47 (11.47, 11.47)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Native Hawaiian or Other Pacific Islander	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)	47.75 (47.75, 47.75)	51.82 (51.82, 51.82)
Multiracial	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	25	0.05 (0.05, 0.05)	2.29 (1.21, 4.34)	1.69 (1.07, 2.67)
Multiracial	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	25	0.80 (0.80, 0.80)	14.57 (8.18, 25.96)	5.18 (2.70, 9.91)
Multiracial	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	25	0.15 (0.15, 0.15)	8.38 (4.83, 14.55)	8.12 (4.39, 15.03)
Multiracial	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	12	0.05 (0.05, 0.05)	2.55 (0.72, 9.05)	2.58 (1.29, 5.16)
Multiracial	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	12	0.80 (0.80, 0.80)	17.93 (6.75, 47.59)	8.01 (3.37, 19.03)
Multiracial	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	12	0.15 (0.15, 0.15)	15.29 (7.01, 33.34)	16.69 (7.71, 36.11)
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)	9	0.05 (0.05, 0.05)	0.72 (0.13, 3.99)	1.51 (0.92, 2.47)
Multiracial	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	9	0.80 (0.80, 0.80)	11.32 (2.28, 56.15)	5.75 (1.75, 18.94)
Multiracial	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	9	0.15 (0.15, 0.15)	7.04 (2.59, 19.09)	6.92 (2.21, 21.66)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	8	0.05 (0.05, 0.05)	1.34 (0.26, 7.00)	1.96 (0.88, 4.37)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	8	0.80 (0.80, 0.80)	26.51 (8.01, 87.71)	10.03 (2.88, 34.87)

(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	Negative	Anti Spike IgG (IU/ml)	8	0.15 (0.15, 0.15)	8.32 (3.48, 19.88)	9.03 (3.78, 21.58)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	5	0.05 (0.05, 0.05)	2.28 (0.30, 17.38)	2.61 (0.89, 7.65)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	5	0.80 (0.80, 0.80)	40.77 (5.96, 278.96)	16.23 (2.37, 111.05)
Not reported and unknown	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	5	0.15 (0.15, 0.15)	29.32 (7.19, 119.46)	31.81 (7.81, 129.65)
Not reported and unknown	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	3	0.06 (0.04, 0.11)	3.68 (0.73, 18.49)	2.16 (0.57, 8.15)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	3	0.80 (0.80, 0.80)	40.96 (4.54, 369.82)	15.06 (1.58, 143.76)
Not reported and unknown	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	3	0.15 (0.15, 0.15)	67.57 (15.85, 288.02)	73.33 (17.20, 312.57)

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)	1.49 (1.27, 1.74)	1.65 (1.53, 1.79)
URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	651	0.80 (0.79, 0.81)	16.73 (14.72, 19.02)	6.93 (6.15, 7.81)
URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	651	0.15 (0.15, 0.15)	8.92 (7.99, 9.97)	9.67 (8.69, 10.77)
URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	206	0.05 (0.05, 0.05)	2.09 (1.57, 2.78)	1.97 (1.67, 2.31)
URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	206	0.80 (0.80, 0.81)	21.20 (17.05, 26.35)	8.92 (7.32, 10.87)
URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	206	0.15 (0.15, 0.16)	12.86 (10.81, 15.30)	13.66 (11.39, 16.39)
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)	197	0.05 (0.05, 0.05)	1.07 (0.79, 1.45)	1.49 (1.31, 1.70)
URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	197	0.81 (0.79, 0.84)	14.87 (11.36, 19.48)	6.35 (4.98, 8.09)
URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	197	0.15 (0.15, 0.16)	6.50 (5.12, 8.25)	7.20 (5.73, 9.06)
Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	257	0.05 (0.05, 0.05)	1.31 (1.06, 1.62)	1.47 (1.33, 1.62)
Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	257	0.80 (0.80, 0.80)	15.26 (12.79, 18.22)	6.24 (5.28, 7.38)

(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)	257	0.15 (0.15, 0.15)	8.96 (7.76, 10.35)	9.48 (8.18, 11.00)
Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	77	0.05 (0.05, 0.05)	2.25 (1.51, 3.36)	2.07 (1.67, 2.56)
Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	77	0.80 (0.79, 0.81)	27.75 (20.88, 36.86)	10.69 (7.95, 14.37)
Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	77	0.16 (0.15, 0.16)	13.71 (10.39, 18.09)	14.66 (11.04, 19.47)
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)	80	0.05 (0.05, 0.06)	1.12 (0.73, 1.73)	1.53 (1.27, 1.84)
Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	80	0.80 (0.80, 0.80)	14.11 (10.11, 19.70)	5.82 (4.26, 7.94)
Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	80	0.15 (0.15, 0.15)	5.19 (3.64, 7.42)	5.81 (4.19, 8.07)

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)	323	0.05 (0.05, 0.05)	0.93 (0.75, 1.16)	1.36 (1.25, 1.49)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	323	0.80 (0.79, 0.81)	10.51 (8.85, 12.49)	4.43 (3.78, 5.18)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	323	0.15 (0.15, 0.15)	5.52 (4.75, 6.42)	5.98 (5.17, 6.91)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	104	0.05 (0.05, 0.05)	1.52 (1.03, 2.23)	1.70 (1.38, 2.09)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	104	0.80 (0.79, 0.81)	13.71 (10.35, 18.17)	5.97 (4.67, 7.63)
Age 18 - 59 URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	104	0.15 (0.15, 0.16)	8.70 (6.96, 10.87)	9.14 (7.22, 11.58)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	38	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	38	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	38	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	98	0.05 (0.05, 0.05)	0.68 (0.44, 1.03)	1.31 (1.12, 1.54)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	98	0.82 (0.78, 0.86)	9.49 (6.47, 13.94)	4.23 (3.02, 5.93)
Age 18 - 59 URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	98	0.15 (0.15, 0.15)	3.87 (2.75, 5.43)	4.35 (3.15, 6.02)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	130	0.05 (0.05, 0.05)	0.95 (0.71, 1.26)	1.29 (1.15, 1.45)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	130	0.80 (0.80, 0.80)	10.34 (8.16, 13.09)	4.33 (3.48, 5.38)

(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)	130	0.15 (0.15, 0.15)	5.83 (4.81, 7.07)	6.10 (5.00, 7.45)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	37	0.05 (0.05, 0.05)	1.28 (0.71, 2.28)	1.69 (1.30, 2.18)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)	13.73 (9.40, 20.06)	5.19 (3.47, 7.74)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	37	0.15 (0.15, 0.15)	6.94 (4.87, 9.89)	7.36 (5.10, 10.62)
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)	43	0.05 (0.05, 0.06)	0.88 (0.50, 1.54)	1.39 (1.13, 1.71)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	43	0.80 (0.80, 0.80)	9.45 (6.25, 14.28)	4.01 (2.76, 5.83)
Age 18 - 59 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	43	0.15 (0.15, 0.15)	3.59 (2.27, 5.69)	4.11 (2.72, 6.21)
Age \geq 60 URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	328	0.05 (0.05, 0.05)	3.53 (2.86, 4.36)	2.36 (2.02, 2.76)
Age \geq 60 URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	328	0.80 (0.80, 0.80)	39.84 (33.48, 47.42)	15.99 (13.49, 18.96)
Age \geq 60 URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	328	0.15 (0.15, 0.16)	21.84 (18.94, 25.19)	23.72 (20.59, 27.34)
Age \geq 60 URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	102	0.05 (0.05, 0.05)	3.99 (2.77, 5.75)	2.64 (2.05, 3.41)
Age \geq 60 URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	102	0.80 (0.79, 0.81)	51.08 (37.30, 69.97)	20.08 (14.59, 27.64)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Age ≥ 60 URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	102	0.15 (0.15, 0.15)	28.33 (21.92, 36.61)	30.74 (23.78, 39.73)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	40	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	40	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	99	0.05 (0.05, 0.05)	2.43 (1.73, 3.42)	1.88 (1.50, 2.35)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	99	0.80 (0.79, 0.82)	33.13 (24.74, 44.38)	13.07 (9.73, 17.55)
Age ≥ 60 URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	99	0.16 (0.15, 0.16)	16.42 (12.82, 21.03)	17.69 (13.80, 22.69)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	127	0.05 (0.05, 0.05)	2.43 (1.80, 3.27)	1.89 (1.59, 2.26)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	127	0.80 (0.80, 0.80)	32.43 (25.26, 41.62)	12.68 (9.83, 16.37)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	127	0.15 (0.15, 0.15)	20.56 (17.01, 24.85)	22.23 (18.36, 26.90)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	40	0.05 (0.05, 0.05)	5.57 (3.61, 8.61)	2.86 (1.98, 4.14)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	40	0.81 (0.79, 0.83)	85.47 (58.59, 124.67)	34.02 (23.32, 49.63)
Age ≥ 60 Non-URM	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	40	0.16 (0.15, 0.17)	40.71 (28.73, 57.69)	44.18 (31.18, 62.61)
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 (0.05, 0.05)	1.94 (1.08, 3.47)	1.91 (1.33, 2.74)
Age \geq 60 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	37	0.80 (0.80, 0.80)	33.80 (21.82, 52.35)	13.08 (8.30, 20.60)
Age \geq 60 Non-URM	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	37	0.15 (0.15, 0.15)	11.59 (7.51, 17.89)	12.34 (7.94, 19.17)

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)	453	0.05 (0.05, 0.05)	1.38 (1.18, 1.61)	1.49 (1.38, 1.60)
United States	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	453	0.80 (0.80, 0.80)	14.98 (13.07, 17.17)	6.19 (5.45, 7.03)
United States	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	453	0.15 (0.15, 0.15)	8.63 (7.70, 9.66)	9.15 (8.15, 10.28)
United States	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	141	0.05 (0.05, 0.05)	2.38 (1.73, 3.27)	2.14 (1.78, 2.57)
United States	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	141	0.80 (0.79, 0.80)	28.71 (22.57, 36.53)	11.43 (9.02, 14.48)
United States	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	141	0.15 (0.15, 0.15)	14.91 (12.05, 18.45)	15.98 (12.86, 19.85)
United States	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	53	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
United States	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	53	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
United States	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	53	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
United States	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	139	0.05 (0.05, 0.05)	1.08 (0.79, 1.48)	1.51 (1.32, 1.72)
United States	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	139	0.80 (0.79, 0.81)	14.38 (11.37, 18.19)	5.90 (4.73, 7.37)
United States	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	139	0.15 (0.15, 0.16)	5.95 (4.62, 7.67)	6.63 (5.22, 8.41)
Argentina	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	51	0.05 (0.05, 0.05)	1.25 (0.74, 2.10)	1.57 (1.28, 1.91)
Argentina	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	51	0.80 (0.80, 0.80)	13.41 (8.55, 21.02)	5.75 (3.81, 8.67)
Argentina	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	51	0.15 (0.15, 0.15)	6.96 (4.93, 9.83)	7.20 (5.00, 10.37)

(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	0.05 (0.05, 0.05)	3.05 (1.25, 7.46)	2.09 (1.37, 3.20)
Argentina	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	11	0.80 (0.80, 0.80)	33.02 (15.13, 72.03)	12.84 (5.74, 28.69)
Argentina	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	11	0.15 (0.15, 0.15)	18.81 (9.94, 35.61)	20.42 (10.79, 38.64)
Argentina	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)
Argentina	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)
Argentina	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)
Argentina	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	14	0.05 (0.05, 0.05)	0.76 (0.29, 2.03)	1.25 (0.98, 1.59)
Argentina	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	14	0.80 (0.80, 0.80)	7.90 (3.82, 16.35)	3.43 (1.76, 6.69)
Argentina	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	14	0.15 (0.15, 0.15)	3.55 (2.17, 5.80)	3.74 (2.26, 6.19)
Brazil	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	102	0.05 (0.05, 0.05)	1.41 (0.94, 2.11)	1.75 (1.42, 2.16)
Brazil	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	102	0.80 (0.80, 0.80)	17.91 (13.37, 23.99)	7.07 (5.31, 9.41)
Brazil	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	102	0.15 (0.15, 0.16)	9.40 (7.20, 12.29)	10.32 (8.00, 13.31)
Brazil	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	27	0.05 (0.05, 0.05)	1.74 (0.87, 3.48)	1.61 (1.14, 2.29)
Brazil	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	27	0.80 (0.80, 0.80)	15.47 (10.40, 23.02)	6.49 (4.59, 9.16)
Brazil	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	27	0.15 (0.15, 0.15)	10.92 (7.79, 15.32)	11.86 (8.46, 16.62)

(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)	11	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)	11	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)	11	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)	21	0.05 (0.04, 0.06)	1.13 (0.38, 3.34)	1.81 (1.12, 2.93)
Brazil	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	21	0.87 (0.74, 1.02)	19.33 (7.17, 52.11)	9.45 (4.14, 21.60)
Brazil	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	21	0.15 (0.15, 0.15)	6.86 (2.89, 16.26)	8.23 (3.74, 18.12)
Chile	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	9	0.05 (0.05, 0.05)	2.61 (1.48, 4.60)	1.48 (1.03, 2.13)
Chile	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	9	0.80 (0.80, 0.80)	15.75 (7.96, 31.17)	5.71 (2.64, 12.34)
Chile	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	9	0.15 (0.15, 0.15)	10.66 (5.32, 21.37)	11.57 (5.78, 23.19)
Chile	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	7	0.05 (0.05, 0.05)	0.80 (0.18, 3.55)	1.58 (1.01, 2.47)
Chile	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	7	0.80 (0.80, 0.80)	5.03 (1.18, 21.44)	3.36 (1.27, 8.87)
Chile	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	7	0.15 (0.15, 0.15)	6.29 (1.81, 21.93)	5.43 (1.26, 23.42)
Chile	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)
Chile	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)
Chile	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)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Chile	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	4	0.05 (0.05, 0.05)	4.11 (0.79, 21.21)	2.44 (0.60, 9.90)
Chile	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	4	0.80 (0.80, 0.80)	44.18 (11.93, 163.56)	17.59 (4.75, 65.11)
Chile	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	4	0.15 (0.15, 0.15)	24.98 (8.42, 74.16)	27.11 (9.13, 80.48)
Columbia	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	41	0.05 (0.05, 0.05)	1.84 (0.99, 3.40)	1.95 (1.39, 2.74)
Columbia	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	41	0.82 (0.77, 0.88)	22.88 (14.33, 36.52)	9.64 (6.33, 14.68)
Columbia	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	41	0.15 (0.15, 0.15)	9.47 (5.93, 15.13)	10.75 (6.95, 16.63)
Columbia	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	16	0.05 (0.04, 0.05)	1.35 (0.63, 2.89)	1.46 (0.98, 2.18)
Columbia	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	16	0.80 (0.80, 0.80)	17.83 (9.71, 32.72)	6.77 (3.56, 12.90)
Columbia	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	16	0.15 (0.15, 0.15)	8.57 (5.19, 14.17)	9.06 (5.35, 15.36)
Columbia	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	8	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Columbia	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	8	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Columbia	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	8	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Columbia	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	22	0.05 (0.05, 0.05)	1.35 (0.64, 2.84)	1.48 (1.07, 2.06)
Columbia	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	22	0.80 (0.80, 0.80)	15.26 (7.31, 31.86)	6.67 (3.50, 12.71)
Columbia	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	22	0.15 (0.15, 0.15)	6.11 (3.44, 10.87)	6.82 (3.94, 11.83)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Mexico	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	6	0.05 (0.05, 0.05)	1.25 (0.33, 4.75)	1.66 (0.74, 3.72)
Mexico	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)	11.61 (3.73, 36.17)	4.88 (1.57, 15.18)
Mexico	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)	6.00 (1.54, 23.37)	6.48 (1.61, 26.10)
Mexico	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	1	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Mexico	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	1	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Mexico	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	1	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Mexico	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	2	0.05 (0.05, 0.05)	0.28 (0.20, 0.40)	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)	5.71 (1.50, 21.77)	2.24 (0.58, 8.68)
Mexico	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	2	0.15 (0.15, 0.15)	2.55 (0.34, 18.86)	3.07 (0.47, 20.27)
Peru	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	17	0.05 (0.05, 0.05)	1.02 (0.33, 3.11)	1.53 (1.04, 2.25)
Peru	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	17	0.80 (0.80, 0.80)	14.51 (5.71, 36.83)	6.39 (2.85, 14.31)
Peru	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	17	0.15 (0.15, 0.15)	7.22 (2.92, 17.88)	8.82 (4.14, 18.75)
Peru	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	10	0.05 (0.05, 0.05)	9.32 (3.49, 24.88)	4.36 (1.73, 10.95)
Peru	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	10	0.80 (0.80, 0.80)	36.76 (17.78, 76.01)	14.63 (7.08, 30.26)
Peru	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	10	0.16 (0.15, 0.18)	31.56 (16.32, 61.03)	34.25 (17.71, 66.24)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Peru	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	5	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)	5	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)	5	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)	3.80 (1.15, 12.59)	2.62 (1.37, 5.04)
Peru	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	6	0.80 (0.80, 0.80)	52.76 (17.90, 155.51)	20.23 (6.60, 62.03)
Peru	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	6	0.15 (0.15, 0.15)	27.35 (8.79, 85.06)	29.68 (9.54, 92.31)
South Africa	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	229	0.05 (0.05, 0.05)	1.63 (1.29, 2.05)	1.66 (1.46, 1.88)
South Africa	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	229	0.80 (0.80, 0.80)	18.93 (15.35, 23.33)	7.91 (6.52, 9.60)
South Africa	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	229	0.15 (0.15, 0.15)	11.19 (9.46, 13.23)	11.96 (10.07, 14.20)
South Africa	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	71	0.05 (0.05, 0.05)	1.60 (1.04, 2.48)	1.91 (1.55, 2.34)
South Africa	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	71	0.82 (0.79, 0.84)	20.85 (13.77, 31.55)	9.08 (6.28, 13.13)
South Africa	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	71	0.16 (0.15, 0.16)	10.54 (8.08, 13.74)	11.20 (8.50, 14.76)
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)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
South Africa	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	69	0.05 (0.05, 0.05)	0.80 (0.55, 1.18)	1.24 (1.07, 1.44)
South Africa	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	69	0.80 (0.80, 0.80)	12.35 (9.25, 16.49)	4.96 (3.78, 6.50)
South Africa	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	69	0.15 (0.15, 0.15)	5.47 (4.05, 7.39)	5.79 (4.29, 7.81)

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

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
HIV Infection								
Negative	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	843	0.05 (0.05, 0.05)	1.44 (1.26, 1.65)	1.60 (1.49, 1.71)
Negative	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	843	0.80 (0.79, 0.80)	16.31 (14.64, 18.18)	6.71 (6.06, 7.43)
Negative	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	843	0.15 (0.15, 0.15)	8.94 (8.15, 9.81)	9.66 (8.82, 10.57)
Negative	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	255	0.05 (0.05, 0.05)	2.09 (1.63, 2.69)	2.01 (1.75, 2.31)
Negative	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	255	0.80 (0.80, 0.81)	22.34 (18.50, 26.99)	9.19 (7.70, 10.96)
Negative	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	255	0.15 (0.15, 0.16)	12.80 (10.93, 14.98)	13.59 (11.53, 16.01)
Negative	D29 fold-rise over D1	Placebo	Negative	Anti N IgG (IU/ml)	101	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Negative	D29 fold-rise over D1	Placebo	Negative	Anti RBD IgG (IU/ml)	101	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Negative	D29 fold-rise over D1	Placebo	Negative	Anti Spike IgG (IU/ml)	101	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Negative	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	257	0.05 (0.05, 0.05)	1.13 (0.87, 1.45)	1.52 (1.36, 1.70)
Negative	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	257	0.81 (0.79, 0.83)	14.75 (11.84, 18.37)	6.23 (5.09, 7.62)
Negative	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	257	0.15 (0.15, 0.16)	6.12 (4.98, 7.54)	6.85 (5.63, 8.32)
Positive	D29 fold-rise over D1	Vaccine	Negative	Anti N IgG (IU/ml)	65	0.05 (0.05, 0.05)	1.32 (0.72, 2.43)	1.68 (1.32, 2.12)
Positive	D29 fold-rise over D1	Vaccine	Negative	Anti RBD IgG (IU/ml)	65	0.80 (0.80, 0.80)	16.64 (10.07, 27.52)	7.27 (4.72, 11.20)
Positive	D29 fold-rise over D1	Vaccine	Negative	Anti Spike IgG (IU/ml)	65	0.15 (0.15, 0.16)	8.79 (5.88, 13.16)	9.05 (5.86, 13.99)

(continued)

Group	Visit	Arm	Baseline SARS-CoV-2	Marker	N	Baseline GMT/GMC	Post Baseline GMT/GMC	GMTR/GMCR
Positive	D29 fold-rise over D1	Vaccine	Positive	Anti N IgG (IU/ml)	28	0.05 (0.05, 0.05)	2.55 (1.34, 4.87)	1.85 (1.17, 2.93)
Positive	D29 fold-rise over D1	Vaccine	Positive	Anti RBD IgG (IU/ml)	28	0.81 (0.79, 0.83)	26.62 (17.22, 41.15)	11.07 (7.46, 16.41)
Positive	D29 fold-rise over D1	Vaccine	Positive	Anti Spike IgG (IU/ml)	28	0.16 (0.15, 0.17)	16.13 (10.96, 23.72)	17.50 (11.90, 25.74)
Positive	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)
Positive	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)
Positive	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)
Positive	D29 fold-rise over D1	Placebo	Positive	Anti N IgG (IU/ml)	20	0.05 (0.05, 0.05)	0.65 (0.22, 1.96)	1.27 (0.94, 1.72)
Positive	D29 fold-rise over D1	Placebo	Positive	Anti RBD IgG (IU/ml)	20	0.80 (0.80, 0.80)	13.40 (4.69, 38.27)	5.72 (2.38, 13.73)
Positive	D29 fold-rise over D1	Placebo	Positive	Anti Spike IgG (IU/ml)	20	0.15 (0.15, 0.15)	5.80 (2.79, 12.05)	5.96 (2.70, 13.15)

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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 (0.79, 0.81)	1.00 (0.99, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.16)	0.15 (0.15, 0.15)	1.00 (1.00, 1.01)
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)	1.04 (0.99, 1.09)
Age ≥ 60 vs Age 18 - 59	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.79, 0.81)	0.80 (0.79, 0.81)	1.00 (0.99, 1.02)
Age ≥ 60 vs Age 18 - 59	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.16 (0.15, 0.16)	0.15 (0.15, 0.16)	1.01 (0.98, 1.03)
Age ≥ 60 vs Age 18 - 59	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age ≥ 60 vs Age 18 - 59	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.01 (0.94, 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 vs Age 18 - 59	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.79, 0.81)	0.81 (0.78, 0.84)	0.99 (0.95, 1.02)
Age ≥ 60 vs Age 18 - 59	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.16)	0.15 (0.15, 0.15)	1.01 (0.99, 1.02)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	3.20 (2.69, 3.82)	0.94 (0.79, 1.12)	3.42 (2.67, 4.38)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	37.76 (32.67, 43.63)	10.47 (9.09, 12.05)	3.61 (2.95, 4.41)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	21.50 (19.13, 24.15)	5.60 (4.96, 6.33)	3.84 (3.24, 4.54)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	4.39 (3.29, 5.86)	1.46 (1.05, 2.01)	3.02 (1.96, 4.65)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	59.13 (46.16, 75.75)	13.72 (10.87, 17.30)	4.31 (3.07, 6.05)
Age ≥ 60 vs Age 18 - 59	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	31.40 (25.36, 38.89)	8.24 (6.82, 9.96)	3.81 (2.86, 5.07)
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)	2.29 (1.71, 3.08)	0.73 (0.52, 1.03)	3.15 (2.01, 4.93)

(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)	33.30 (26.07, 42.54)	9.48 (7.04, 12.78)	3.51 (2.39, 5.17)
Age \geq 60 vs Age 18 - 59	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	15.03 (12.13, 18.64)	3.78 (2.87, 4.98)	3.97 (2.80, 5.64)

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 (0.79, 0.81)	1.00 (0.99, 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 (0.99, 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)	1.00 (0.96, 1.04)
At-risk vs Not at-risk	Day 1	Vaccine	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	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.16)	0.15 (0.15, 0.16)	1.00 (0.98, 1.02)
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 (0.90, 1.00)
At-risk vs Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.79, 0.81)	0.81 (0.78, 0.84)	0.99 (0.95, 1.02)
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, 0.16)	1.00 (0.99, 1.00)
At-risk vs Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1.60 (1.35, 1.91)	1.33 (1.11, 1.60)	1.20 (0.93, 1.55)
At-risk vs Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	17.41 (15.12, 20.04)	15.65 (13.50, 18.15)	1.11 (0.91, 1.36)
At-risk vs Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	9.79 (8.70, 11.01)	8.41 (7.41, 9.54)	1.16 (0.98, 1.38)

(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)	2.01 (1.48, 2.73)	2.21 (1.59, 3.09)	0.91 (0.58, 1.43)
At-risk vs Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	23.25 (17.90, 30.19)	22.36 (17.63, 28.36)	1.04 (0.73, 1.48)
At-risk vs Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	13.18 (10.76, 16.15)	13.00 (10.60, 15.93)	1.01 (0.76, 1.35)
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)	0.73 (0.53, 1.00)	1.38 (0.98, 1.95)	0.53 (0.33, 0.84)
At-risk vs Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	11.56 (8.93, 14.96)	16.95 (12.47, 23.03)	0.68 (0.46, 1.02)
At-risk vs Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	4.77 (3.74, 6.07)	7.10 (5.36, 9.40)	0.67 (0.46, 0.97)

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 (0.79, 0.81)	0.99 (0.98, 1.01)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.02 (0.98, 1.05)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.79, 0.82)	0.80 (0.80, 0.80)	1.01 (0.99, 1.03)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.16 (0.15, 0.16)	0.15 (0.15, 0.15)	1.01 (0.99, 1.03)
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)	0.96 (0.90, 1.03)
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)	0.82 (0.78, 0.87)	0.97 (0.92, 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 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1.11 (0.88, 1.41)	0.84 (0.65, 1.07)	1.33 (0.95, 1.87)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	11.33 (9.42, 13.62)	9.93 (8.13, 12.13)	1.14 (0.87, 1.50)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	6.32 (5.41, 7.40)	5.18 (4.35, 6.15)	1.22 (0.97, 1.54)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	1.34 (0.90, 1.99)	1.54 (0.96, 2.48)	0.87 (0.47, 1.61)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	14.68 (10.41, 20.70)	13.08 (9.57, 17.89)	1.12 (0.70, 1.79)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	8.36 (6.43, 10.87)	8.15 (6.26, 10.62)	1.03 (0.71, 1.49)
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, 0.78)	0.91 (0.56, 1.48)	0.56 (0.30, 1.07)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	8.43 (5.92, 12.00)	10.21 (6.63, 15.75)	0.82 (0.47, 1.44)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	3.08 (2.21, 4.27)	4.31 (2.89, 6.43)	0.71 (0.43, 1.20)

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

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age \geq 60, Risk for Severe Covid-19							
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.16)	1.00 (0.98, 1.01)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	0.97 (0.90, 1.06)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.81 (0.79, 0.84)	0.80 (0.80, 0.80)	1.02 (0.99, 1.05)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.16 (0.15, 0.16)	0.98 (0.95, 1.02)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.06)	0.93 (0.84, 1.02)
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.81 (0.78, 0.84)	0.80 (0.80, 0.80)	1.02 (0.98, 1.05)

(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)	0.16 (0.15, 0.16)	0.99 (0.96, 1.01)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	3.16 (2.47, 4.05)	3.23 (2.54, 4.11)	0.98 (0.69, 1.38)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	38.68 (31.42, 47.62)	37.14 (30.49, 45.25)	1.04 (0.78, 1.39)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	22.01 (18.65, 25.98)	21.16 (18.03, 24.83)	1.04 (0.83, 1.31)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	4.78 (3.11, 7.33)	4.18 (2.86, 6.12)	1.14 (0.64, 2.03)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	62.09 (44.44, 86.75)	57.49 (40.95, 80.73)	1.08 (0.67, 1.74)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	34.86 (26.67, 45.56)	29.57 (21.92, 39.91)	1.18 (0.79, 1.76)
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)	1.47 (0.96, 2.26)	2.96 (2.00, 4.38)	0.50 (0.28, 0.89)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	21.76 (16.14, 29.34)	42.51 (30.16, 59.91)	0.51 (0.32, 0.81)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Age \geq 60 At-risk vs Age \geq 60 Not at-risk	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	11.46 (8.68, 15.14)	17.57 (13.05, 23.65)	0.65 (0.43, 0.98)

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

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Sex							
Male vs Female	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Male vs Female	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Male vs Female	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Male vs Female	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	0.96 (0.91, 1.02)
Male vs Female	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.82 (0.78, 0.85)	0.98 (0.94, 1.02)
Male vs Female	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.16)	0.15 (0.15, 0.15)	1.01 (0.99, 1.02)
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)
Male vs Female	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	0.94 (0.67, 1.32)	1.21 (0.85, 1.72)	0.77 (0.47, 1.27)
Male vs Female	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	12.55 (9.39, 16.77)	16.45 (12.05, 22.44)	0.76 (0.50, 1.17)
Male vs Female	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5.18 (4.00, 6.70)	6.90 (5.15, 9.24)	0.75 (0.50, 1.12)

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 (0.79, 0.81)	0.80 (0.80, 0.80)	1.01 (1.00, 1.02)
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, 1.01)
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)	1.02 (0.98, 1.06)
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, 1.00)
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, 0.16)	0.99 (0.98, 1.01)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Negative	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.80, 0.80)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.15)	1.00 (1.00, 1.00)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.01 (0.94, 1.07)
Hispanic or Latino vs Not Hispanic or Latino	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.82 (0.78, 0.86)	0.97 (0.93, 1.02)

(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, 0.16)	0.15 (0.15, 0.15)	1.01 (0.99, 1.02)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1.41 (1.14, 1.75)	1.40 (1.19, 1.64)	1.01 (0.78, 1.32)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	16.15 (13.65, 19.10)	16.04 (14.02, 18.34)	1.01 (0.81, 1.25)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	8.17 (7.07, 9.45)	9.64 (8.61, 10.79)	0.85 (0.70, 1.02)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	2.26 (1.58, 3.24)	1.96 (1.45, 2.66)	1.15 (0.72, 1.84)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	21.66 (16.63, 28.19)	25.81 (20.24, 32.91)	0.84 (0.59, 1.20)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	13.20 (10.63, 16.40)	12.72 (10.34, 15.64)	1.04 (0.77, 1.40)
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)	1.18 (0.78, 1.78)	1.01 (0.75, 1.36)	1.17 (0.70, 1.95)
Hispanic or Latino vs Not Hispanic or Latino	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	17.51 (12.01, 25.53)	13.28 (10.62, 16.61)	1.32 (0.85, 2.05)

(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)	6.63 (4.88, 9.01)	6.09 (4.66, 7.96)	1.09 (0.73, 1.63)

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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 (0.79, 0.81)	0.80 (0.80, 0.80)	1.00 (1.00, 1.01)
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, 1.01)
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)	1.00 (0.96, 1.05)
URM vs Non-URM	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.81)	0.80 (0.79, 0.81)	1.00 (0.99, 1.01)
URM vs Non-URM	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.16)	0.16 (0.15, 0.16)	0.99 (0.96, 1.02)
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, 0.06)	0.95 (0.87, 1.04)
URM vs Non-URM	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.81 (0.79, 0.84)	0.80 (0.80, 0.80)	1.02 (0.99, 1.05)
URM vs Non-URM	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.16)	0.15 (0.15, 0.15)	1.00 (1.00, 1.01)
URM vs Non-URM	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1.49 (1.27, 1.74)	1.31 (1.06, 1.62)	1.14 (0.87, 1.48)
URM vs Non-URM	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	16.73 (14.72, 19.02)	15.26 (12.79, 18.22)	1.10 (0.88, 1.36)
URM vs Non-URM	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	8.92 (7.99, 9.97)	8.96 (7.76, 10.35)	1.00 (0.83, 1.19)

(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)	2.09 (1.57, 2.78)	2.25 (1.51, 3.36)	0.93 (0.57, 1.52)
URM vs Non-URM	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	21.20 (17.05, 26.35)	27.75 (20.88, 36.86)	0.76 (0.53, 1.09)
URM vs Non-URM	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	12.86 (10.81, 15.30)	13.71 (10.39, 18.09)	0.94 (0.68, 1.30)
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)	1.07 (0.79, 1.45)	1.12 (0.73, 1.73)	0.95 (0.56, 1.62)
URM vs Non-URM	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	14.87 (11.36, 19.48)	14.11 (10.11, 19.70)	1.05 (0.68, 1.63)
URM vs Non-URM	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	6.50 (5.12, 8.25)	5.19 (3.64, 7.42)	1.25 (0.81, 1.93)

Table 9h. The ratios of GMTs/GMCs between groups by HIV Infection

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
HIV Infection							
Positive vs Negative	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)
Positive vs Negative	Day 1	Vaccine	Negative	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.80 (0.79, 0.80)	1.00 (0.99, 1.00)
Positive vs Negative	Day 1	Vaccine	Negative	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.16)	0.15 (0.15, 0.15)	1.00 (0.99, 1.02)
Positive vs Negative	Day 1	Vaccine	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	1.00 (0.96, 1.04)
Positive vs Negative	Day 1	Vaccine	Positive	Anti RBD IgG (IU/ml)	0.81 (0.79, 0.83)	0.80 (0.80, 0.81)	1.01 (0.98, 1.03)
Positive vs Negative	Day 1	Vaccine	Positive	Anti Spike IgG (IU/ml)	0.16 (0.15, 0.17)	0.15 (0.15, 0.16)	1.03 (0.97, 1.09)
Positive vs Negative	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)
Positive vs Negative	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)
Positive vs Negative	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)
Positive vs Negative	Day 1	Placebo	Positive	Anti N IgG (IU/ml)	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	0.99 (0.92, 1.05)
Positive vs Negative	Day 1	Placebo	Positive	Anti RBD IgG (IU/ml)	0.80 (0.80, 0.80)	0.81 (0.79, 0.83)	0.99 (0.96, 1.01)
Positive vs Negative	Day 1	Placebo	Positive	Anti Spike IgG (IU/ml)	0.15 (0.15, 0.15)	0.15 (0.15, 0.16)	1.00 (0.99, 1.00)
Positive vs Negative	Day 29	Vaccine	Negative	Anti N IgG (IU/ml)	1.32 (0.72, 2.43)	1.44 (1.26, 1.65)	0.91 (0.49, 1.72)
Positive vs Negative	Day 29	Vaccine	Negative	Anti RBD IgG (IU/ml)	16.64 (10.07, 27.52)	16.31 (14.64, 18.18)	1.02 (0.61, 1.71)
Positive vs Negative	Day 29	Vaccine	Negative	Anti Spike IgG (IU/ml)	8.79 (5.88, 13.16)	8.94 (8.15, 9.81)	0.98 (0.65, 1.50)

(continued)

Group 1 vs 2	Visit	Arm	Baseline SARS-CoV-2	Marker	Group 1 GMT/GMC	Group 2 GMT/GMC	Ratios of GMT/GMC
Positive vs Negative	Day 29	Vaccine	Positive	Anti N IgG (IU/ml)	2.55 (1.34, 4.87)	2.09 (1.63, 2.69)	1.22 (0.61, 2.45)
Positive vs Negative	Day 29	Vaccine	Positive	Anti RBD IgG (IU/ml)	26.62 (17.22, 41.15)	22.34 (18.50, 26.99)	1.19 (0.74, 1.91)
Positive vs Negative	Day 29	Vaccine	Positive	Anti Spike IgG (IU/ml)	16.13 (10.96, 23.72)	12.80 (10.93, 14.98)	1.26 (0.83, 1.92)
Positive vs Negative	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)
Positive vs Negative	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)
Positive vs Negative	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)
Positive vs Negative	Day 29	Placebo	Positive	Anti N IgG (IU/ml)	0.65 (0.22, 1.96)	1.13 (0.87, 1.45)	0.58 (0.18, 1.80)
Positive vs Negative	Day 29	Placebo	Positive	Anti RBD IgG (IU/ml)	13.40 (4.69, 38.27)	14.75 (11.84, 18.37)	0.91 (0.31, 2.68)
Positive vs Negative	Day 29	Placebo	Positive	Anti Spike IgG (IU/ml)	5.80 (2.79, 12.05)	6.12 (4.98, 7.54)	0.95 (0.44, 2.05)

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 (0.05, 0.08)	0.26 (0.23, 0.29)	0.15 (0.12, 0.17)
Vaccine vs Placebo	Negative	-	Day 29	Anti RBD IgG (IU/ml)	0.54 (0.51, 0.58)	0.77 (0.74, 0.8)	0.63 (0.59, 0.66)
Vaccine vs Placebo	Negative	-	Day 29	Anti Spike IgG (IU/ml)	0.45 (0.42, 0.48)	0.87 (0.84, 0.89)	0.75 (0.72, 0.78)
Vaccine vs Placebo	Positive	-	Day 29	Anti N IgG (IU/ml)	0.04 (-0.01, 0.09)	0.13 (0.04, 0.21)	0.1 (0.03, 0.16)
Vaccine vs Placebo	Positive	-	Day 29	Anti RBD IgG (IU/ml)	0.11 (0.02, 0.21)	0.12 (0.04, 0.19)	0.1 (0.01, 0.19)
Vaccine vs Placebo	Positive	-	Day 29	Anti Spike IgG (IU/ml)	0.19 (0.1, 0.27)	0.16 (0.09, 0.23)	0.22 (0.13, 0.3)

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)	0.02 (-0.02, 0.07)	0.12 (0.06, 0.2)	0.07 (0.01, 0.13)
Positive vs Negative	-	Placebo	Day 29	Anti N IgG (IU/ml)	0.05 (0.02, 0.09)	0.26 (0.2, 0.32)	0.12 (0.08, 0.17)
Positive vs Negative	-	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.08 (0.01, 0.16)	0.11 (0.04, 0.16)	0.07 (0, 0.14)
Positive vs Negative	-	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.51 (0.44, 0.58)	0.76 (0.7, 0.81)	0.6 (0.53, 0.66)
Positive vs Negative	-	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.07 (0, 0.15)	0.08 (0.03, 0.12)	0.08 (0.01, 0.14)
Positive vs Negative	-	Placebo	Day 29	Anti Spike IgG (IU/ml)	0.34 (0.28, 0.4)	0.78 (0.72, 0.84)	0.61 (0.55, 0.68)

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

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

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Age							
Age ≥ 60 vs Age 18 - 59	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	0.08 (0.05, 0.12)	0.24 (0.17, 0.3)	0.14 (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)	0.33 (0.27, 0.4)	0.24 (0.19, 0.3)	0.33 (0.26, 0.39)
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)	0.44 (0.37, 0.5)	0.18 (0.14, 0.23)	0.28 (0.23, 0.34)
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)	0.09 (0, 0.17)	0.19 (0.06, 0.31)	0.17 (0.06, 0.27)
Age ≥ 60 vs Age 18 - 59	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0.08 (0, 0.16)	0.18 (0.05, 0.29)	0.13 (0.03, 0.23)
Age ≥ 60 vs Age 18 - 59	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.31 (0.19, 0.42)	0.14 (0.06, 0.22)	0.32 (0.21, 0.42)
Age ≥ 60 vs Age 18 - 59	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.3 (0.17, 0.42)	0.27 (0.17, 0.36)	0.26 (0.13, 0.37)
Age ≥ 60 vs Age 18 - 59	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.46 (0.33, 0.56)	0.08 (0.04, 0.15)	0.22 (0.12, 0.3)

(continued)

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Age \geq 60 vs Age 18 - 59	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	0.38 (0.26, 0.49)	0.3 (0.22, 0.4)	0.36 (0.24, 0.47)

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

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

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Risk for Severe Covid-19							
At-risk vs Not at-risk	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	-0.01 (-0.05, 0.02)	0.04 (-0.02, 0.1)	0.03 (-0.02, 0.09)
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)	0.02 (-0.05, 0.09)	0.04 (-0.02, 0.1)	0 (-0.07, 0.07)
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)	0.06 (0, 0.13)	0.03 (-0.02, 0.08)	0.04 (-0.03, 0.1)
At-risk vs Not at-risk	Negative	Placebo	Day 29	Anti Spike IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
At-risk vs Not at-risk	Positive	Vaccine	Day 29	Anti N IgG (IU/ml)	-0.06 (-0.14, 0)	0.05 (-0.08, 0.17)	-0.03 (-0.13, 0.07)
At-risk vs Not at-risk	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	-0.04 (-0.1, 0.02)	-0.16 (-0.27, -0.06)	-0.04 (-0.12, 0.04)
At-risk vs Not at-risk	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-0.01 (-0.13, 0.12)	0 (-0.1, 0.09)	0.02 (-0.11, 0.14)
At-risk vs Not at-risk	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	-0.07 (-0.2, 0.06)	-0.04 (-0.15, 0.08)	-0.01 (-0.14, 0.13)
At-risk vs Not at-risk	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.02 (-0.15, 0.11)	0 (-0.09, 0.07)	0.01 (-0.1, 0.11)
At-risk vs Not at-risk	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	-0.14 (-0.25, -0.03)	-0.01 (-0.12, 0.11)	-0.03 (-0.16, 0.1)

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 (-0.04, 0.04)	0.04 (-0.03, 0.12)	0.02 (-0.04, 0.09)
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 (-0.1, 0.1)	0.06 (-0.03, 0.15)	-0.01 (-0.11, 0.09)
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)	0.06 (-0.04, 0.15)	0.06 (-0.02, 0.14)	0.04 (-0.05, 0.14)
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)	-0.09 (-0.21, -0.04)	0.02 (-0.14, 0.19)	-0.07 (-0.21, 0.06)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	-0.01 (-0.14, 0.08)	-0.15 (-0.29, -0.02)	0 (-0.12, 0.1)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-0.04 (-0.22, 0.14)	0.01 (-0.13, 0.15)	0.05 (-0.13, 0.23)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	-0.03 (-0.2, 0.15)	-0.01 (-0.18, 0.16)	0.03 (-0.15, 0.21)
Age 18 - 59 At-risk vs Age 18 - 59 Not at-risk	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.02 (-0.19, 0.16)	0 (-0.13, 0.11)	0.02 (-0.14, 0.17)

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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)	-0.1 (-0.24, 0.05)	0.01 (-0.16, 0.18)	-0.04 (-0.21, 0.15)

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



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

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Age ≥ 60, Risk for Severe Covid-19							
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	-0.03 (-0.1, 0.03)	0.03 (-0.07, 0.13)	0.06 (-0.03, 0.14)
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)	0.04 (-0.05, 0.12)	0 (-0.06, 0.05)	0 (-0.08, 0.07)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Negative	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Negative	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.07 (-0.02, 0.16)	-0.02 (-0.06, 0.01)	0.02 (-0.03, 0.07)
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)	0.01 (-0.12, 0.14)	0.13 (-0.05, 0.3)	0.08 (-0.09, 0.24)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	-0.09 (-0.22, 0.04)	-0.18 (-0.35, 0)	-0.11 (-0.26, 0.04)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.1 (-0.04, 0.24)	-0.02 (-0.1, 0.11)	-0.01 (-0.13, 0.11)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	-0.14 (-0.3, 0.03)	-0.06 (-0.18, 0.03)	-0.05 (-0.21, 0.11)
Age ≥ 60 At-risk vs Age ≥ 60 Not at-risk	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.04 (-0.1, 0.18)	0 (0, 0)	0.03 (-0.03, 0.13)

(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)	-0.21 (-0.37, -0.03)	-0.02 (-0.09, 0.03)	0.01 (-0.12, 0.15)

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



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

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
Sex							
Male vs Female	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	-	-	-
Male vs Female	Negative	Placebo	Day 29	Anti N IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Male vs Female	Negative	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-	-	-
Male vs Female	Negative	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Male vs Female	Negative	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-	-	-
Male vs Female	Negative	Placebo	Day 29	Anti Spike IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Male vs Female	Positive	Vaccine	Day 29	Anti N IgG (IU/ml)	-	-	-
Male vs Female	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	-0.03 (-0.08, 0.07)	-0.11 (-0.23, 0.01)	-0.09 (-0.17, 0.01)
Male vs Female	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-	-	-
Male vs Female	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	-0.16 (-0.28, -0.02)	-0.01 (-0.14, 0.11)	-0.11 (-0.24, 0.03)
Male vs Female	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-	-	-
Male vs Female	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	-0.12 (-0.23, 0.01)	0.05 (-0.07, 0.16)	-0.12 (-0.25, 0.01)

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)	0.02 (-0.01, 0.06)	0.01 (-0.05, 0.07)	0.04 (-0.01, 0.09)
Hispanic or Latino vs Not Hispanic or Latino	Negative	Placebo	Day 29	Anti N IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Hispanic or Latino vs Not Hispanic or Latino	Negative	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-0.01 (-0.09, 0.06)	-0.01 (-0.08, 0.06)	-0.06 (-0.14, 0.01)
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)	-0.05 (-0.11, 0.02)	-0.03 (-0.09, 0.02)	-0.05 (-0.12, 0.02)
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 (-0.02, 0.14)	0 (-0.13, 0.13)	-0.01 (-0.11, 0.1)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0.03 (-0.03, 0.12)	0.08 (-0.04, 0.21)	0.03 (-0.06, 0.13)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-0.1 (-0.23, 0.03)	0.05 (-0.05, 0.14)	-0.05 (-0.18, 0.08)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.06 (-0.08, 0.2)	-0.01 (-0.14, 0.11)	0.04 (-0.1, 0.17)
Hispanic or Latino vs Not Hispanic or Latino	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.01 (-0.12, 0.13)	-0.01 (-0.09, 0.07)	0.04 (-0.07, 0.15)

(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 (-0.07, 0.18)	0 (-0.13, 0.11)	0.06 (-0.08, 0.19)

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 (-0.01, 0.06)	0.02 (-0.05, 0.08)	0.06 (0.01, 0.11)
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)	0.03 (-0.05, 0.11)	0 (-0.07, 0.07)	0 (-0.07, 0.08)
URM vs Non-URM	Negative	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
URM vs Non-URM	Negative	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.04 (-0.04, 0.11)	-0.02 (-0.07, 0.04)	-0.03 (-0.09, 0.05)
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)	0.04 (-0.05, 0.11)	-0.09 (-0.23, 0.05)	-0.07 (-0.2, 0.05)
URM vs Non-URM	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0 (-0.07, 0.06)	0.01 (-0.12, 0.13)	-0.04 (-0.14, 0.05)
URM vs Non-URM	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	-0.11 (-0.23, 0.04)	0.05 (-0.05, 0.17)	-0.09 (-0.21, 0.05)
URM vs Non-URM	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0.01 (-0.14, 0.15)	0.01 (-0.11, 0.15)	-0.01 (-0.15, 0.14)
URM vs Non-URM	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	-0.01 (-0.14, 0.12)	-0.02 (-0.08, 0.09)	0.04 (-0.07, 0.17)
URM vs Non-URM	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	0.06 (-0.08, 0.18)	0.05 (-0.08, 0.18)	0.06 (-0.08, 0.2)

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

Table 10j. Differences in the responder rates, 2FRs, 4FRs between the groups by HIV Infection

Comparison	Baseline SARS-CoV-2	Arm	Visit	Marker	Responder	% 2-Fold Rise	% 4-Fold Rise
HIV Infection							
Positive vs Negative	Negative	Vaccine	Day 29	Anti N IgG (IU/ml)	-0.01 (-0.05, 0.09)	0.05 (-0.07, 0.2)	0.02 (-0.06, 0.16)
Positive vs Negative	Negative	Placebo	Day 29	Anti N IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Positive vs Negative	Negative	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.01 (-0.14, 0.15)	-0.04 (-0.2, 0.08)	-0.03 (-0.18, 0.11)
Positive vs Negative	Negative	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Positive vs Negative	Negative	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.01 (-0.13, 0.16)	-0.03 (-0.22, 0.07)	-0.04 (-0.2, 0.09)
Positive vs Negative	Negative	Placebo	Day 29	Anti Spike IgG (IU/ml)	0 (0, 0)	0 (0, 0)	0 (0, 0)
Positive vs Negative	Positive	Vaccine	Day 29	Anti N IgG (IU/ml)	0.06 (-0.06, 0.36)	-0.05 (-0.24, 0.2)	-0.05 (-0.18, 0.22)
Positive vs Negative	Positive	Placebo	Day 29	Anti N IgG (IU/ml)	0.01 (-0.05, 0.18)	-0.19 (-0.28, 0)	-0.04 (-0.12, 0.14)
Positive vs Negative	Positive	Vaccine	Day 29	Anti RBD IgG (IU/ml)	0.22 (0, 0.35)	0.05 (-0.15, 0.13)	0.18 (-0.03, 0.29)
Positive vs Negative	Positive	Placebo	Day 29	Anti RBD IgG (IU/ml)	0 (-0.29, 0.28)	-0.13 (-0.46, 0.11)	-0.09 (-0.38, 0.18)
Positive vs Negative	Positive	Vaccine	Day 29	Anti Spike IgG (IU/ml)	0.05 (-0.18, 0.26)	0.06 (0.03, 0.11)	0.1 (-0.1, 0.19)
Positive vs Negative	Positive	Placebo	Day 29	Anti Spike IgG (IU/ml)	0.04 (-0.2, 0.35)	-0.07 (-0.43, 0.14)	-0.08 (-0.38, 0.19)

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				Comparison
		N	Resp rate	GMT/GMC	N	Resp rate	GMT/GMC	Resp Rate Difference	GMTR/GMCR	
Day 29	Anti N IgG (IU/ml)	908	1225.8/19303 = 6.4% (4.9%, 8.2%)	1.44 (1.26, 1.64)	107	0/19210 = 0.0% (0.0%, 0.0%)	0.05 (0.05, 0.05)	0.06 (0.05, 0.08)	30.63 (26.89, 34.89)	
Day 29	Anti RBD IgG (IU/ml)	908	10479.3/19303 = 54.3% (50.7%, 57.9%)	16.33 (14.70, 18.14)	107	0/19210 = 0.0% (0.0%, 0.0%)	0.80 (0.80, 0.80)	0.54 (0.51, 0.58)	20.49 (18.45, 22.77)	
Day 29	Anti Spike IgG (IU/ml)	908	8707.8/19303 = 45.1% (41.8%, 48.5%)	8.93 (8.17, 9.77)	107	0/19210 = 0.0% (0.0%, 0.0%)	0.15 (0.15, 0.15)	0.45 (0.42, 0.48)	58.09 (53.12, 63.52)	

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)	283	174.5/2079 = 8.4% (5.3%, 13.0%)	2.13 (1.68, 2.69)	277	96.3/2057 = 4.7% (2.5%, 8.7%)	1.09 (0.85, 1.39)	0.04 (-0.01, 0.09)	1.96 (1.40, 2.76)
Day 29	Anti RBD IgG (IU/ml)	283	1301.3/2079 = 62.6% (55.8%, 68.9%)	22.71 (19.02, 27.10)	277	1051.8/2057 = 51.1% (44.5%, 57.7%)	14.65 (11.83, 18.15)	0.11 (0.02, 0.21)	1.55 (1.17, 2.05)
Day 29	Anti Spike IgG (IU/ml)	283	1091.9/2079 = 52.5% (46.1%, 58.9%)	13.07 (11.28, 15.14)	277	693.7/2057 = 33.7% (28.2%, 39.8%)	6.10 (5.01, 7.43)	0.19 (0.1, 0.27)	2.14 (1.67, 2.74)

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		
			Resp rate	GMT/GMC	N	Resp rate	GMT/GMC		
Day 29	Anti N IgG (IU/ml)	283	174.5/2079 = 8.4% (5.3%, 13.0%)	2.13 (1.68, 2.69)	908	1225.8/19303 = 6.4% (4.9%, 8.2%)	1.44 (1.26, 1.64)	0.02 (-0.02, 0.07)	1.48 (1.13, 1.94)
Day 29	Anti RBD IgG (IU/ml)	283	1301.3/2079 = 62.6% (55.8%, 68.9%)	22.71 (19.02, 27.10)	908	10479.3/19303 = 54.3% (50.7%, 57.9%)	16.33 (14.70, 18.14)	0.08 (0.01, 0.16)	1.39 (1.13, 1.71)
Day 29	Anti Spike IgG (IU/ml)	283	1091.9/2079 = 52.5% (46.1%, 58.9%)	13.07 (11.28, 15.14)	908	8707.8/19303 = 45.1% (41.8%, 48.5%)	8.93 (8.17, 9.77)	0.07 (0, 0.15)	1.46 (1.23, 1.74)

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

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

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

Visit	Marker	N	Resp rate	Placebo Recipients				Comparison	
				Baseline SARS-CoV-2 Positive		Baseline SARS-CoV-2 Negative		Resp Rate Difference	GMTR/GMCR
				GMT/GMC	N	Resp rate	GMT/GMC		
Day 29	Anti N IgG (IU/ml)	277	96.3/2057 = 4.7% (2.5%, 8.7%)	1.09 (0.85, 1.39)	107	0/19210 = 0.0% (0.0%, 0.0%)	0.05 (0.05, 0.05)	0.05 (0.02, 0.09)	23.15 (18.11, 29.61)
Day 29	Anti RBD IgG (IU/ml)	277	1051.8/2057 = 51.1% (44.5%, 57.7%)	14.65 (11.83, 18.15)	107	0/19210 = 0.0% (0.0%, 0.0%)	0.80 (0.80, 0.80)	0.51 (0.44, 0.58)	18.39 (14.85, 22.78)
Day 29	Anti Spike IgG (IU/ml)	277	693.7/2057 = 33.7% (28.2%, 39.8%)	6.10 (5.01, 7.43)	107	0/19210 = 0.0% (0.0%, 0.0%)	0.15 (0.15, 0.15)	0.34 (0.28, 0.4)	39.68 (32.58, 48.32)

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

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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

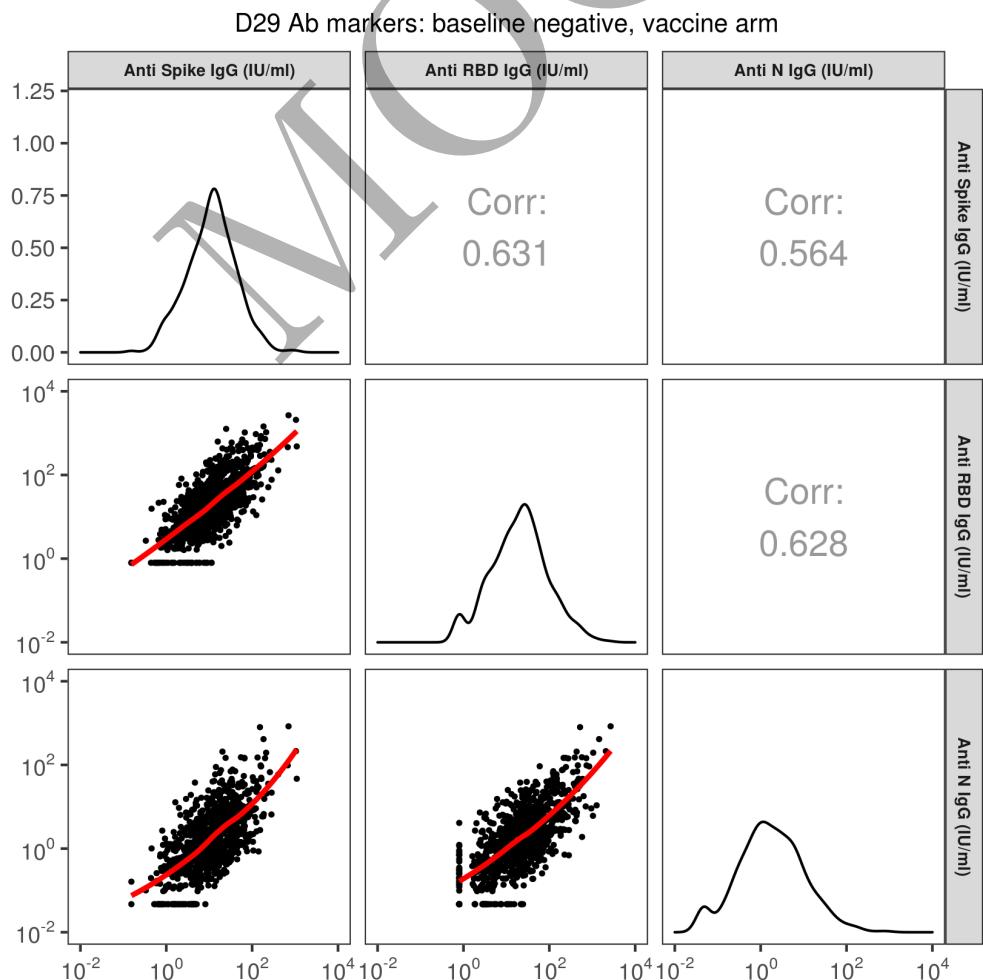


Figure 2.1: Pair plots of D29 Ab markers: baseline negative vaccine arm



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

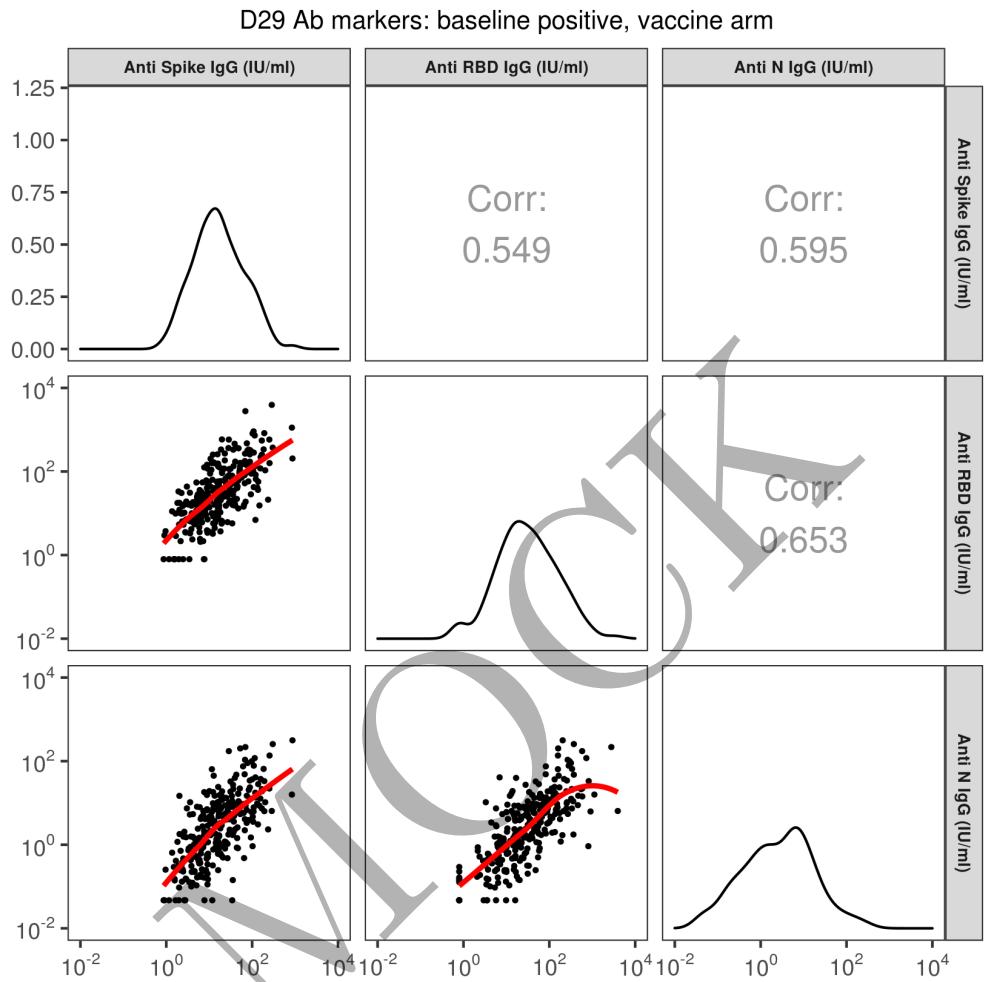


Figure 2.3: Pair plots of D29 Ab markers: baseline positive vaccine arm

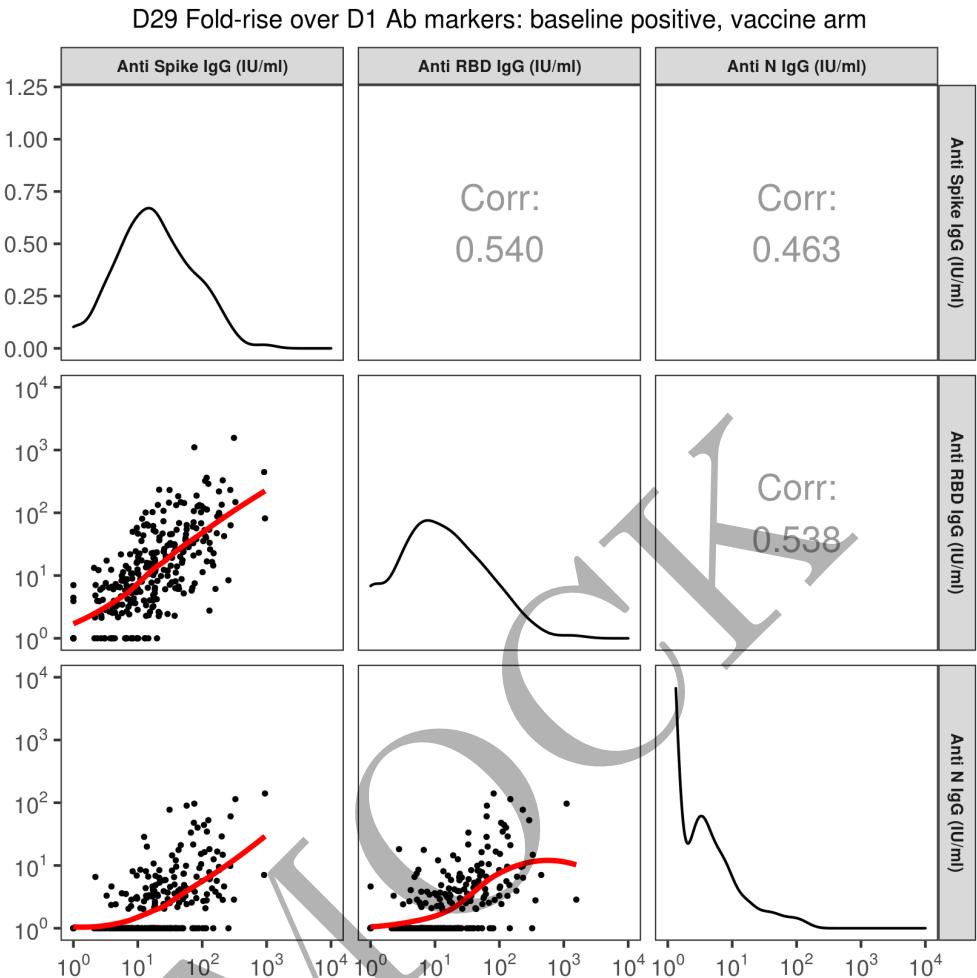


Figure 2.4: Pair plots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm

2.1.3 Baseline SARS-CoV-2 Positive Placebo Arm

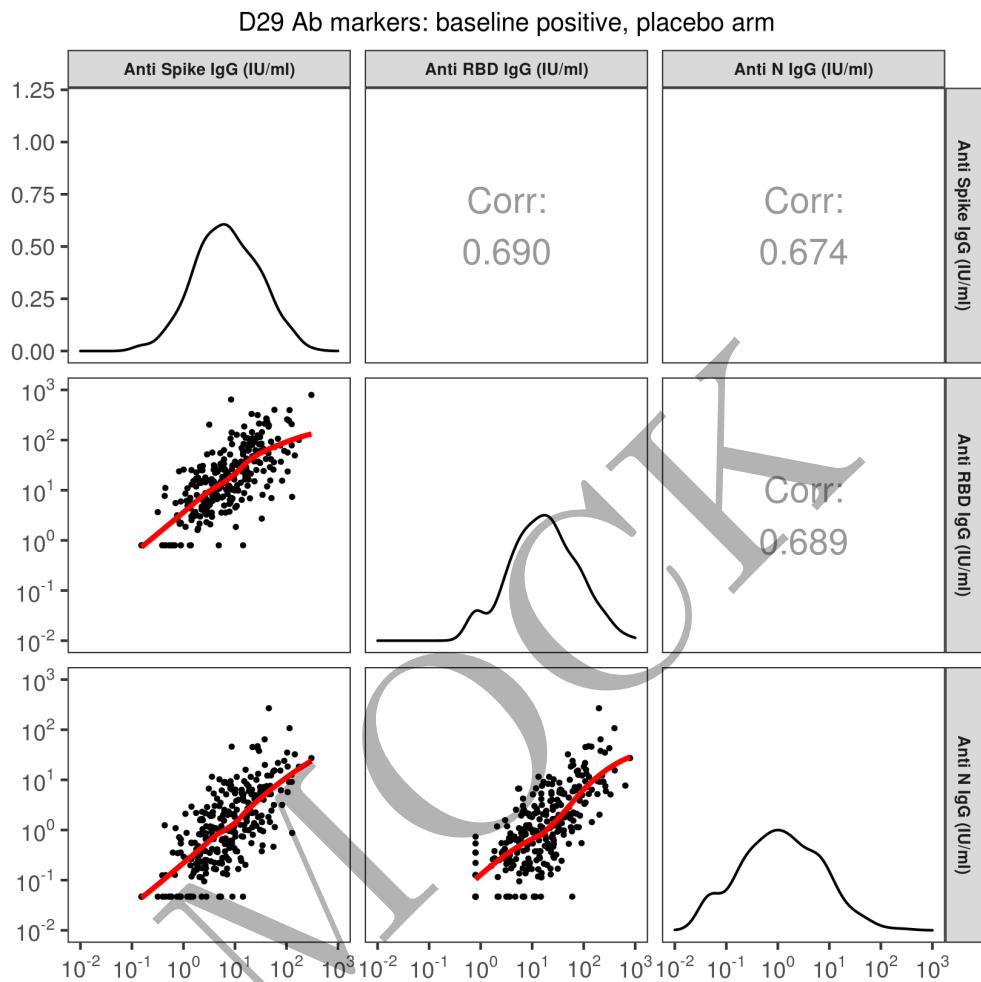


Figure 2.5: Pair plots of D29 Ab markers: baseline positive placebo arm



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

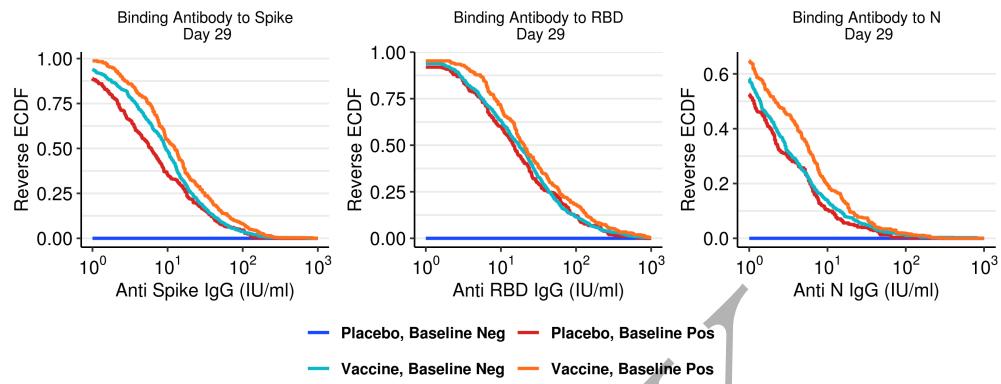


Figure 2.7: RCDF plots for D29 Ab markers: by baseline status x randomization arm



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

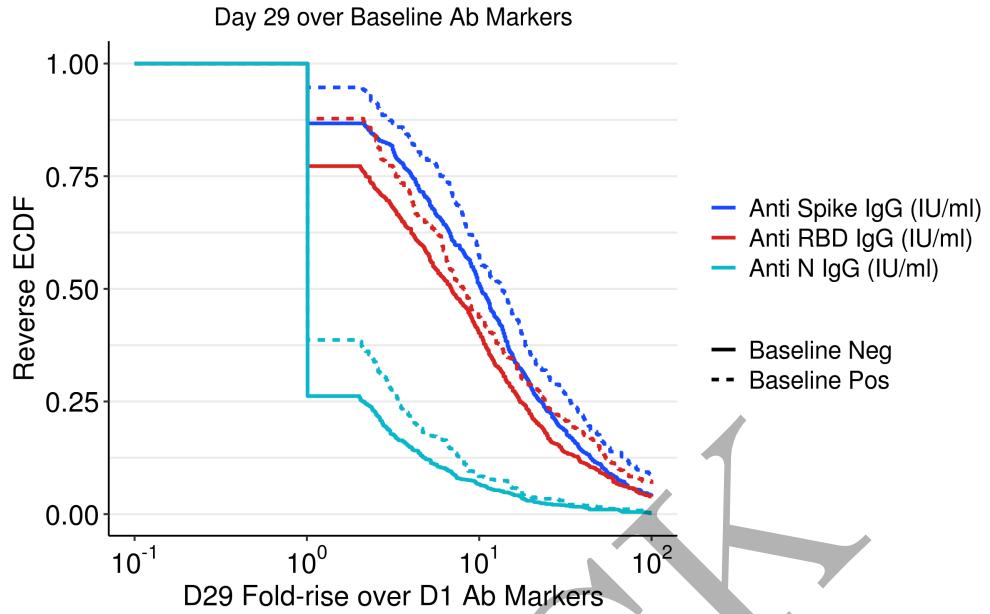


Figure 2.10: RCDF plots for D29 over D1 fold-rise bAb markers: by baseline status for the vaccine arm



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

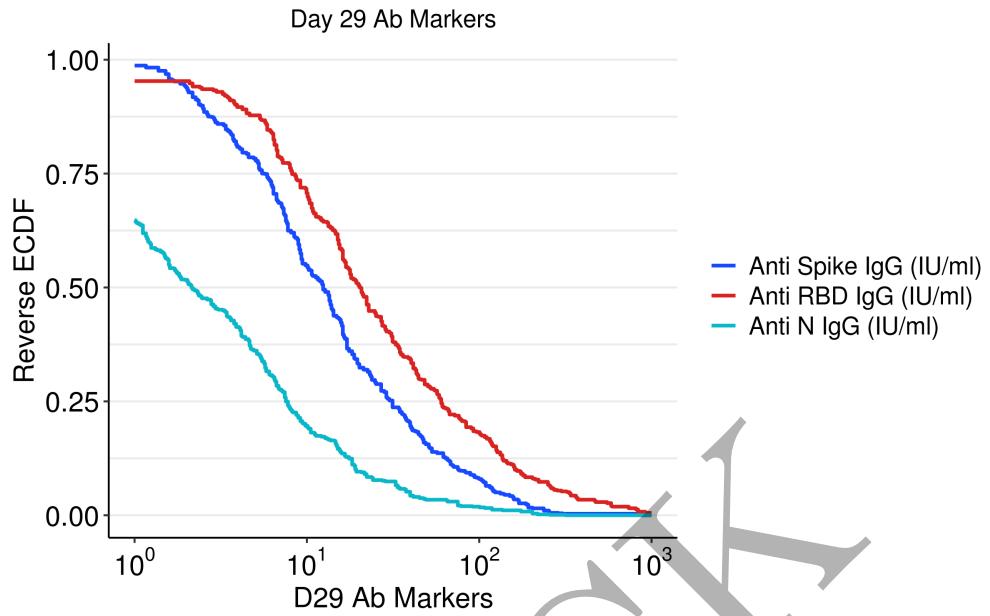


Figure 2.13: RCDF plots for D29 bAb markers: baseline positive vaccine arm

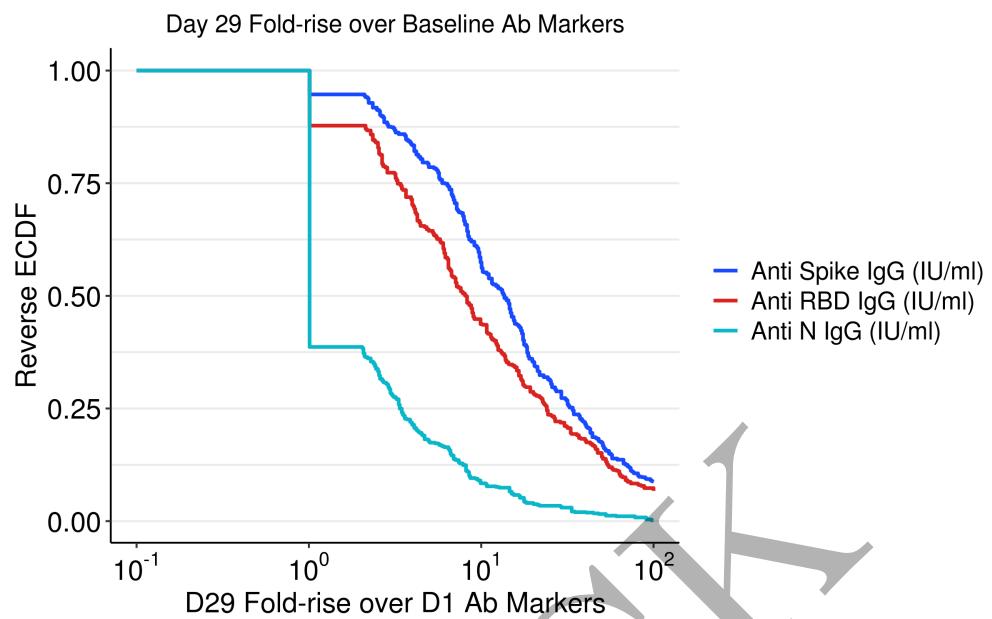


Figure 2.14: RCDF plots for D29 fold-rise over D1 bAb markers: baseline positive vaccine arm

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

2.3.1 Baseline SARS-CoV-2 Negative

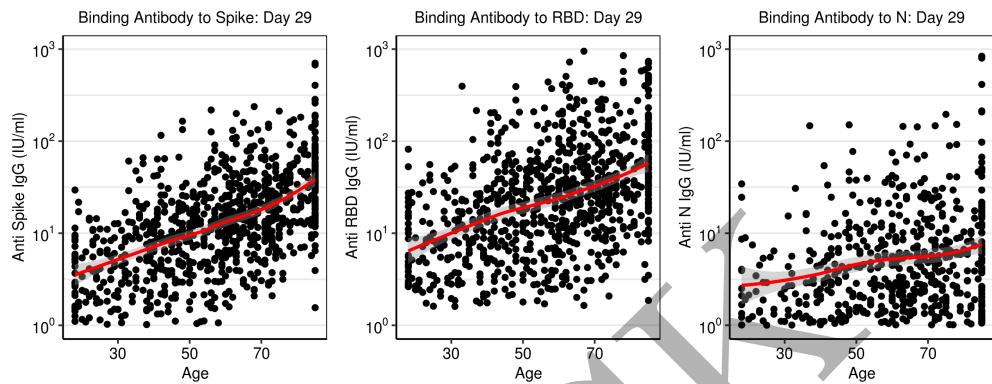


Figure 2.15: Scatter plots for D29 Ab markers vs. age: baseline negative vaccine arm

2.3. SCATTER PLOTS OF ANTIBODY MARKERS VERSUS AGE FOR OVERALL PER-PROTOCOL COHORT265

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

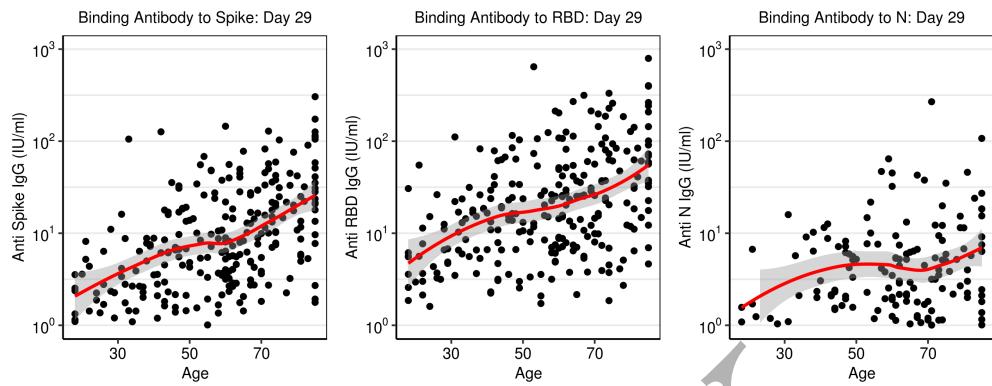


Figure 2.17: Scatter plots for D29 Ab markers vs. age: baseline positive placebo arm

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

2.4.1 Baseline SARS-CoV-2 Negative

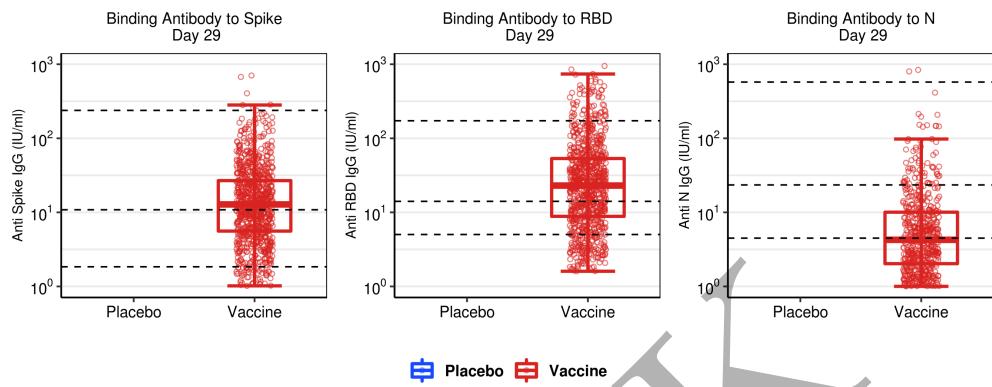


Figure 2.18: Boxplots of D29 Ab markers: baseline negative vaccine + placebo arms. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

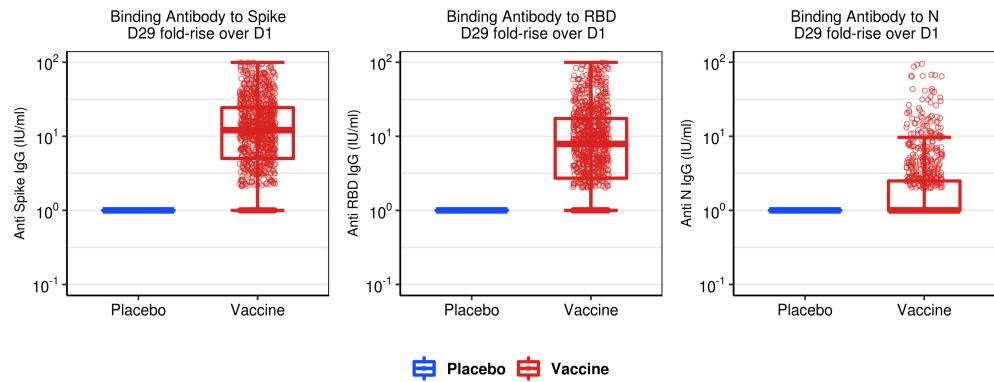


Figure 2.19: Boxplots of D29 fold-rise over D1 Ab markers: baseline negative vaccine + placebo arms

2.4.2 Baseline SARS-CoV-2 Positive

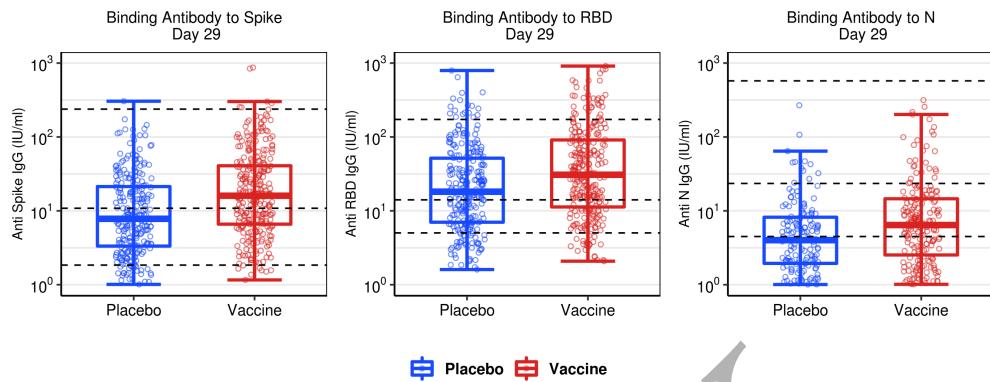


Figure 2.20: Boxplots of D29 Ab markers: baseline positive vaccine + placebo arms. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

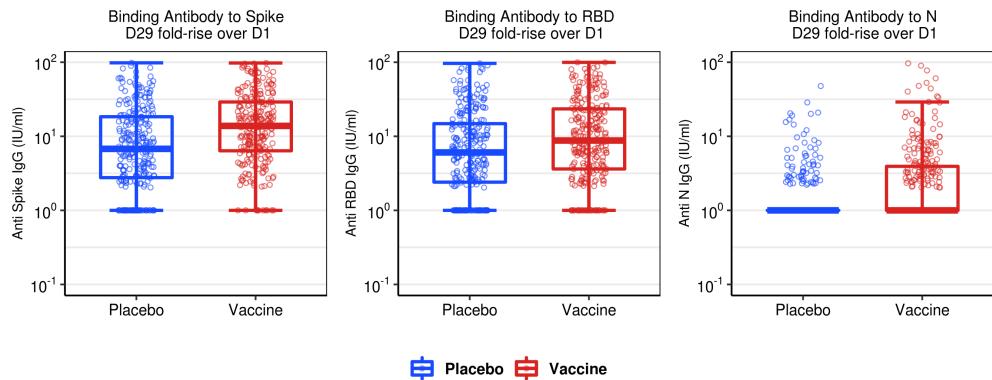


Figure 2.21: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine + placebo arms

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.

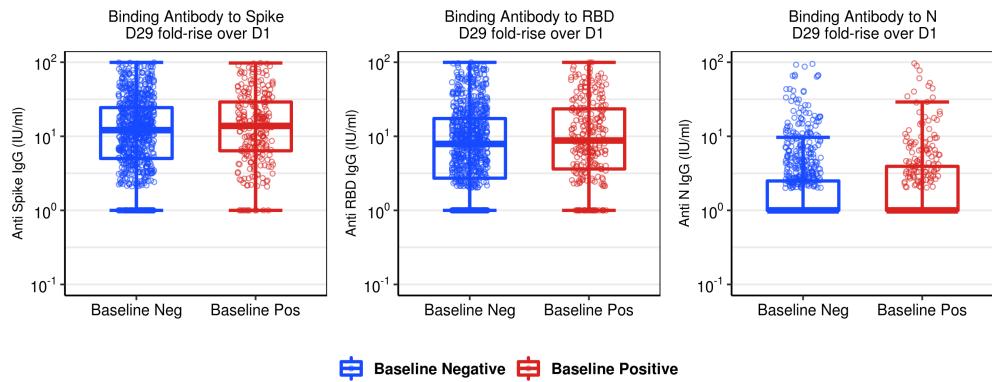


Figure 2.23: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive + negative vaccine arm

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.

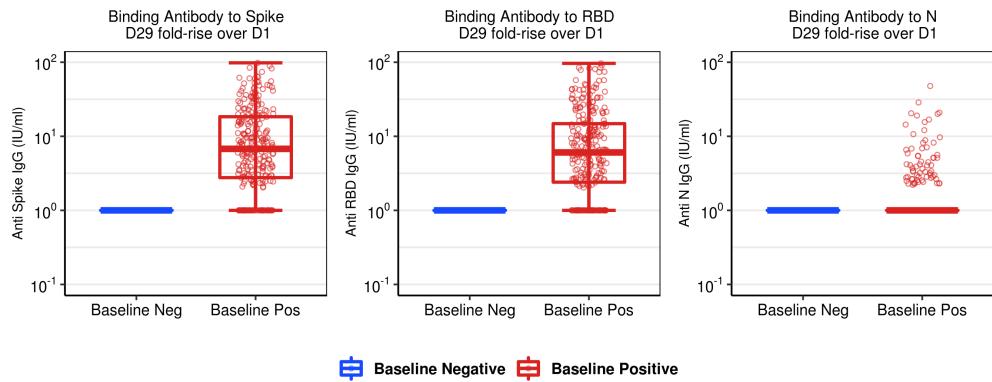


Figure 2.25: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive + negative placebo arm

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

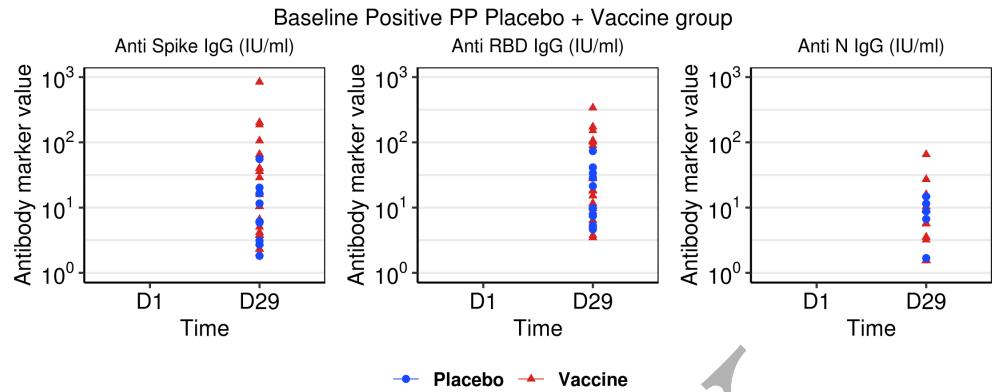


Figure 2.27: Spaghetti plots of Ab markers over time: baseline positive vaccine + placebo arm

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

2.6.1 Baseline SARS-CoV-2 Negative

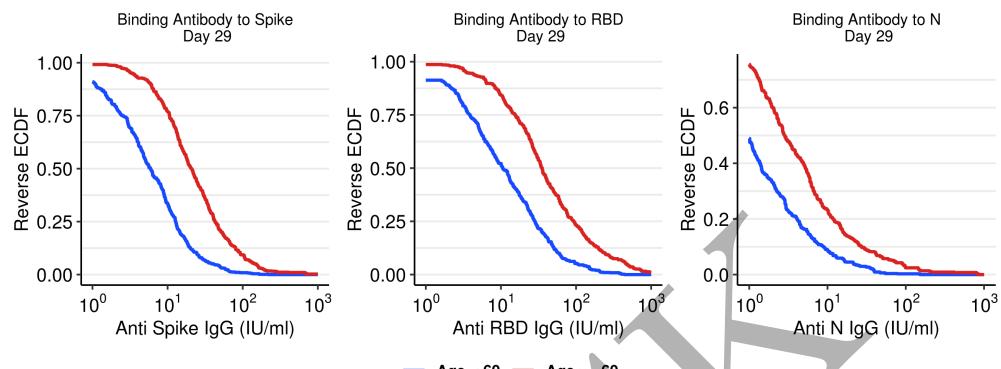


Figure 2.28: RCDF plots for D29 Ab markers: baseline negative vaccine arm by age groups.

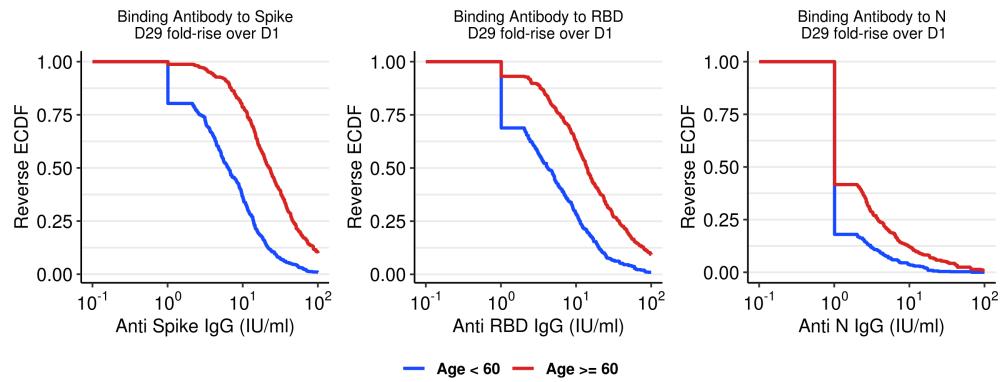


Figure 2.29: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age groups.

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



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

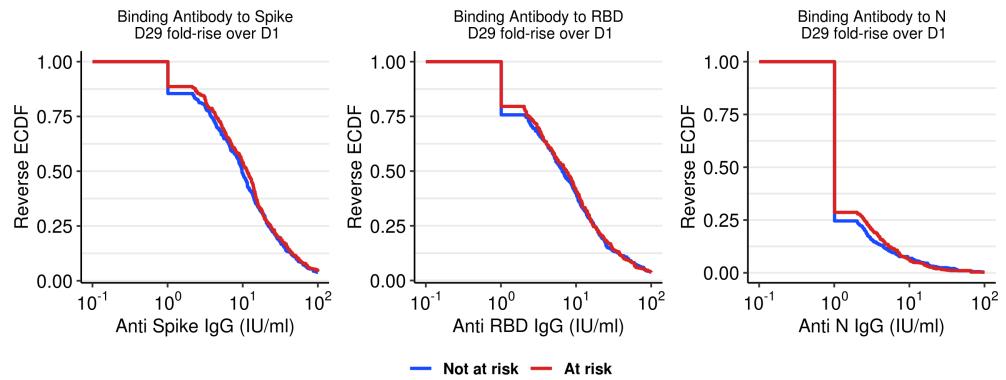


Figure 2.31: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by high-risk condition.

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



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 COHORT283



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 COHORT285



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

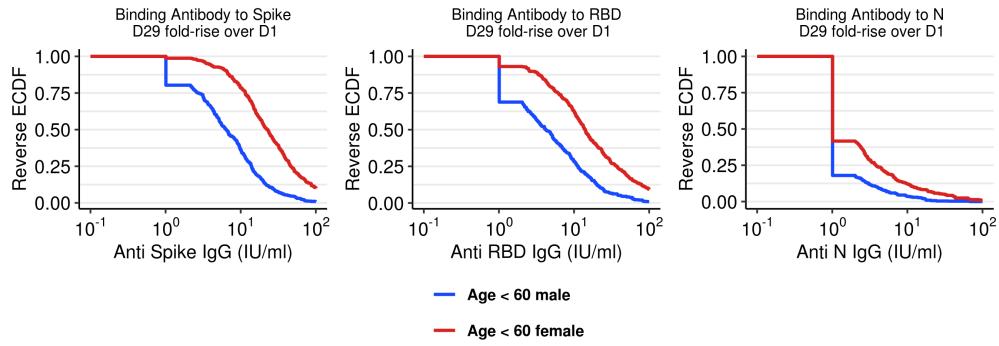


Figure 2.37: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and sex assigned at birth.

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

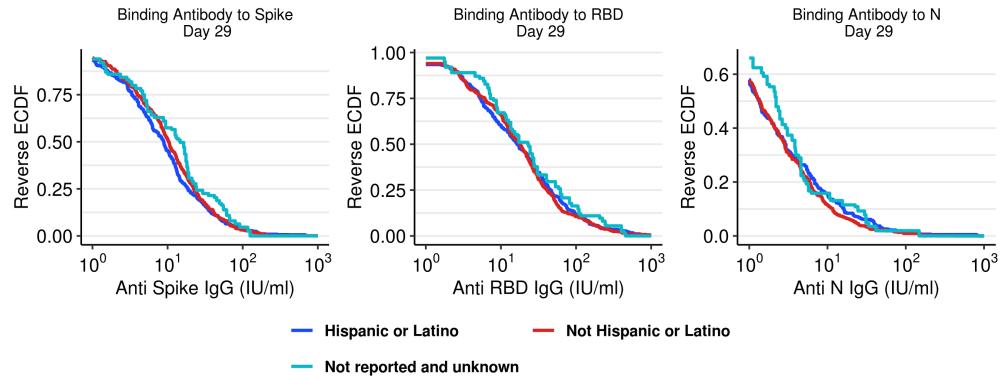


Figure 2.38: RCDF plots for D29 Ab markers: baseline negative vaccine arm by ethnicity.

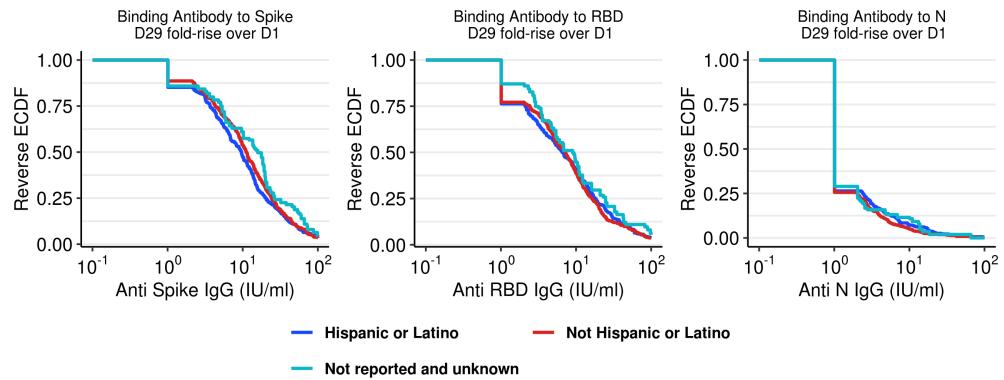


Figure 2.39: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by ethnicity.

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

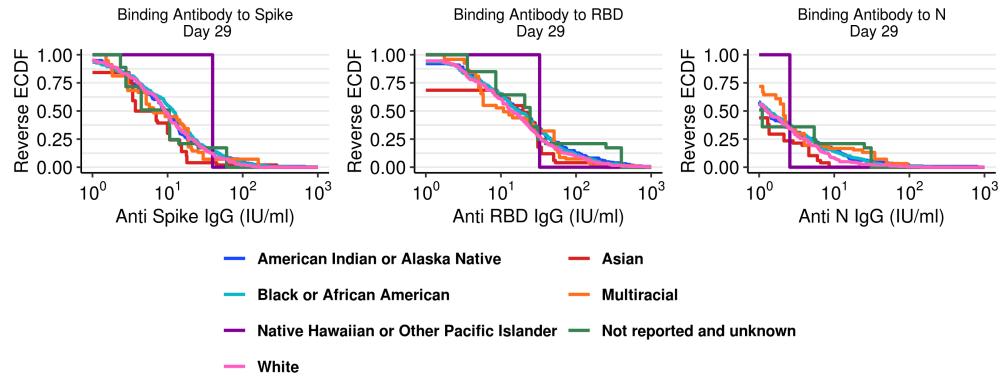


Figure 2.40: RCDF plots for D29 Ab markers: baseline negative vaccine arm by race.



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 COHORT291



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 COHORT293

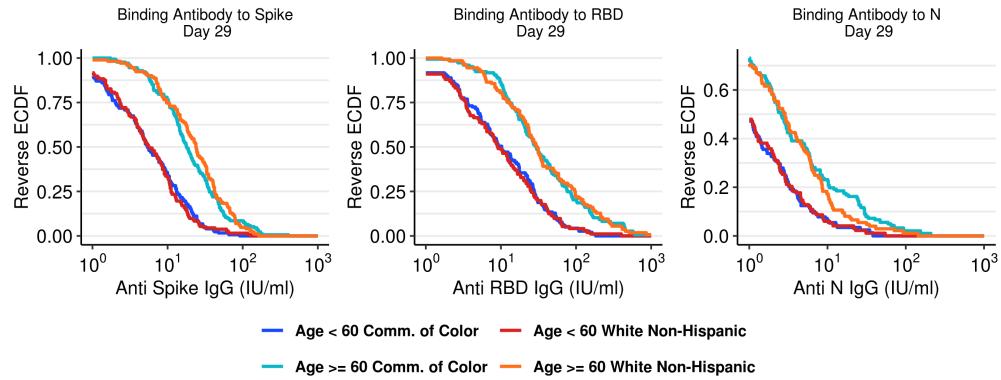


Figure 2.44: RCDF plots for D29 Ab markers: baseline negative vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.



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 COHORT295



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

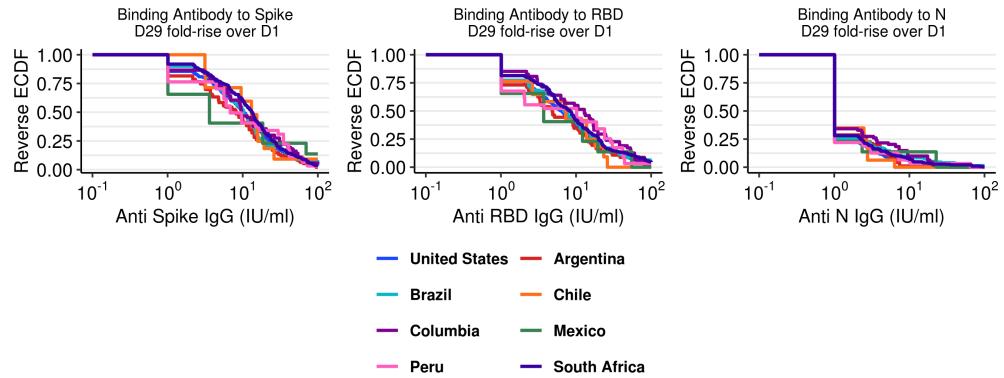


Figure 2.47: RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by country of residence.

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



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.

2.6.2 Baseline SARS-CoV-2 Positive



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

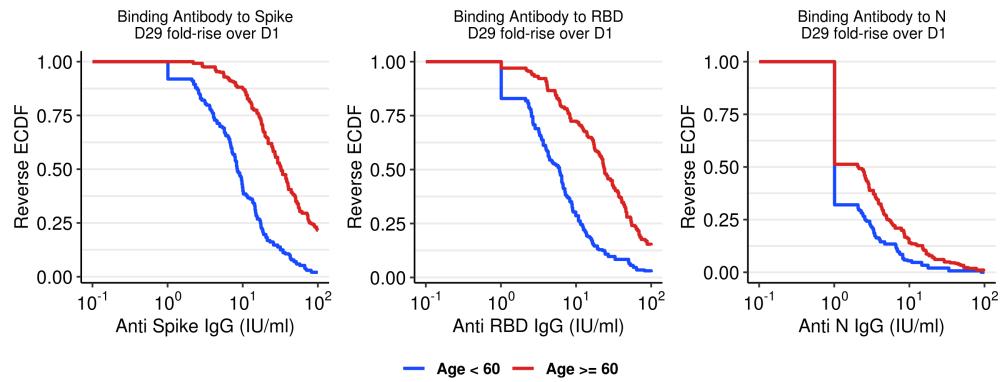


Figure 2.51: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age groups.

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



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 COHORT303

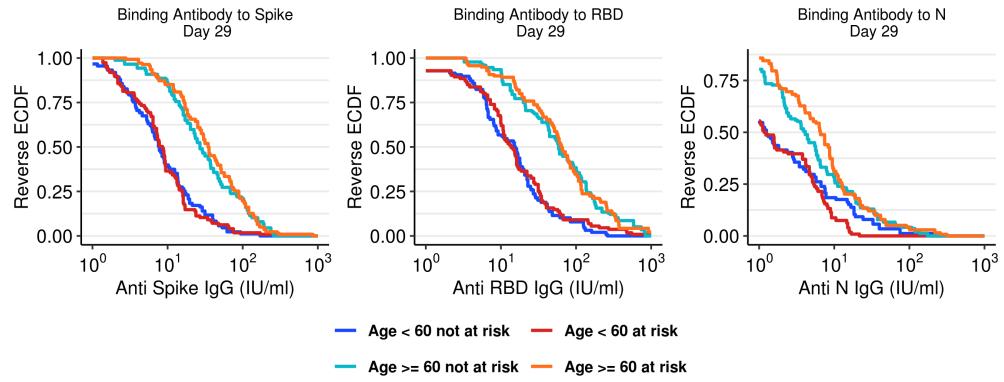


Figure 2.54: RCDF plots for D29 Ab markers: baseline positive vaccine arm by age and high-risk condition.



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 COHORT305



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 COHORT307



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

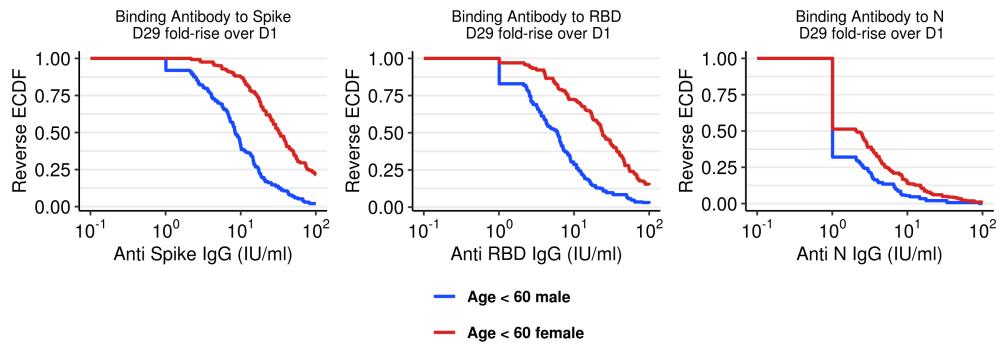


Figure 2.59: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

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



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 COHORT311



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



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

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



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 COHORT315



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 COHORT317



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 COHORT319



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

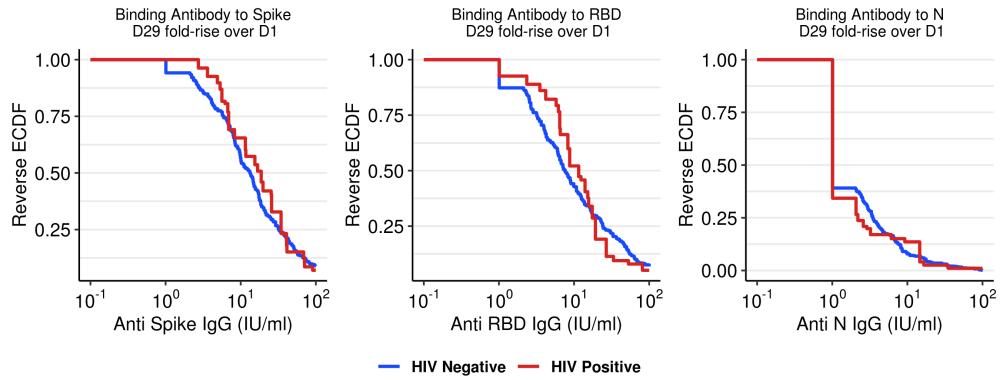


Figure 2.71: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by HIV positivity.

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

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.

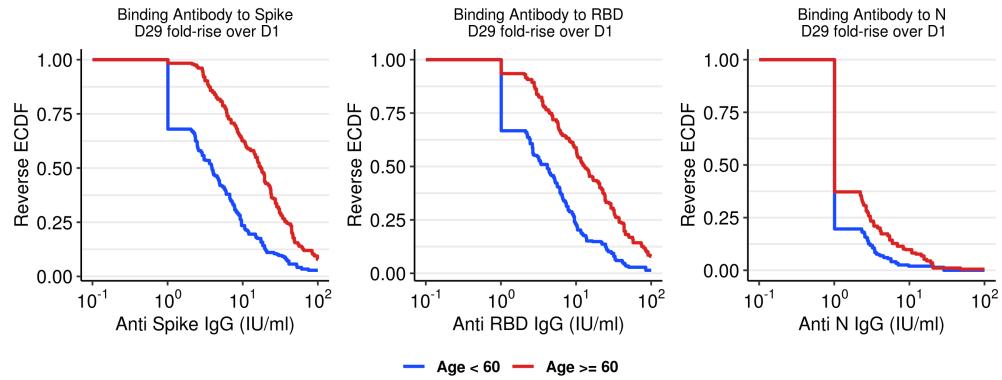


Figure 2.73: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by age groups.

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

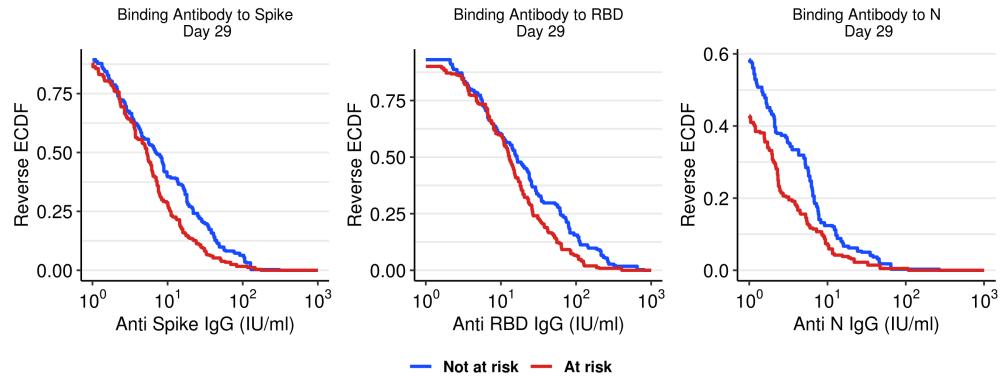


Figure 2.74: RCDF plots for D29 Ab markers: baseline positive placebo arm by high-risk condition.



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 COHORT325



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

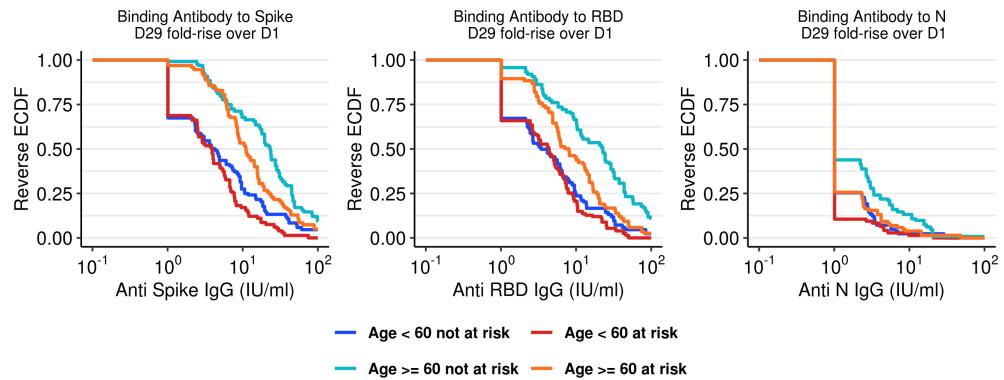


Figure 2.77: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by age and high-risk condition.

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



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 COHORT329



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 COHORT331



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

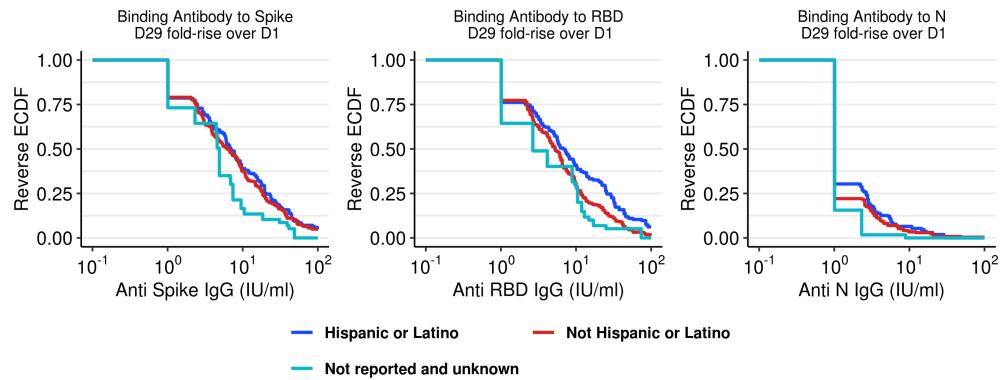


Figure 2.83: RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive placebo arm by ethnicity.

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT333



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



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

2.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT335



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 COHORT337



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 COHORT339



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 COHORT341



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 COHORT345



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



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

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



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.

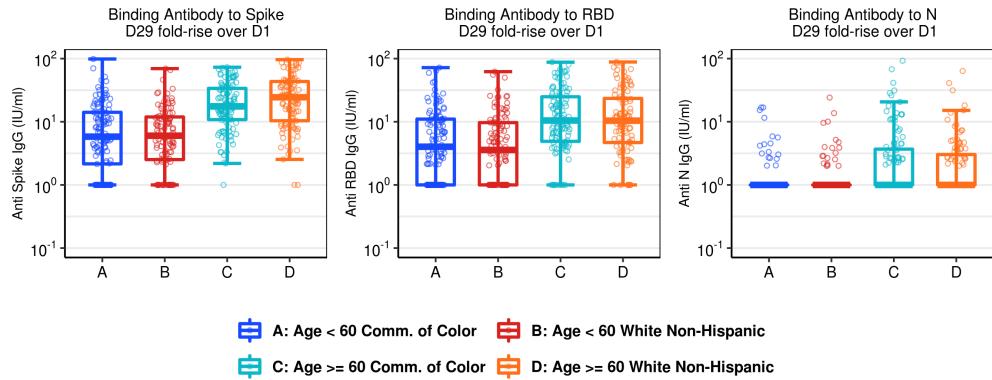


Figure 2.99: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by age and dichotomous classification of race and ethnic group. These plots are restricted to only United States trial participants.

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



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.

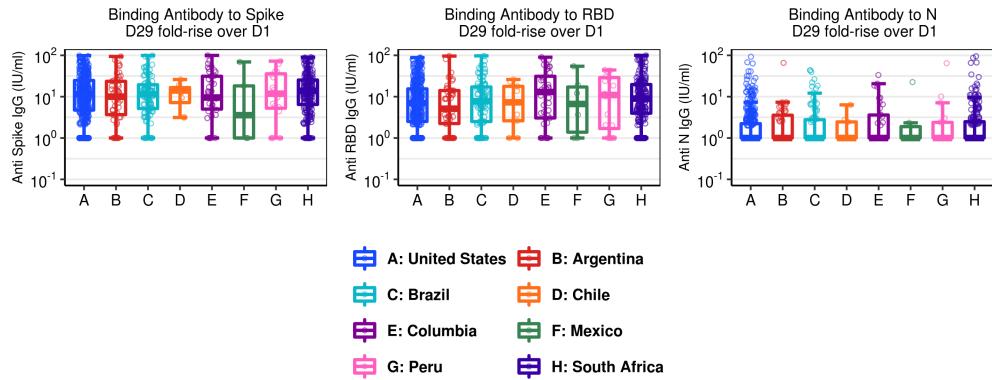


Figure 2.101: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by country of residence.

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

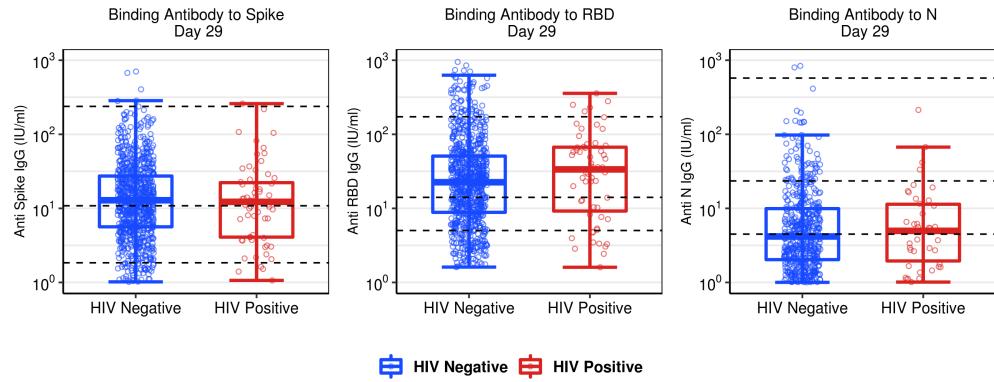


Figure 2.102: Boxplots of D29 Ab markers: Baseline negative vaccine arm by HIV positivity. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

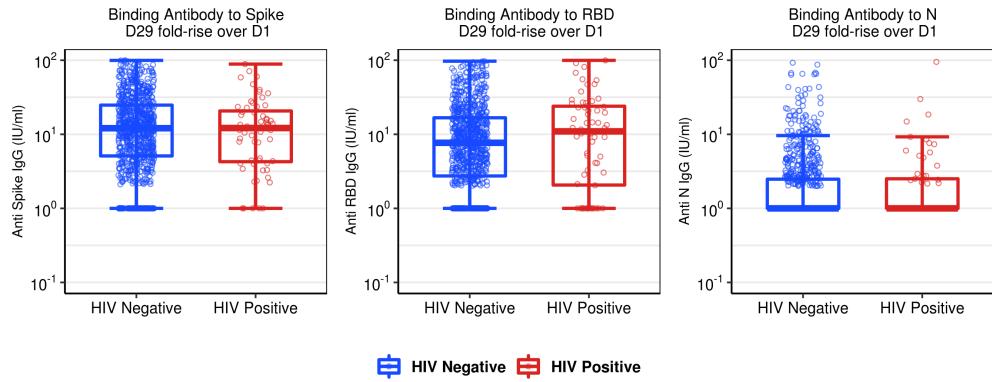


Figure 2.103: Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by HIV positivity.

2.7.2 Baseline SARS-CoV-2 Positive

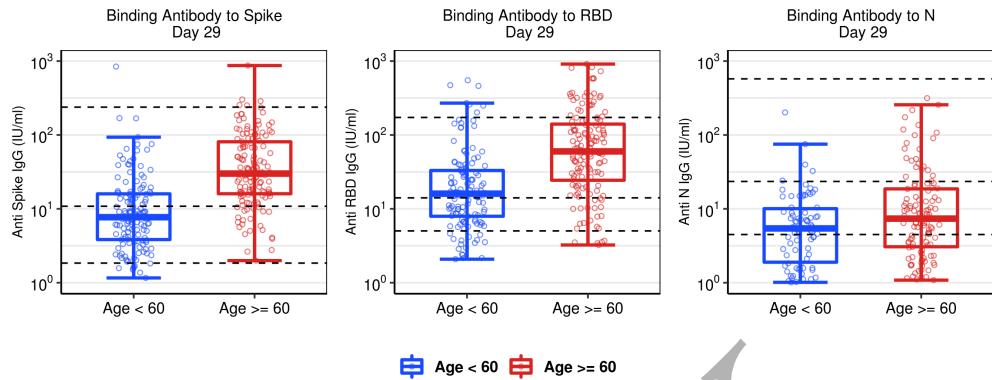


Figure 2.104: Boxplots of D29 Ab markers: baseline positive vaccine arm by age group. The three dashed lines in each figure are ULOQ, positivity cut-off, LLOQ from top to bottom for binding antibody assays.

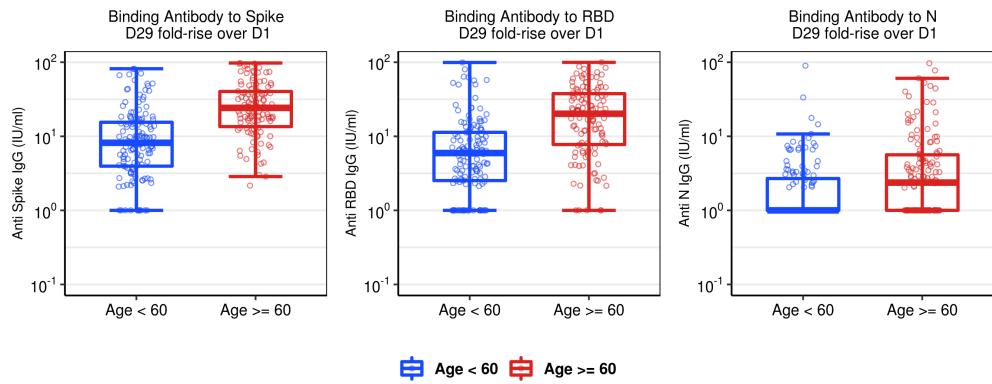


Figure 2.105: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age group.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT355

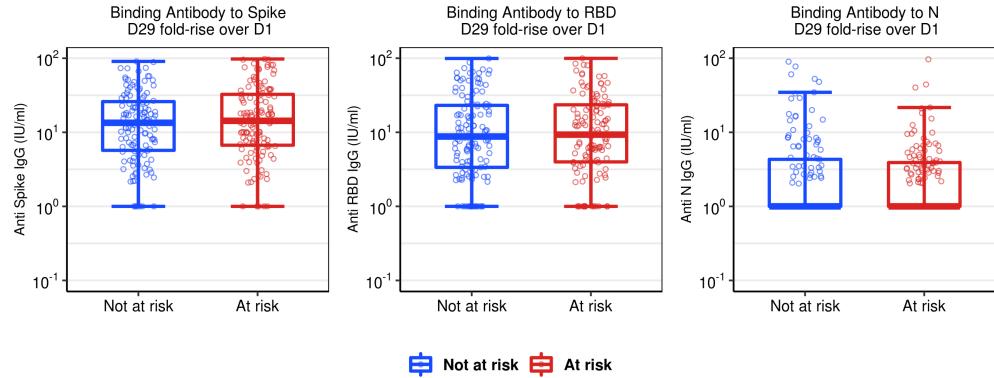


Figure 2.106: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by high-risk condition.



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 COHORT357



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 COHORT359



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

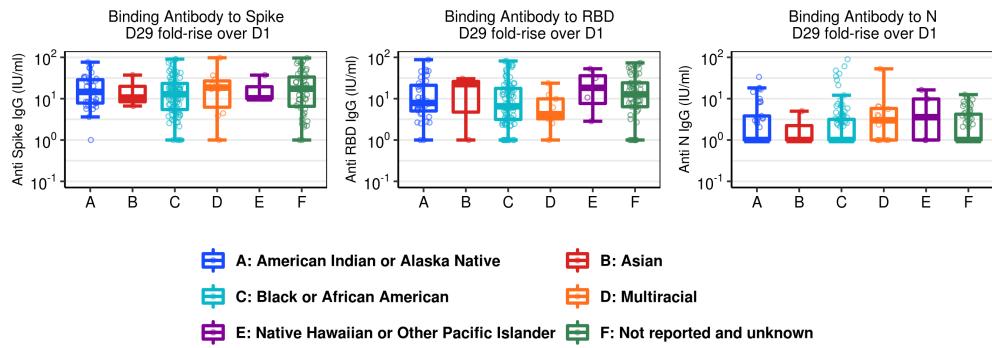


Figure 2.111: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by race.

2.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT361



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 COHORT363



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 COHORT365



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.

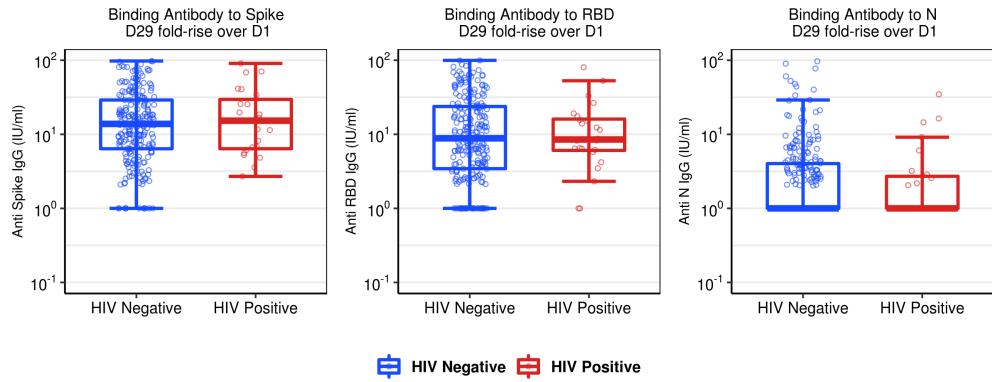


Figure 2.117: Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by HIV positivity.

Chapter 3

Appendix

- This report was built from the [CoVPN/correlates_reporting](#) repository with commit hash 64c382e5d8bf612a84a35e7ef1b731fa40eed13c. A diff of the changes introduced by that commit may be viewed at https://github.com/CoVPN/correlates_reporting/commit/64c382e5d8bf612a84a35e7ef1b731fa40eed13c
- The sha256 hash sum of the raw input file, “COVID_ENSEMBLE_practicedata.csv”: 186c6fefe0d7ee781c3b0bf5cedee36
- The sha256 hash sum of the processed file, “janssen_pooled_mock_data_processed.csv”: 49456667a8b5fd8daf3e3a644a1e9ef5db530fb94e73d3d357e4a76b30962b8a