

COVID-19 Correlates Immunogenicity Analysis Report

COVID-19 Prevention Network (CoVPN) Biostatistics Team

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Chapter 1

Graphical Description of Immunogenicity Data

- 1.1 Pairs plots of antibody markers for overall per-protocol cohort
 - 1.1.1 Baseline SARS-CoV-2 Negative
 - 1.1.2 Baseline SARS-CoV-2 Positive
- 1.2 RCDF plots of antibody markers for overall per-protocol cohort
- 1.3 Scatter plots of antibody markers versus age for overall per-protocol cohort
 - 1.3.1 Baseline SARS-CoV-2 negative
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- 1.4 Box plots of antibody markers for overall per-protocol cohort
 - 1.4.1 Baseline SARS-CoV-2 negative
 - 1.4.2 Baseline SARS-CoV-2 positive
 - 1.4.3 Baseline negative vs. positive vaccine recipients

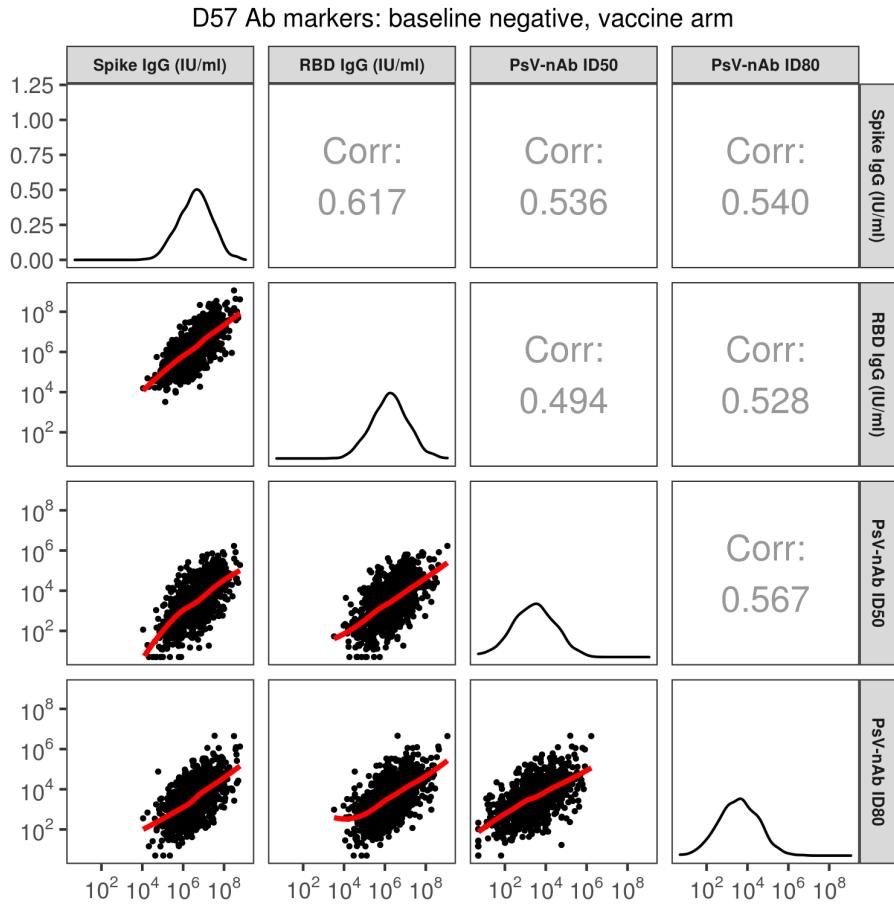


Figure 1.1: (Mock data) Pair plots of D57 Ab markers: baseline negative vaccine arm

1.4.4 Baseline negative vs. positive placebo recipients

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

1.5.1 Baseline SARS-CoV-2 negative

1.5.2 Baseline SARS-CoV-2 positive

1.6. RCDF PLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT19

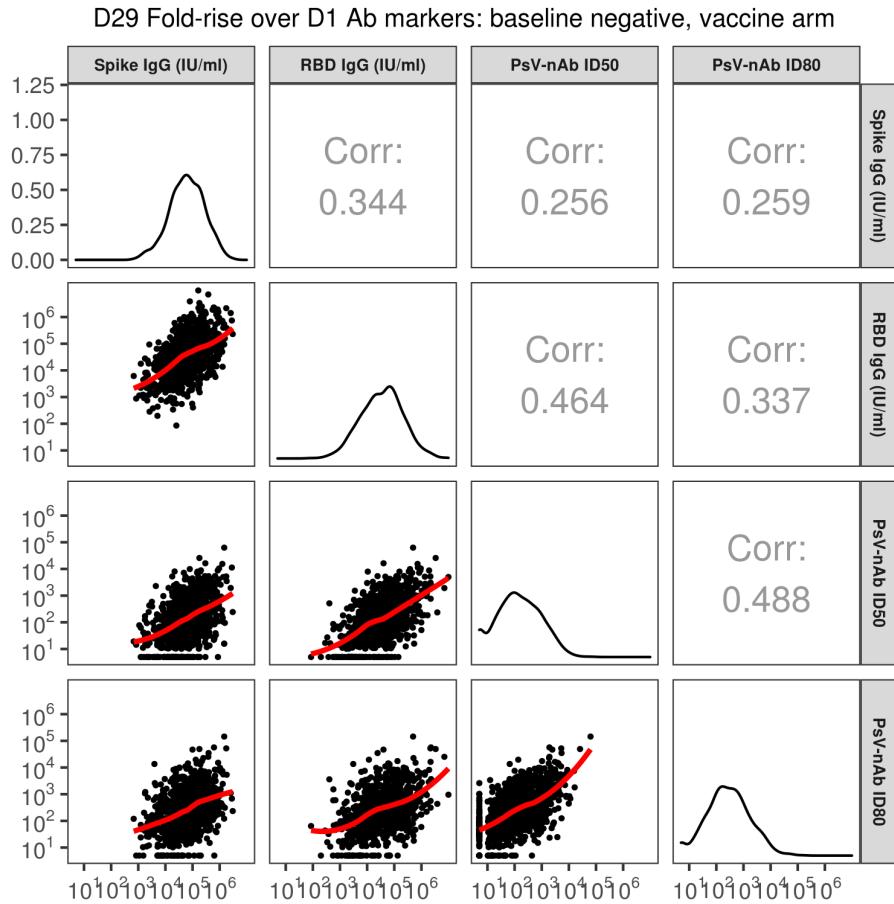


Figure 1.2: (Mock data) Pair plots of D29 fold-rise over D1 Ab markers: baseline negative vaccine arm

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

1.6.1 Baseline SARS-CoV-2 negative

1.6.2 Baseline SARS-CoV-2 positive

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

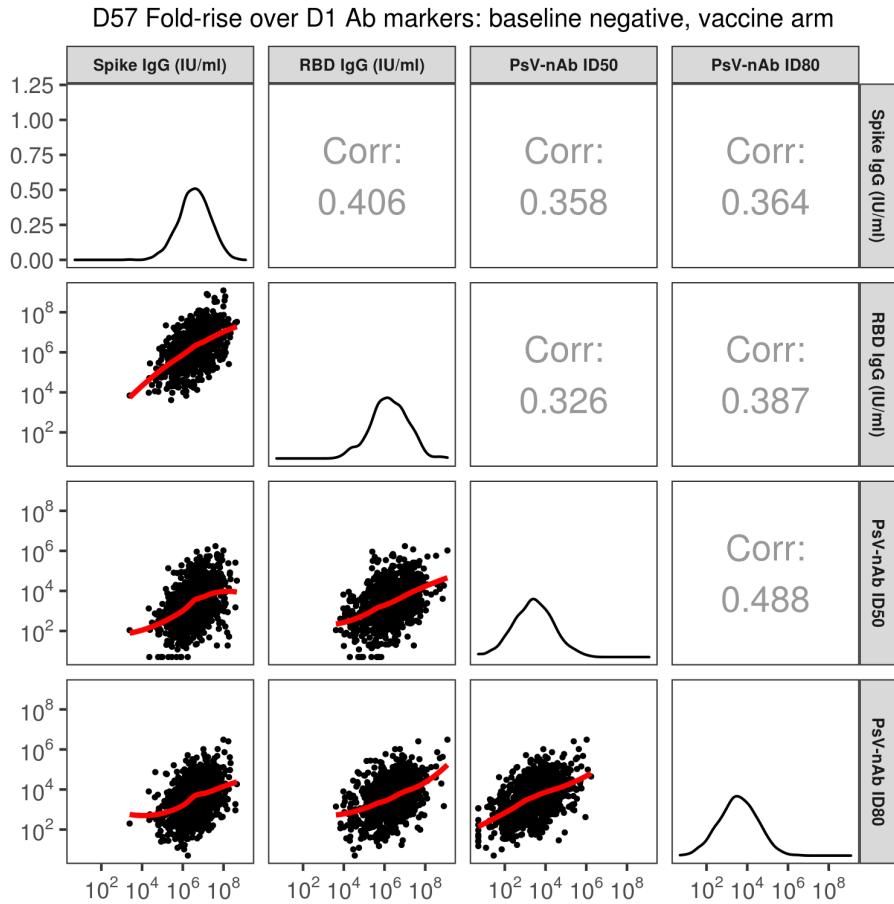


Figure 1.3: (Mock data) Pair plots of D57 fold-rise over D1 Ab markers: baseline negative vaccine arm

1.7.1 Baseline SARS-CoV-2 negative

1.7.2 Baseline SARS-CoV-2 positive

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT21

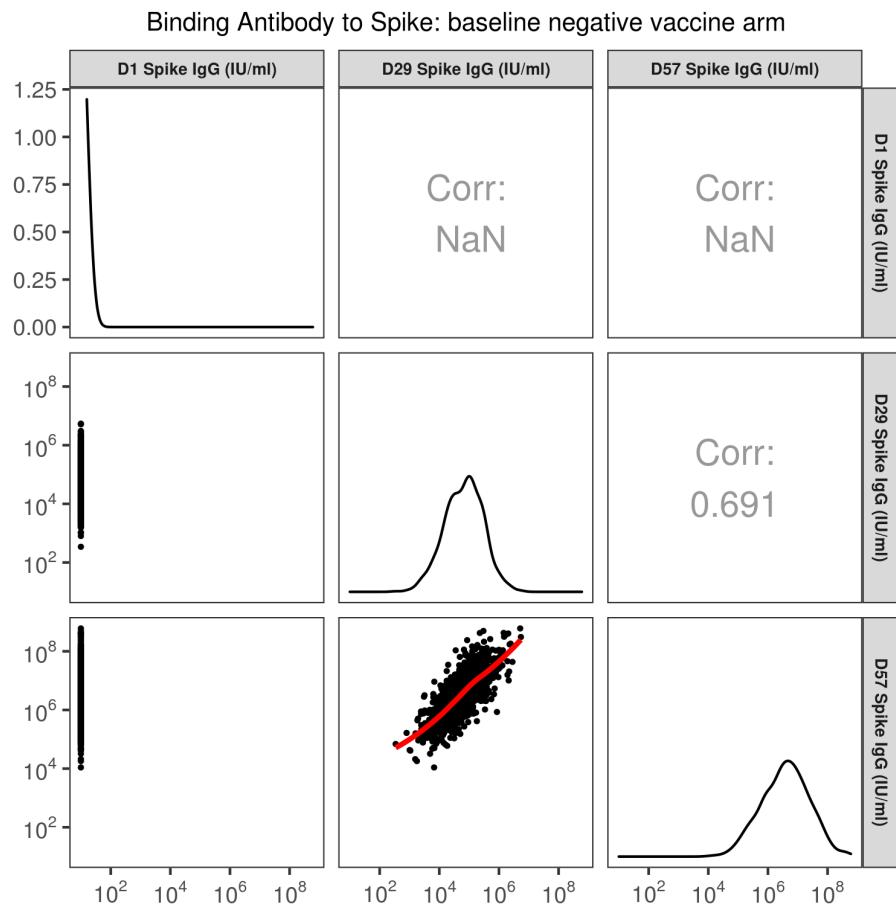


Figure 1.4: (Mock data) Pair plots of D1, D29 and D57 Binding Antibody to Spike: baseline negative vaccine arm

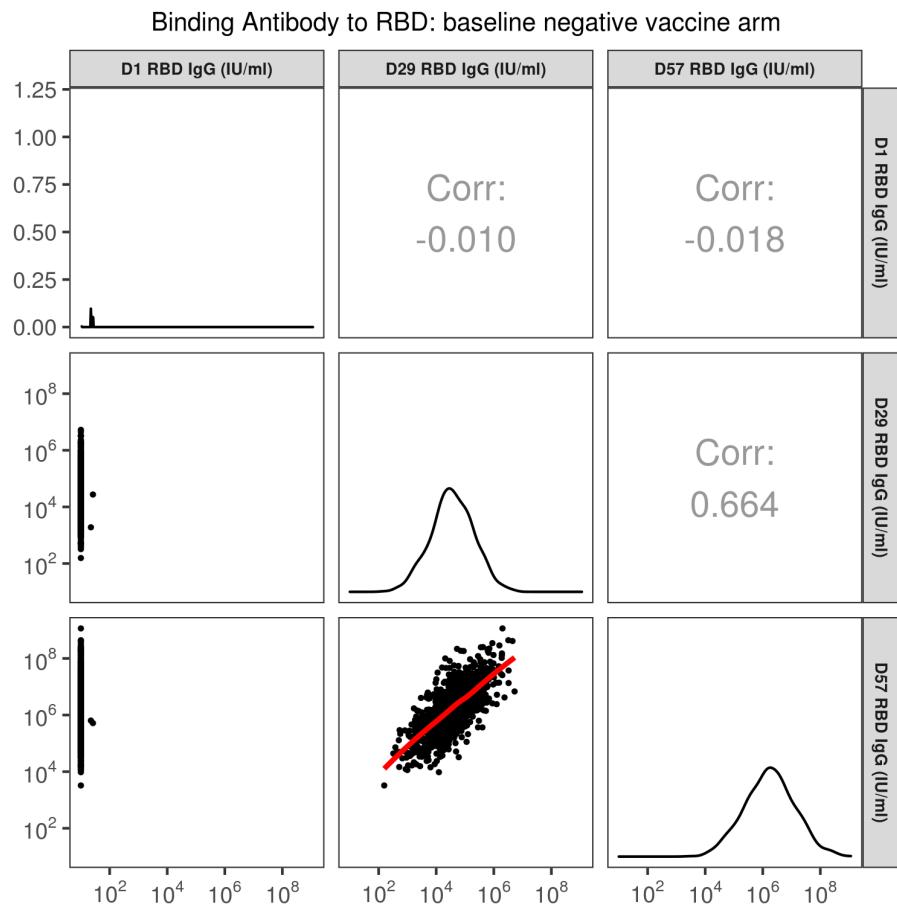


Figure 1.5: (Mock data) Pair plots of D1, D29 and D57 Binding Antibody to RBD: baseline negative vaccine arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT23

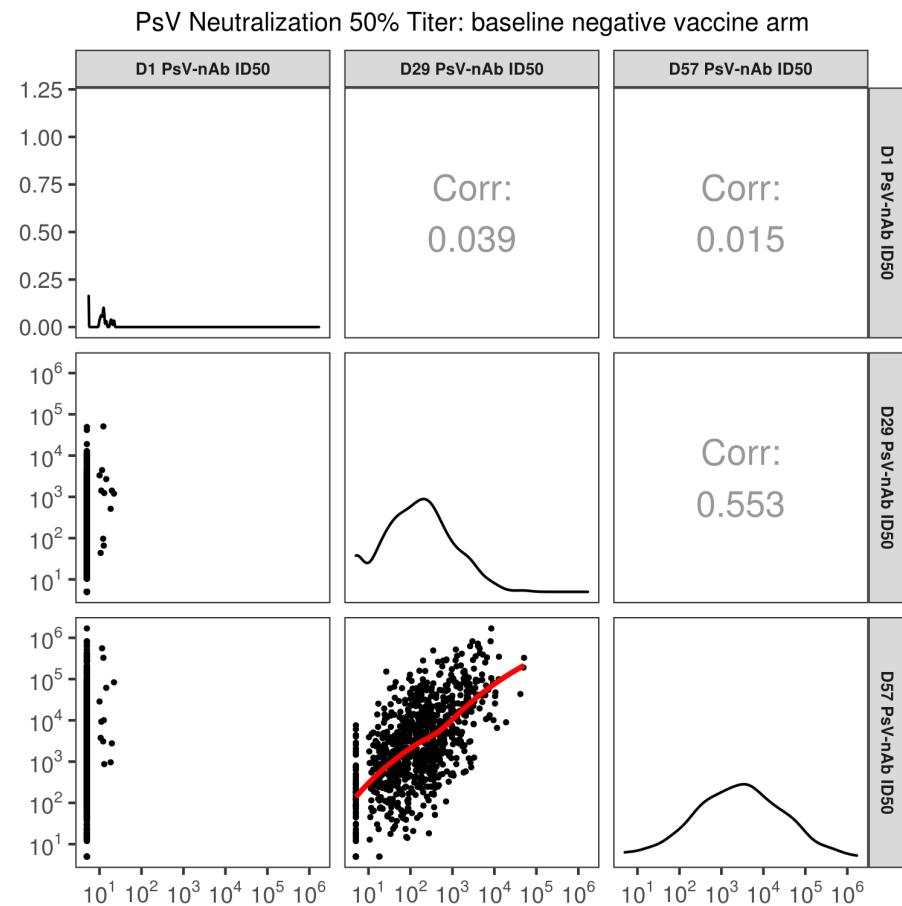


Figure 1.6: (Mock data) Pair plots of D1, D29 and D57 PsV Neutralization 50% Titer: baseline negative vaccine arm

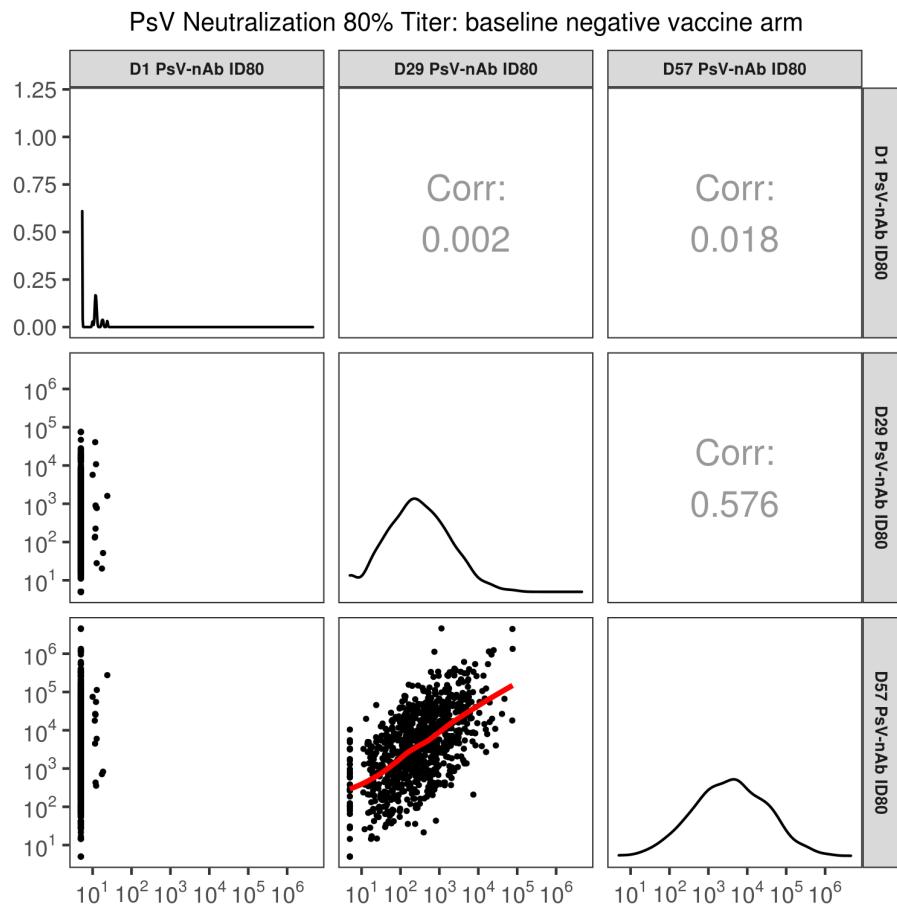


Figure 1.7: (Mock data) Pair plots of D1, D29 and D57 PsV Neutralization 80% Titer: Baseline negative vaccine arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT25

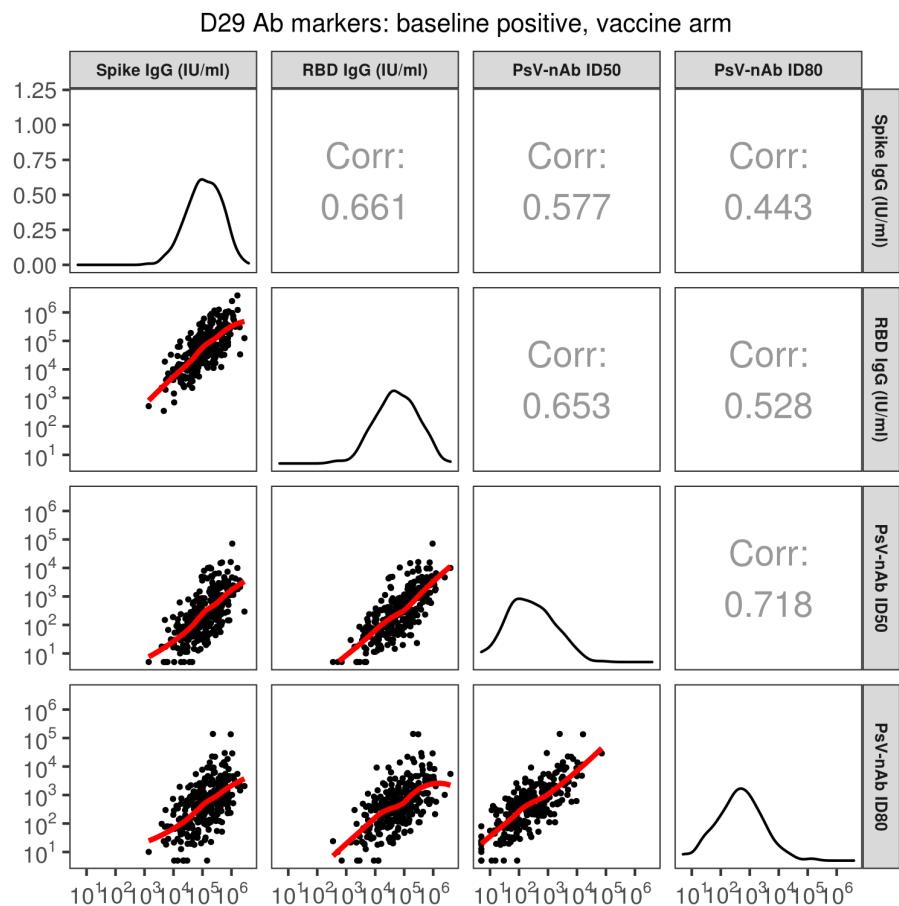


Figure 1.8: (Mock data) Pair plots of D29 Ab markers: baseline positive vaccine arm

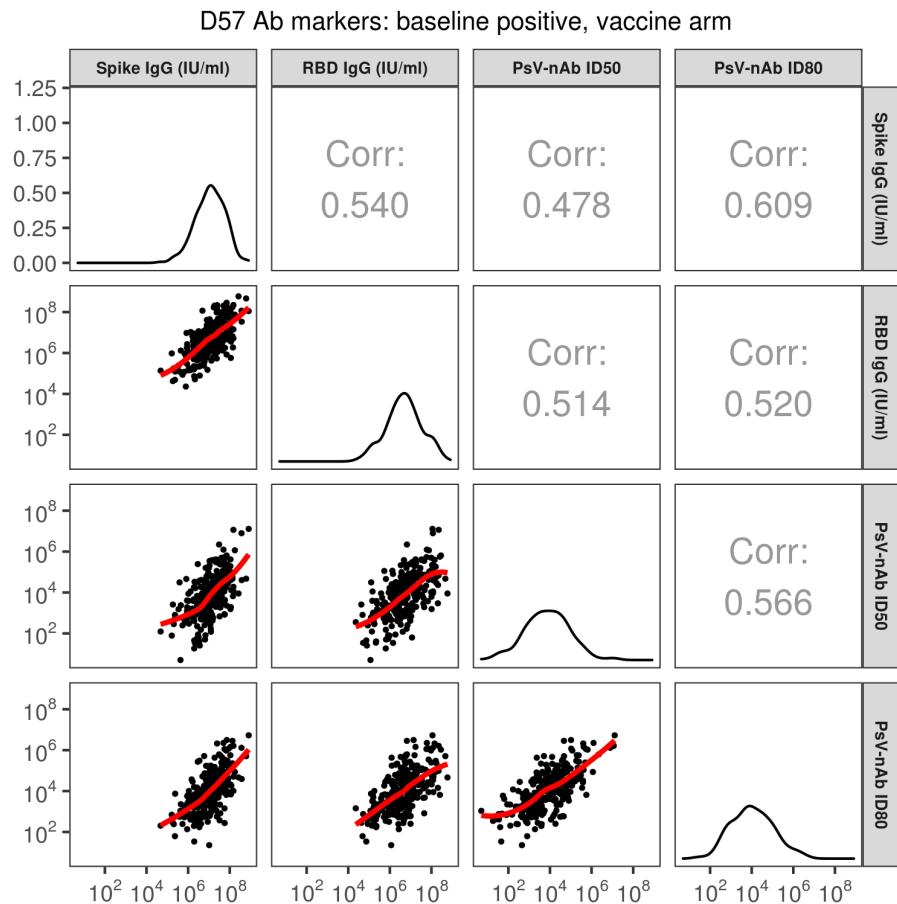


Figure 1.9: (Mock data) Pair plots of D57 Ab markers: baseline positive vaccine arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT27

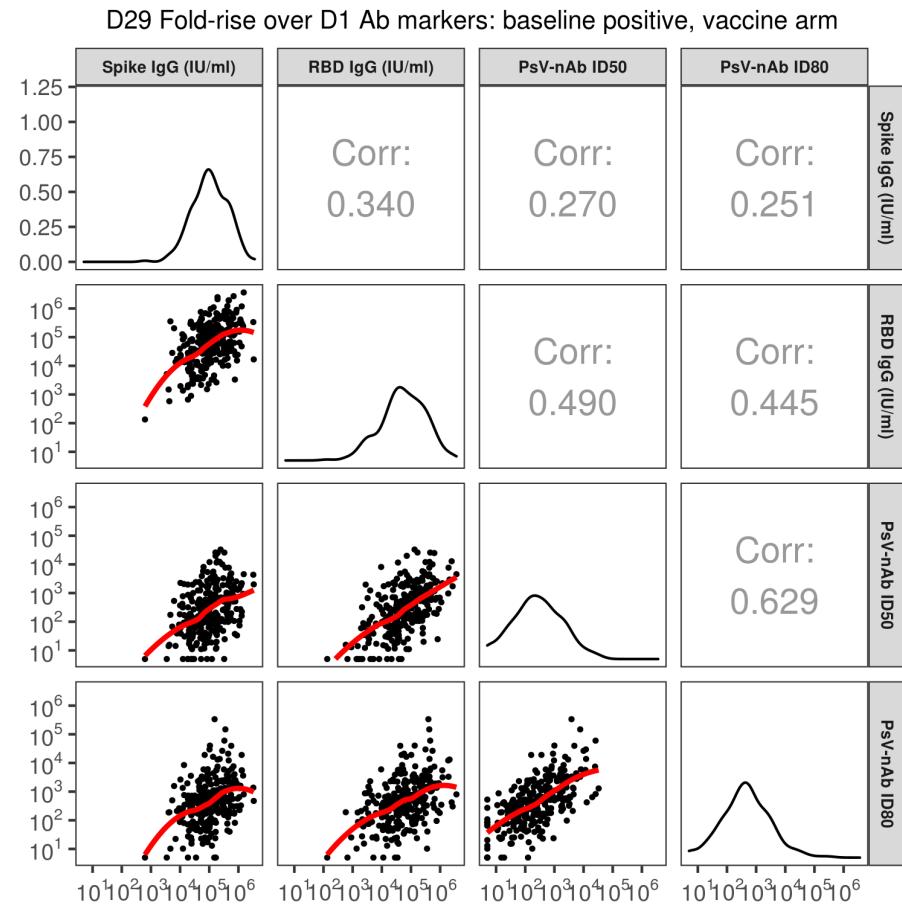


Figure 1.10: (Mock data) Pair plots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm

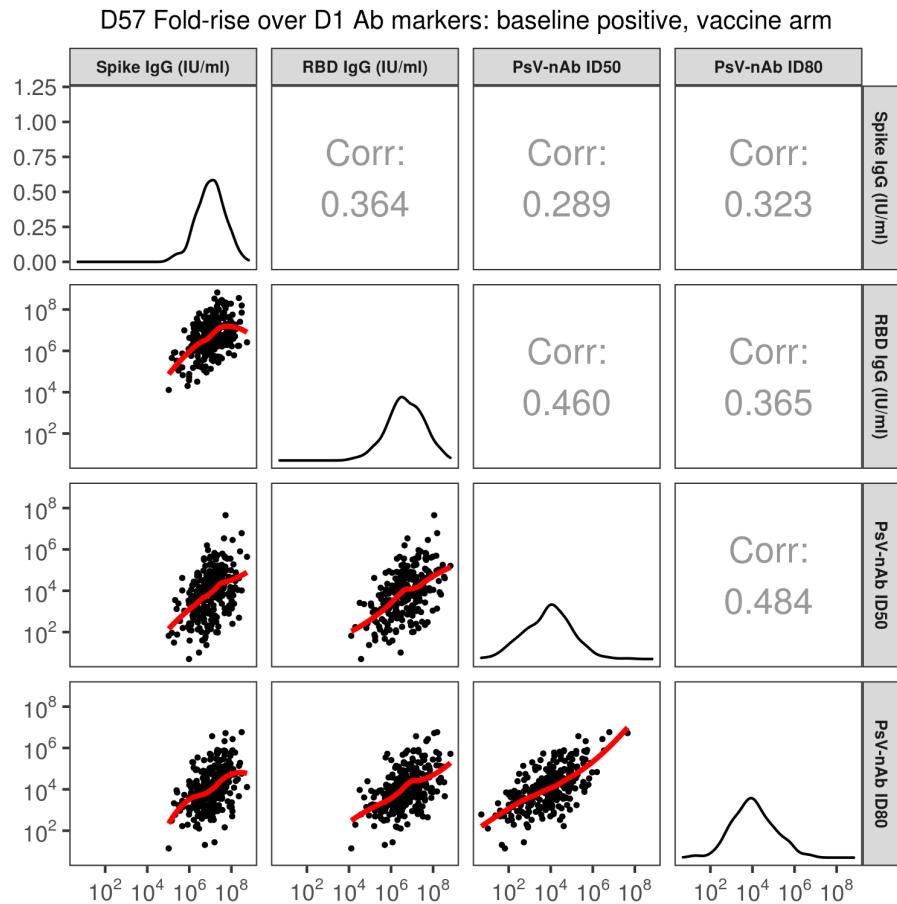


Figure 1.11: (Mock data) Pair plots of D57 fold-rise over D1 Ab markers: baseline positive vaccine arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT29

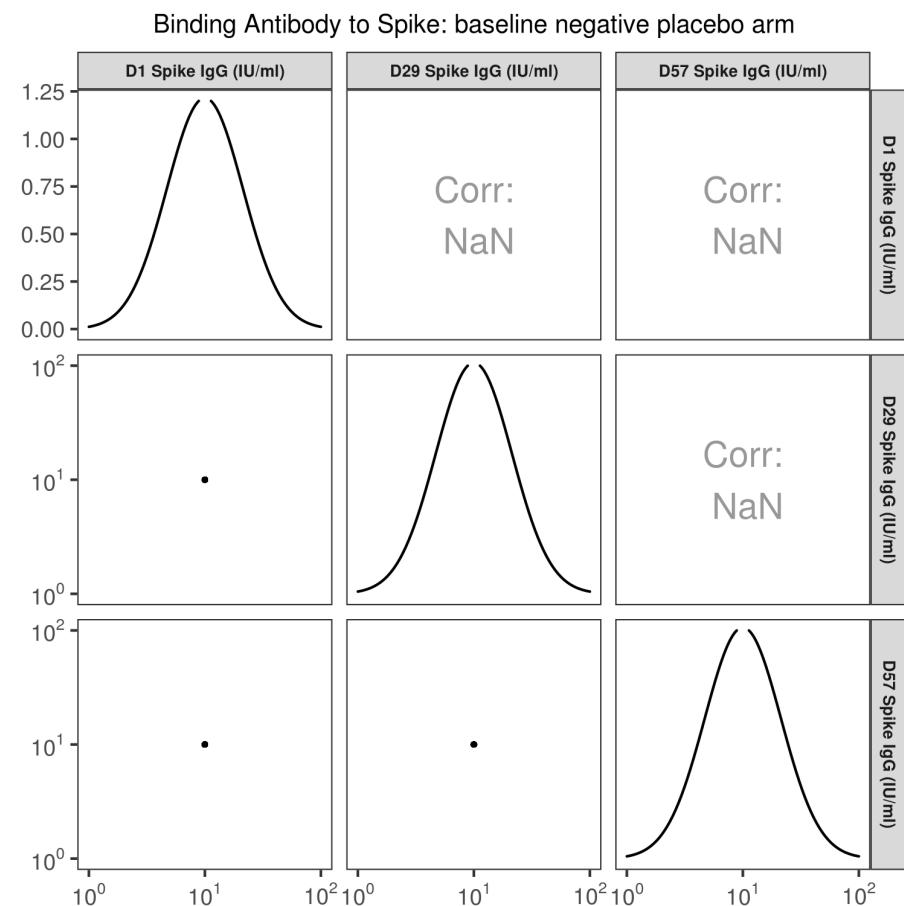


Figure 1.12: (Mock data) Pair plots of D1, D29 and D57 Binding Antibody to Spike: baseline negative placebo arm

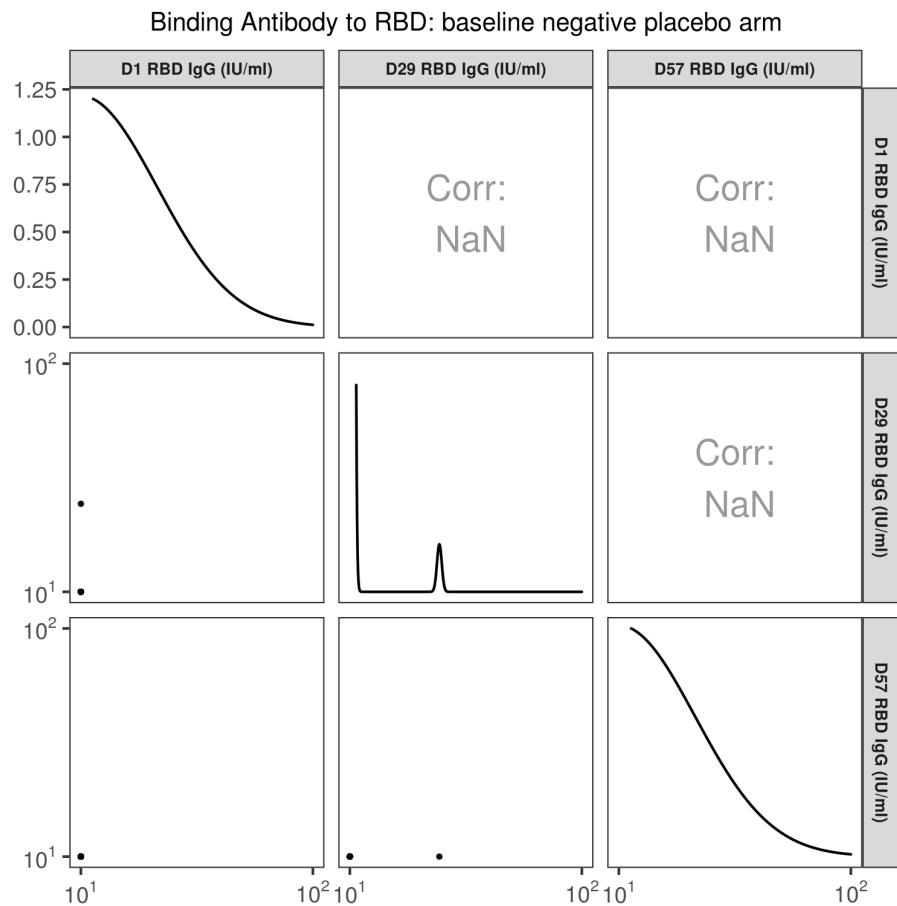


Figure 1.13: (Mock data) Pair plots of D1, D29 and D57 Binding Antibody to RBD: baseline negative placebo arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT31

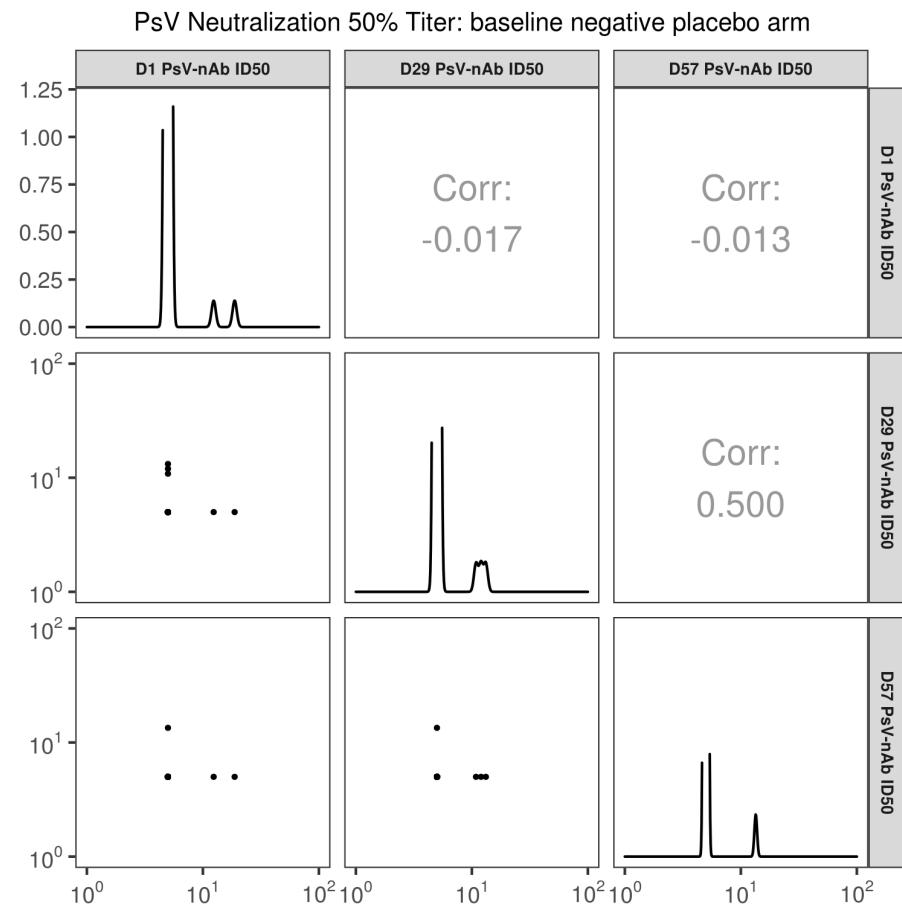


Figure 1.14: (Mock data) Pair plots of D1, D29 and D57 PsV Neutralization 50% Titer: baseline negative placebo arm

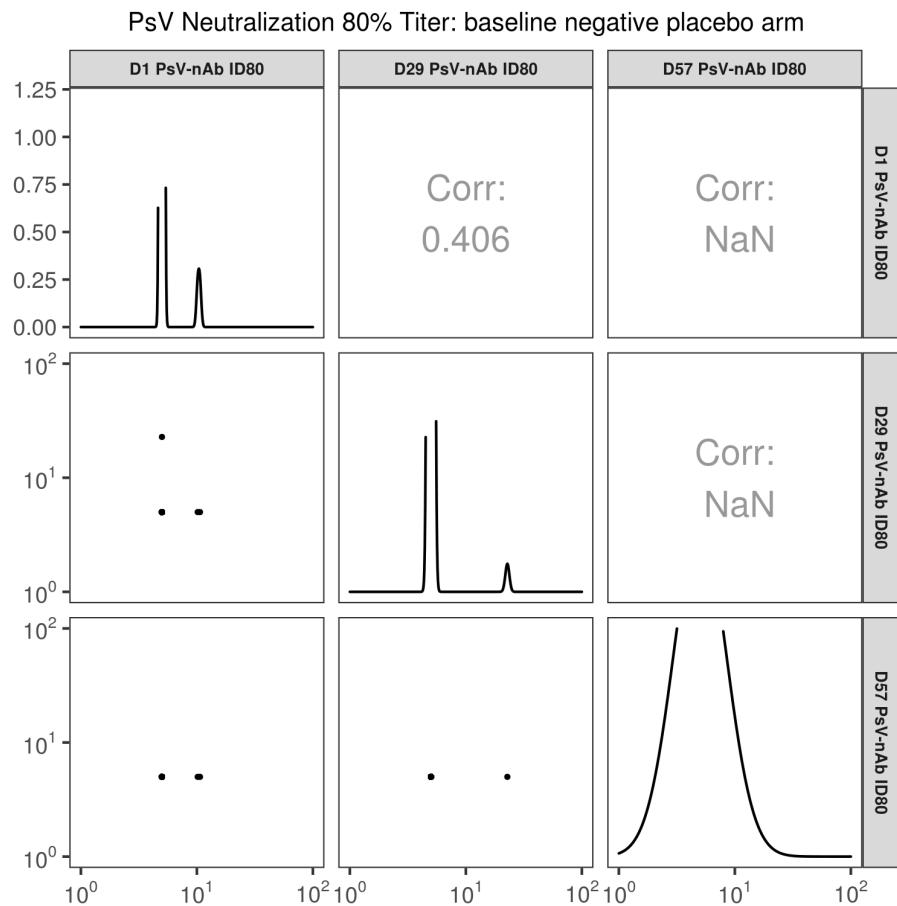


Figure 1.15: (Mock data) Pair plots of D1, D29 and D57 PsV Neutralization 80% Titer: Baseline negative placebo arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT33

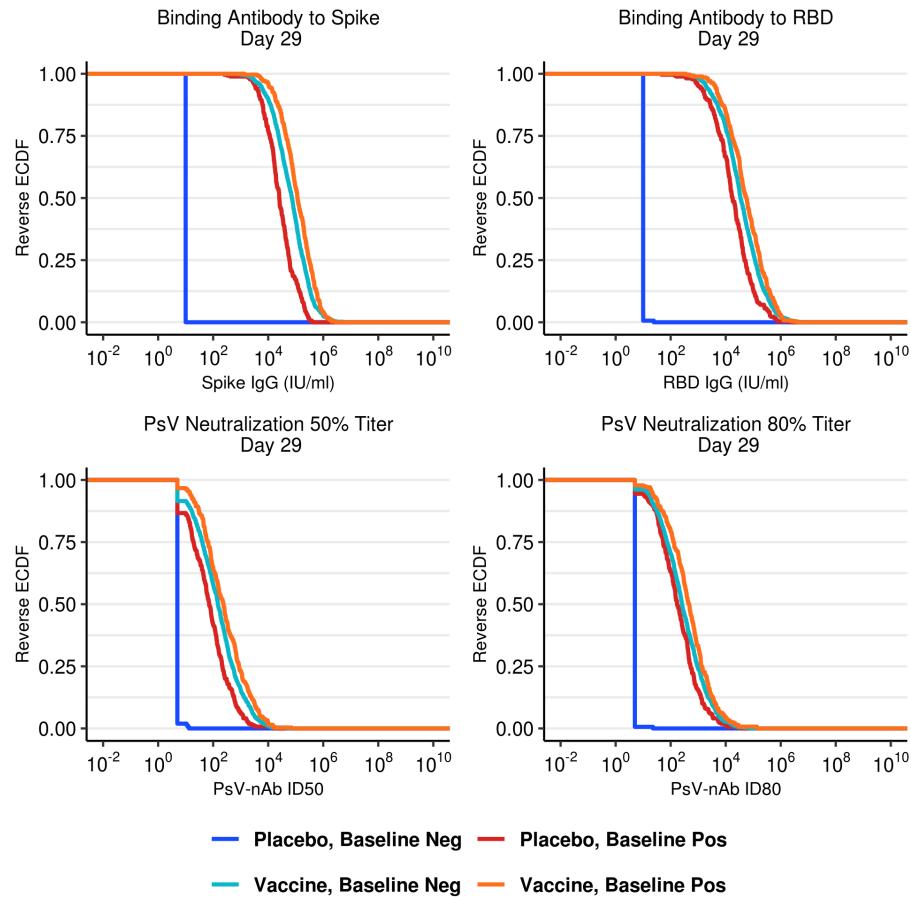


Figure 1.16: (Mock data) RCDF plots for D29 Ab markers: by baseline status x randomization arm

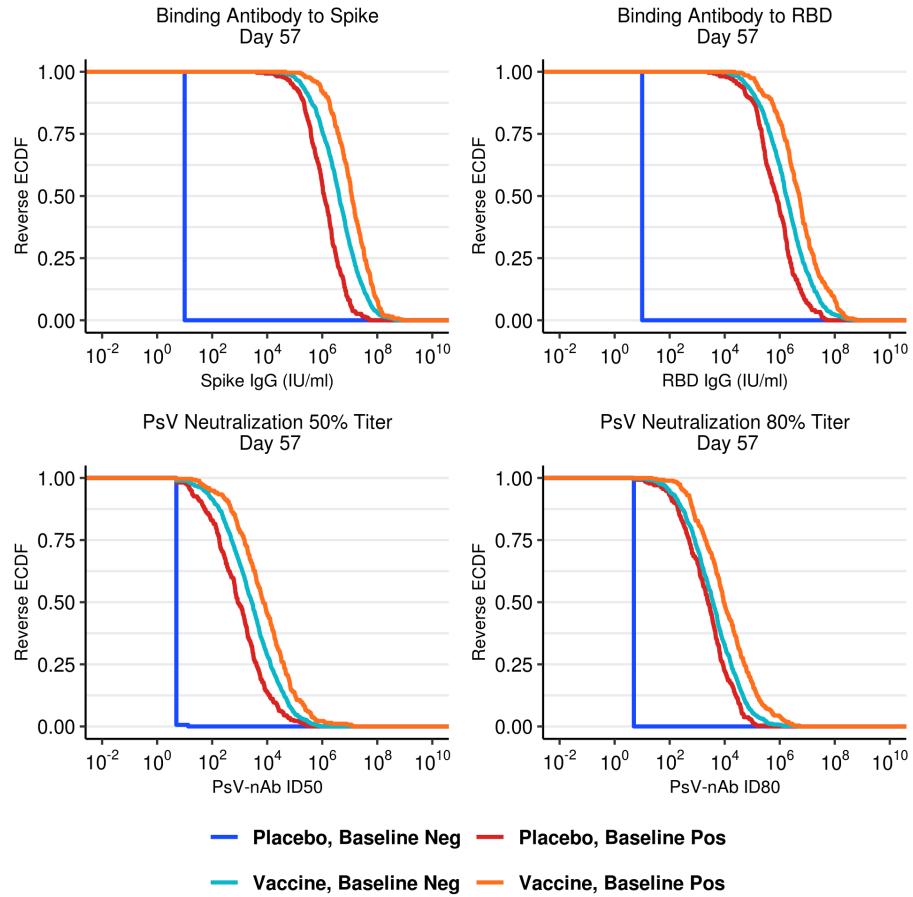


Figure 1.17: (Mock data) RCDF plots for D57 Ab markers: by baseline status x randomization arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT35

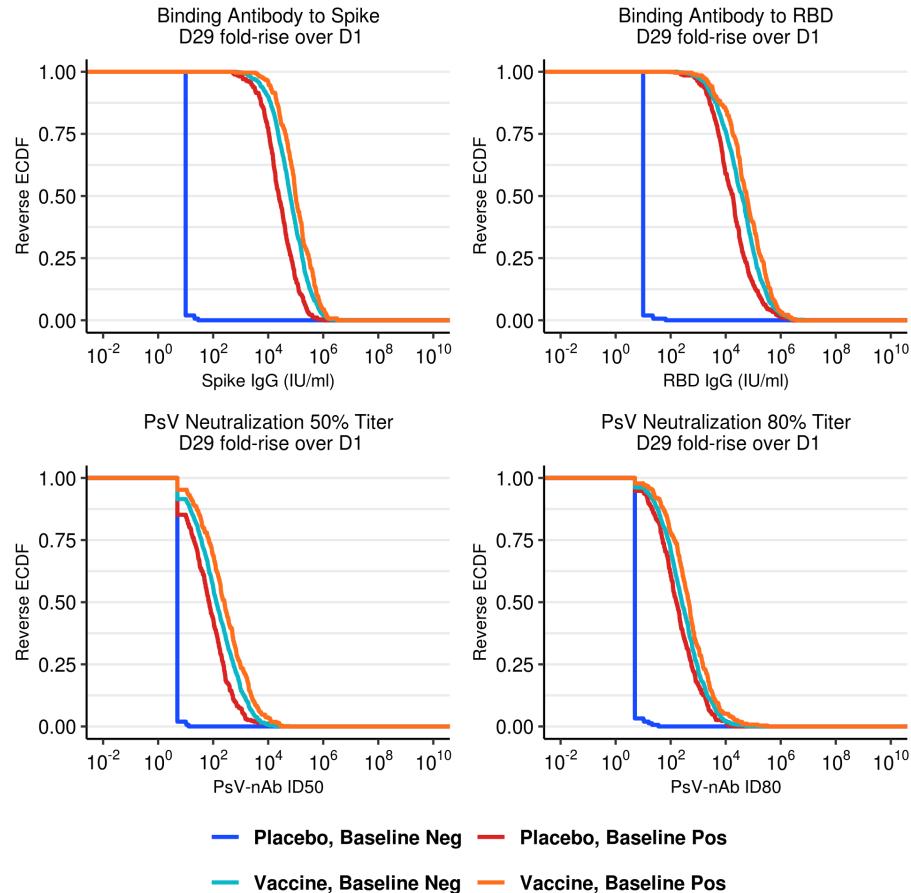


Figure 1.18: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: by baseline status x randomization arm

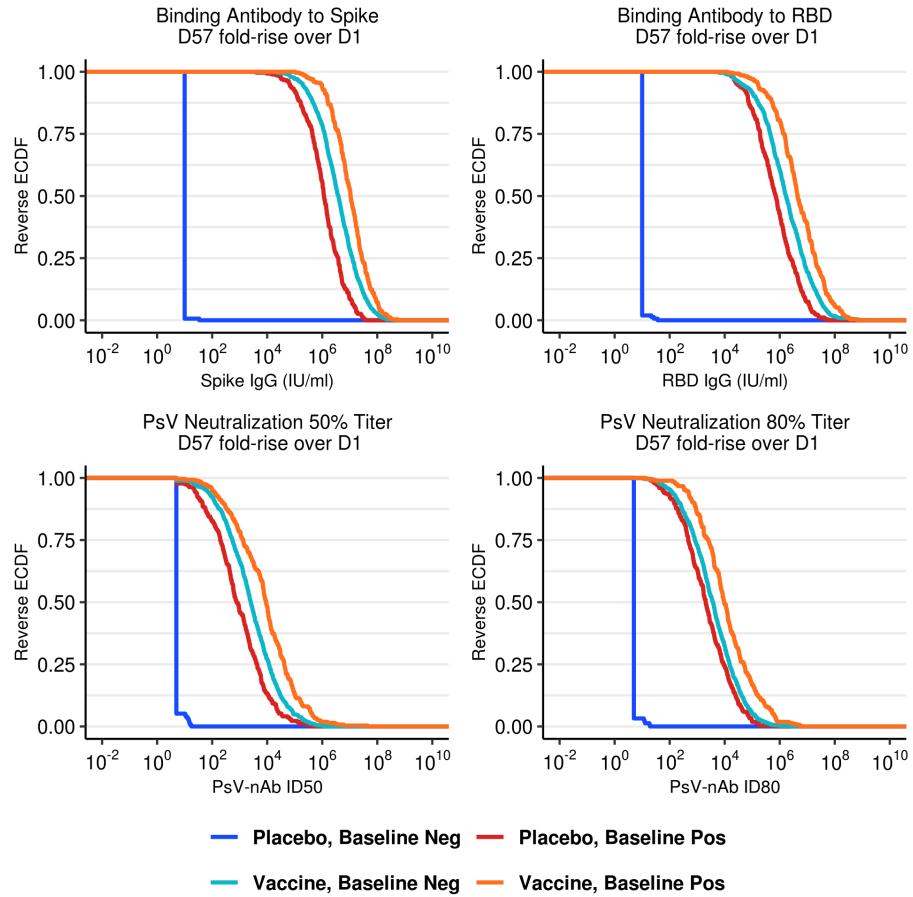


Figure 1.19: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: by baseline status x randomization arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT37

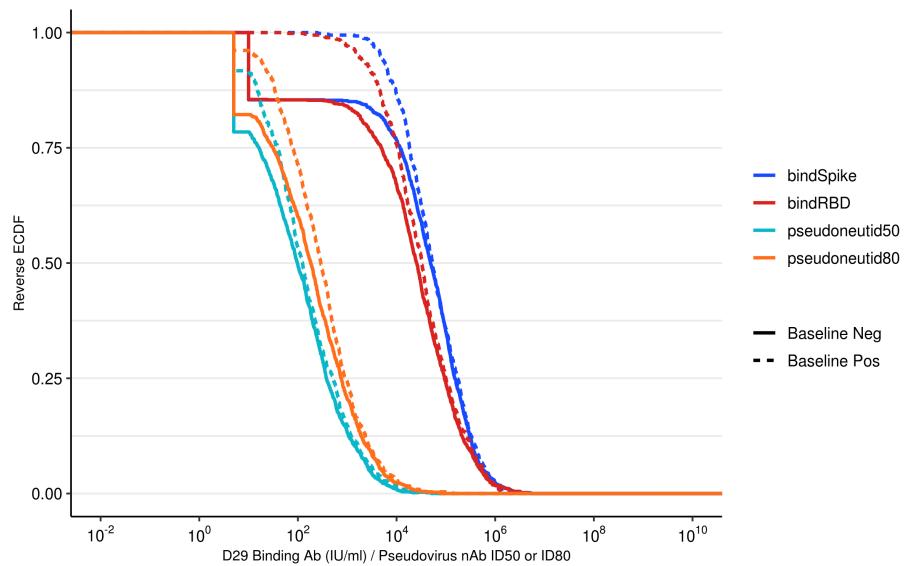


Figure 1.20: (Mock data) RCDF plots for D29 Ab markers: by baseline status for the vaccine arm

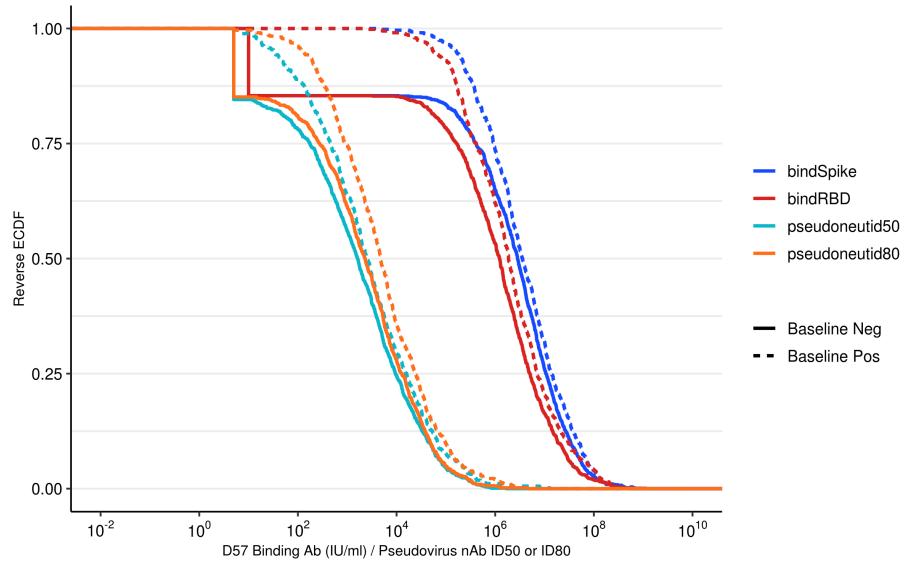


Figure 1.21: (Mock data) RCDF plots for D57 Ab markers: by baseline status for the vaccine arm

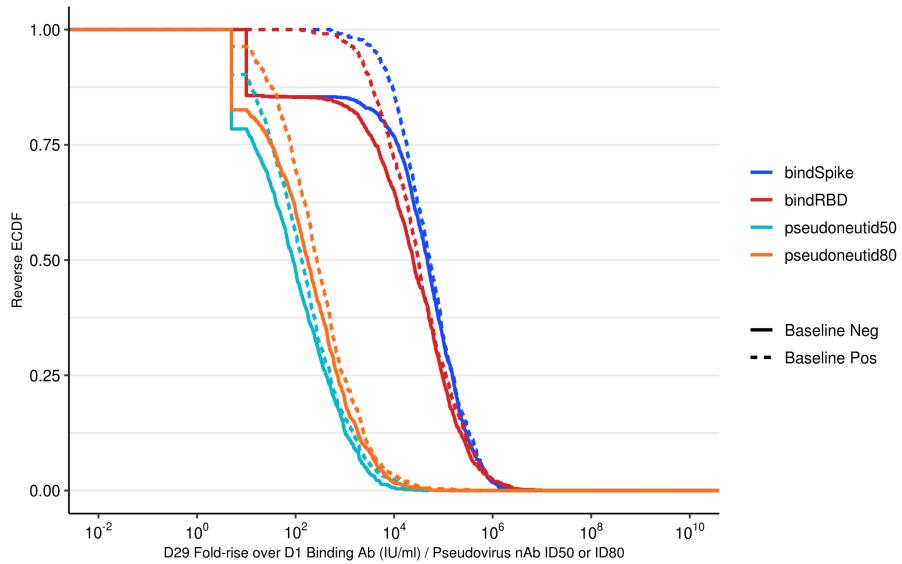


Figure 1.22: (Mock data) RCDF plots for D29 over D1 fold-rise Ab markers: by baseline status for the vaccine arm

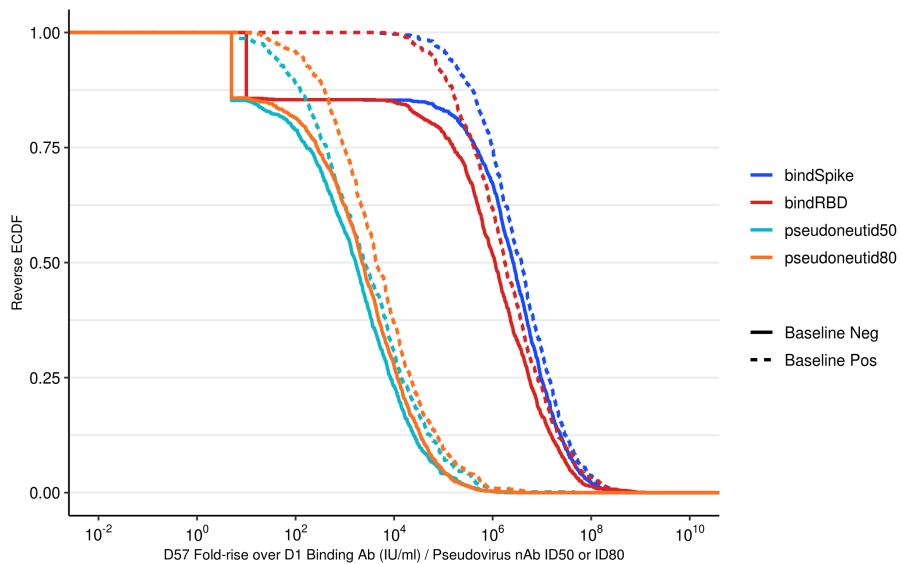


Figure 1.23: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: by baseline status for the vaccine arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT39

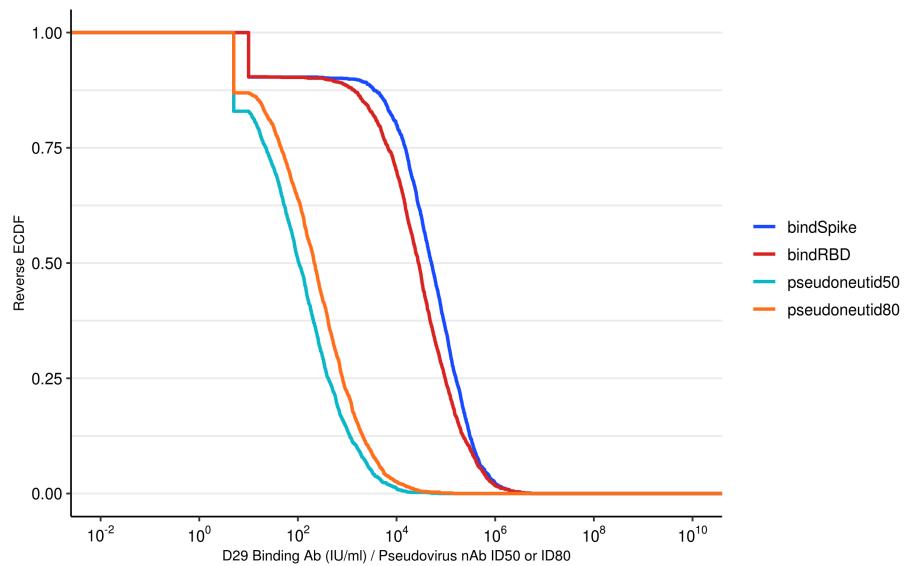


Figure 1.24: (Mock data) RCDF plots for D29 Ab markers: baseline negative vaccine arm

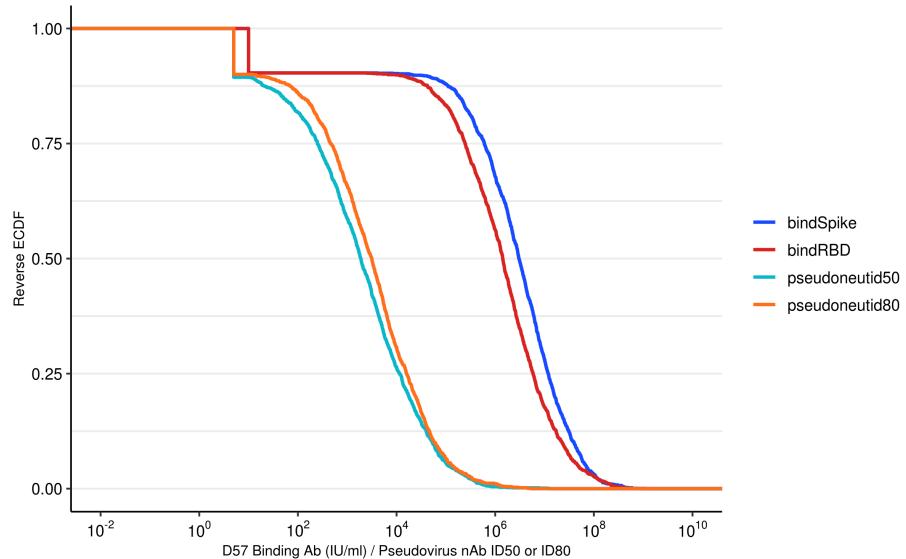


Figure 1.25: (Mock data) RCDF plots for D57 Ab markers: baseline negative vaccine arm

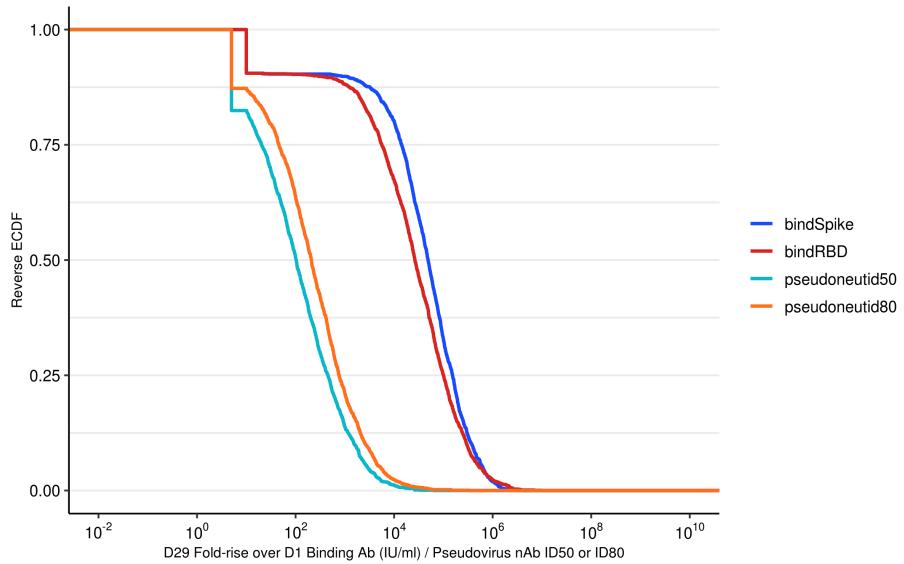


Figure 1.26: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm

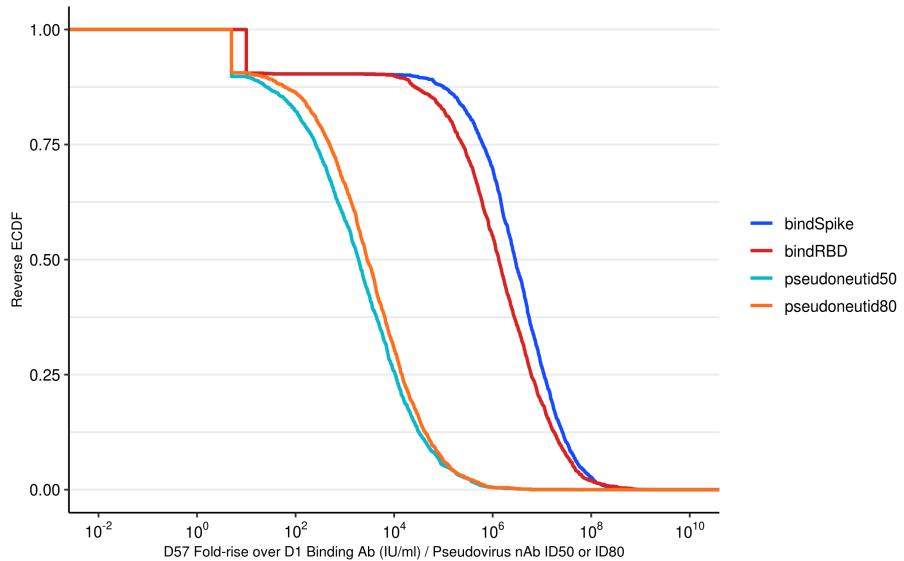


Figure 1.27: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline negative vaccine arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT41

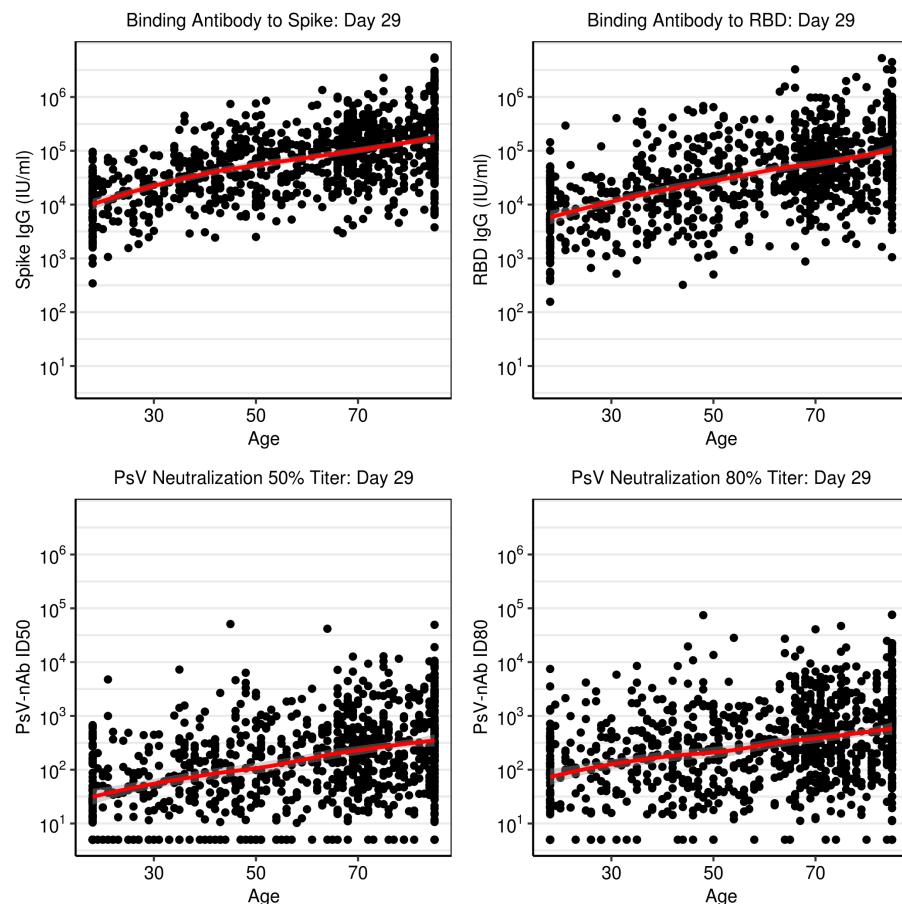


Figure 1.28: (Mock data) Scatter plots for D29 Ab markers vs. age: baseline negative vaccine arm

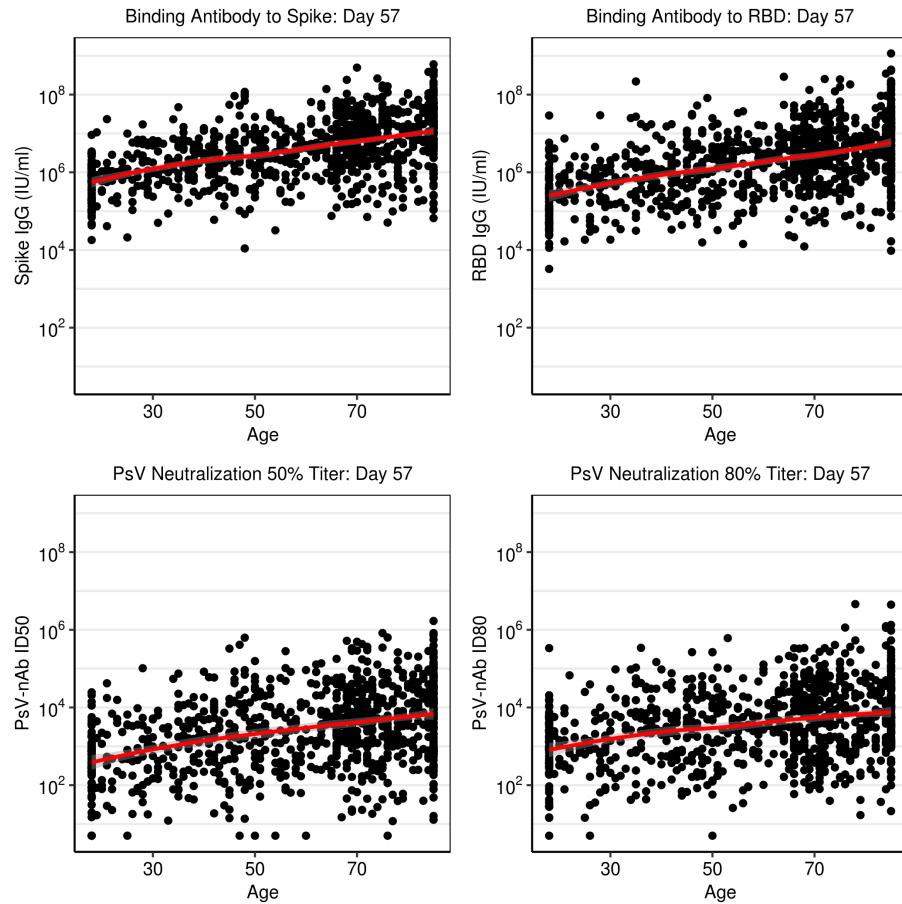


Figure 1.29: (Mock data) Scatter plots for D57 Ab markers vs. age: baseline negative vaccine arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT43

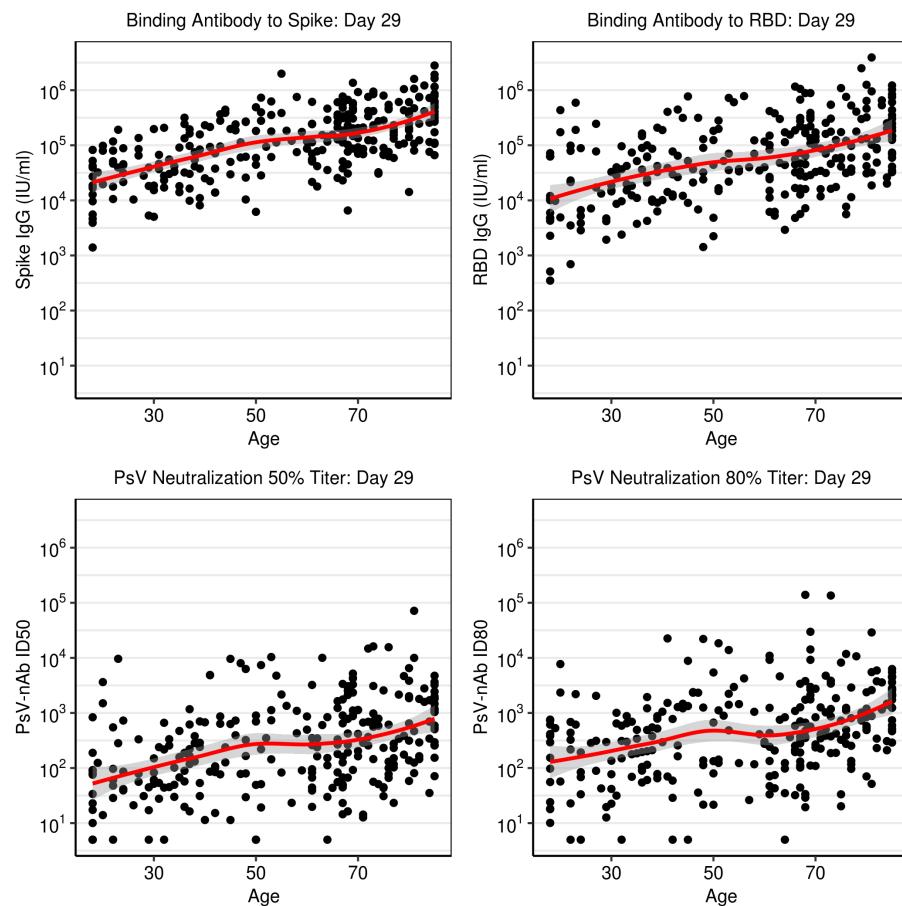


Figure 1.30: (Mock data) Scatter plots for D29 Ab markers vs. age: baseline positive vaccine arm

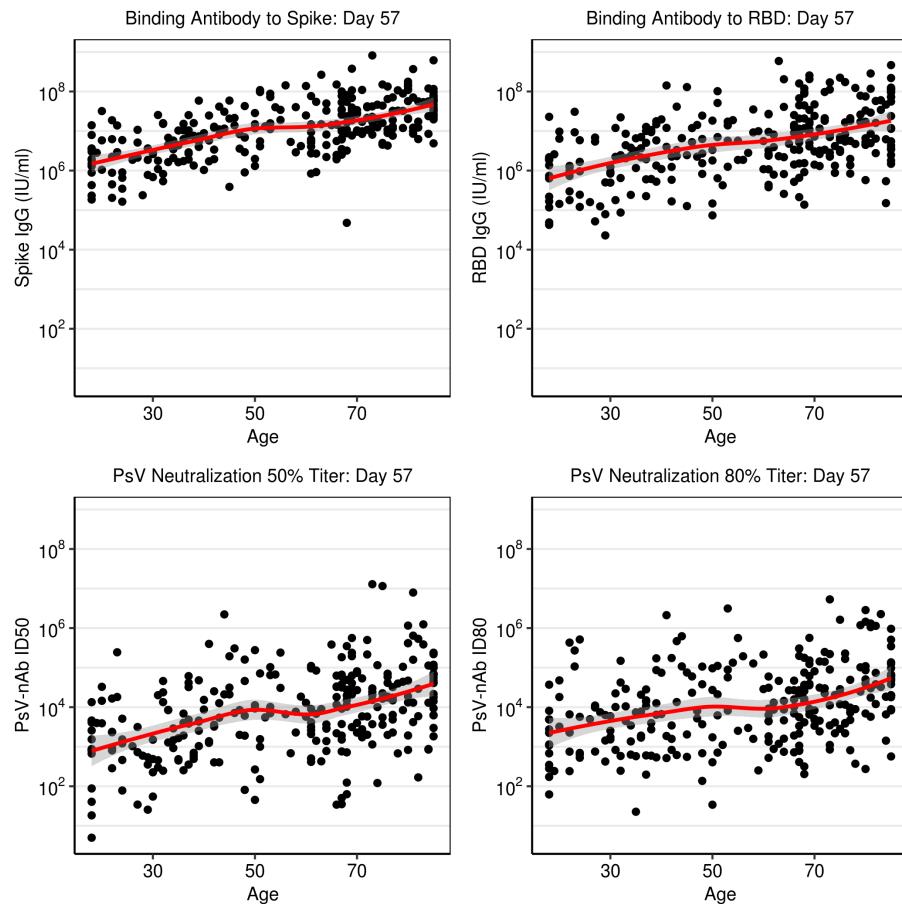


Figure 1.31: (Mock data) Scatter plots for D57 Ab markers vs. age: baseline positive vaccine arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT45

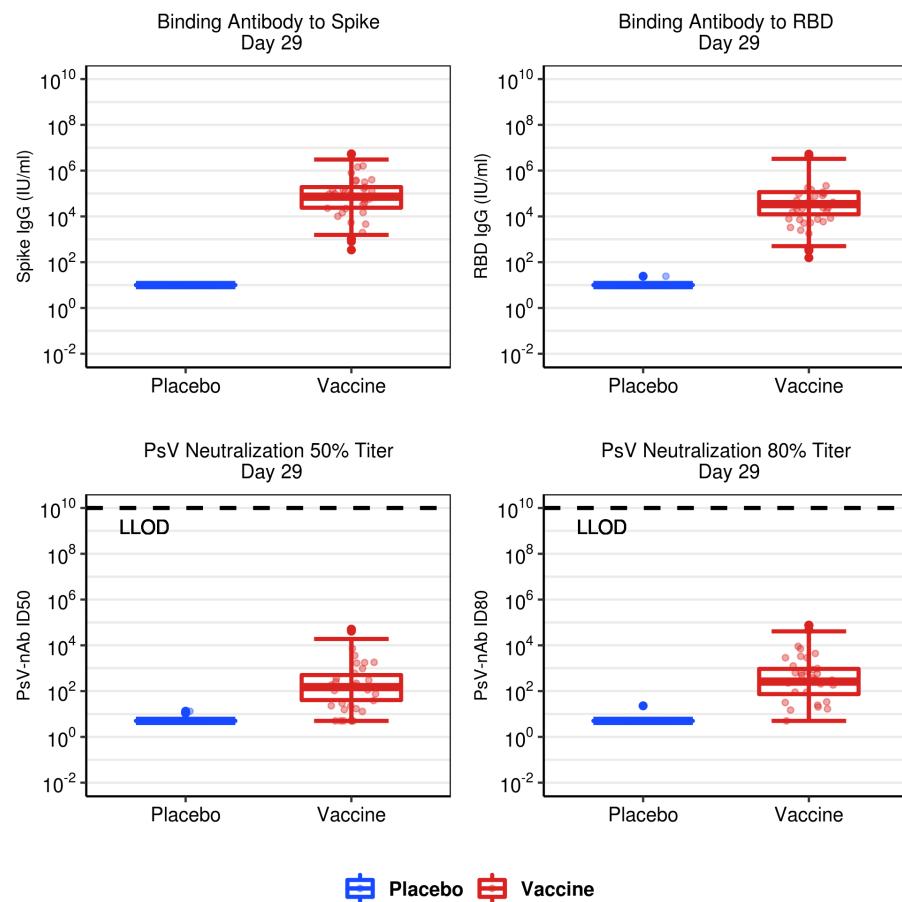


Figure 1.32: (Mock data) Boxplots of D29 Ab markers: baseline negative vaccine + placebo arms

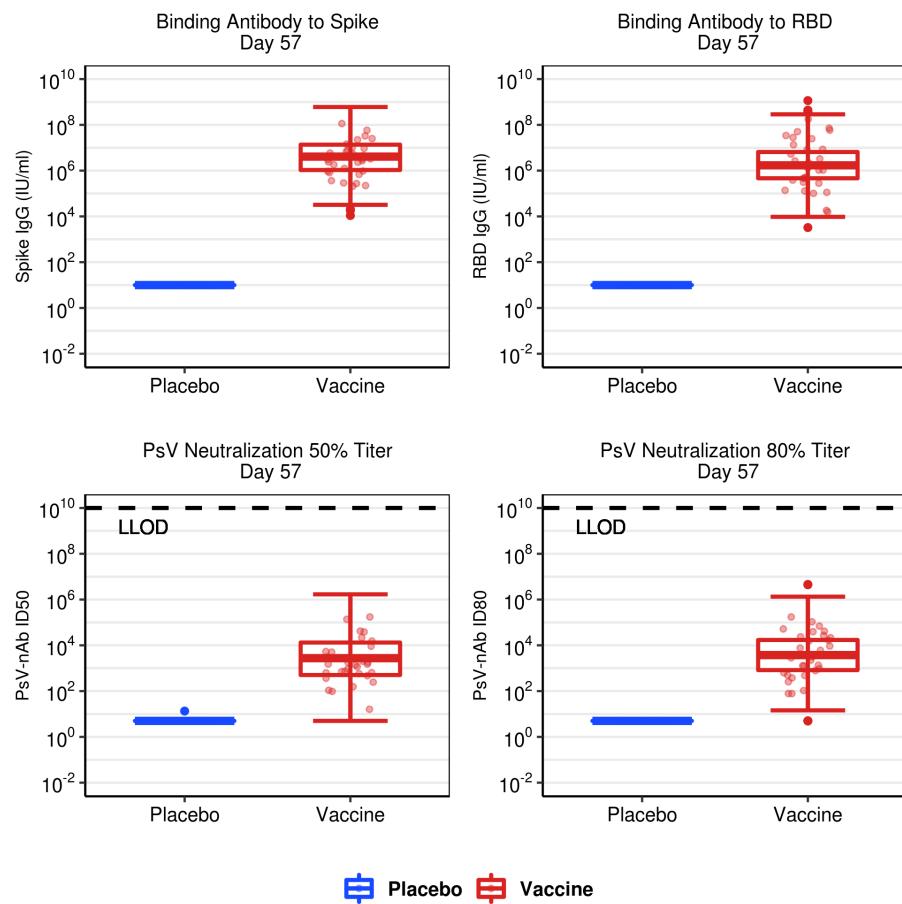


Figure 1.33: (Mock data) Boxplots of D57 Ab markers: baseline negative vaccine + placebo arms

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT47

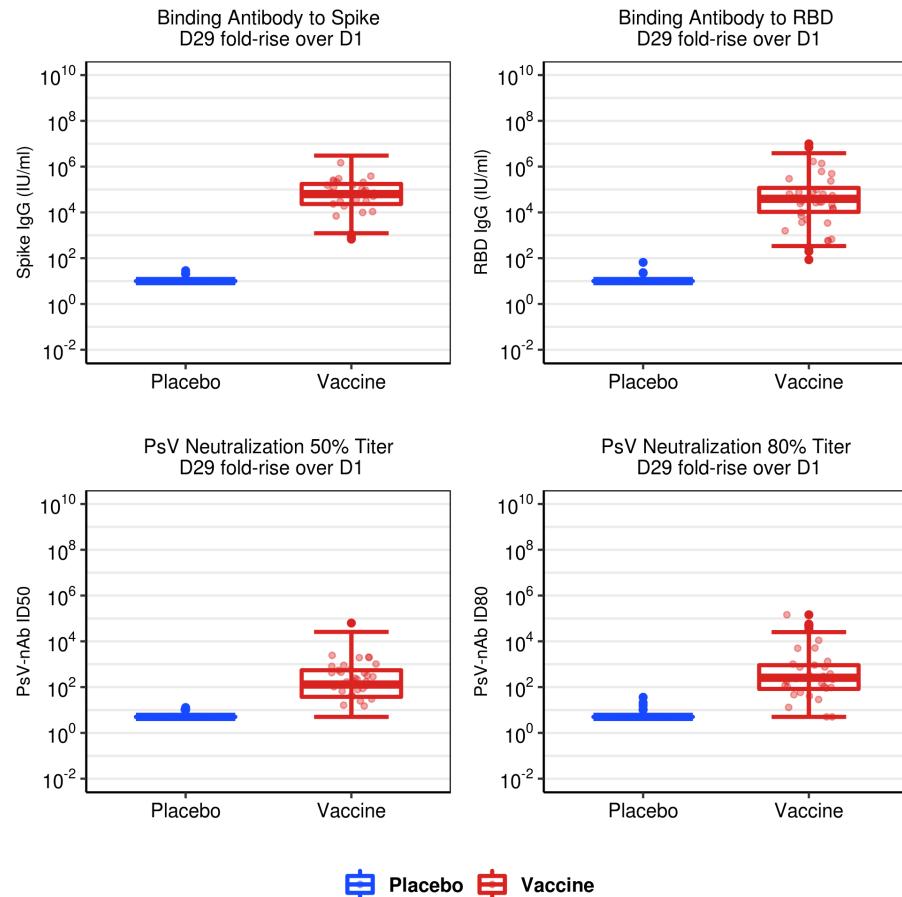


Figure 1.34: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline negative vaccine + placebo arms

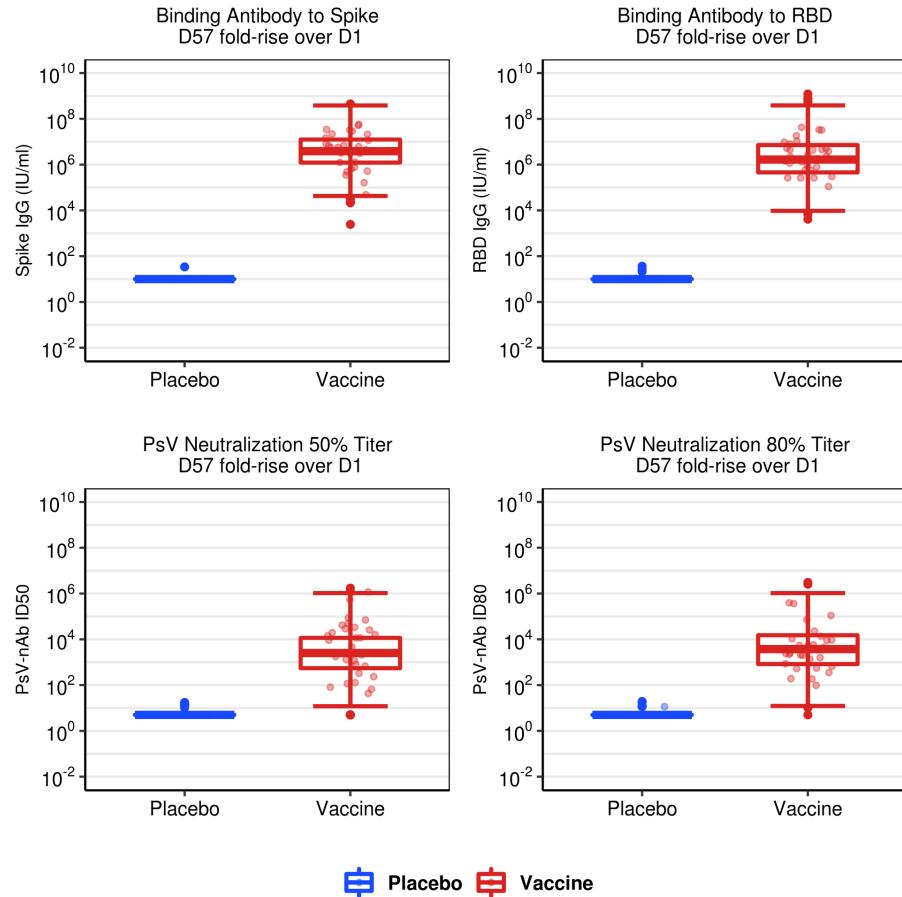


Figure 1.35: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline negative vaccine + placebo arms

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT49

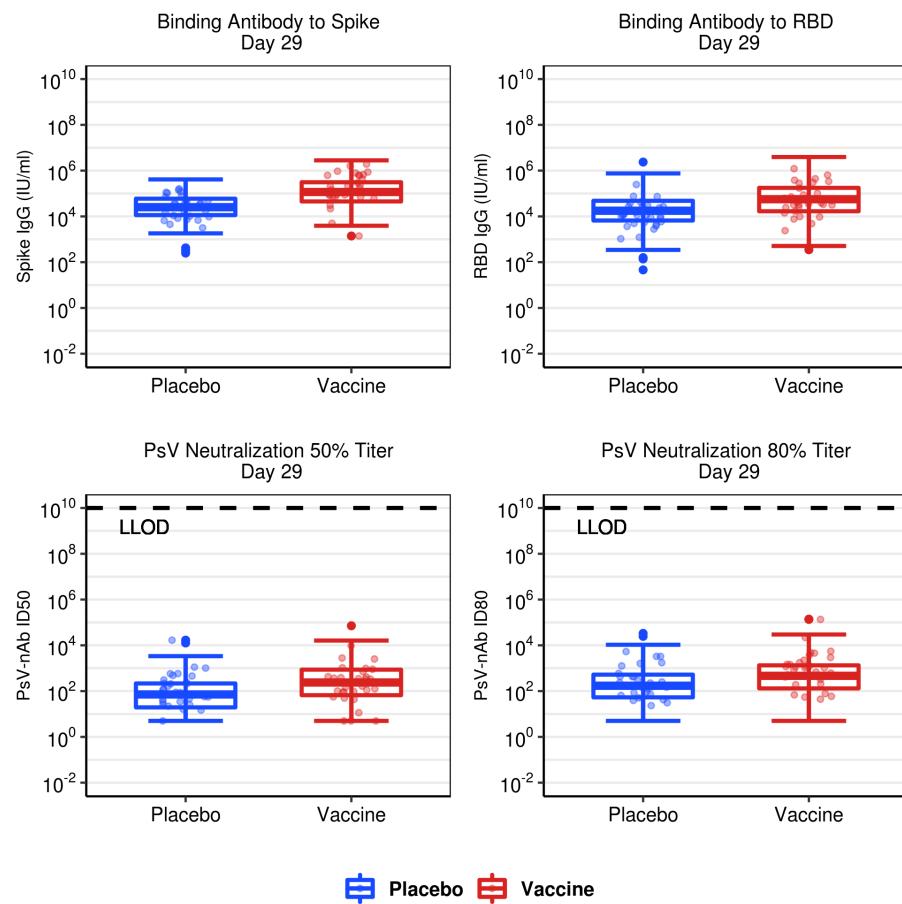


Figure 1.36: (Mock data) Boxplots of D29 Ab markers: baseline positive vaccine + placebo arms

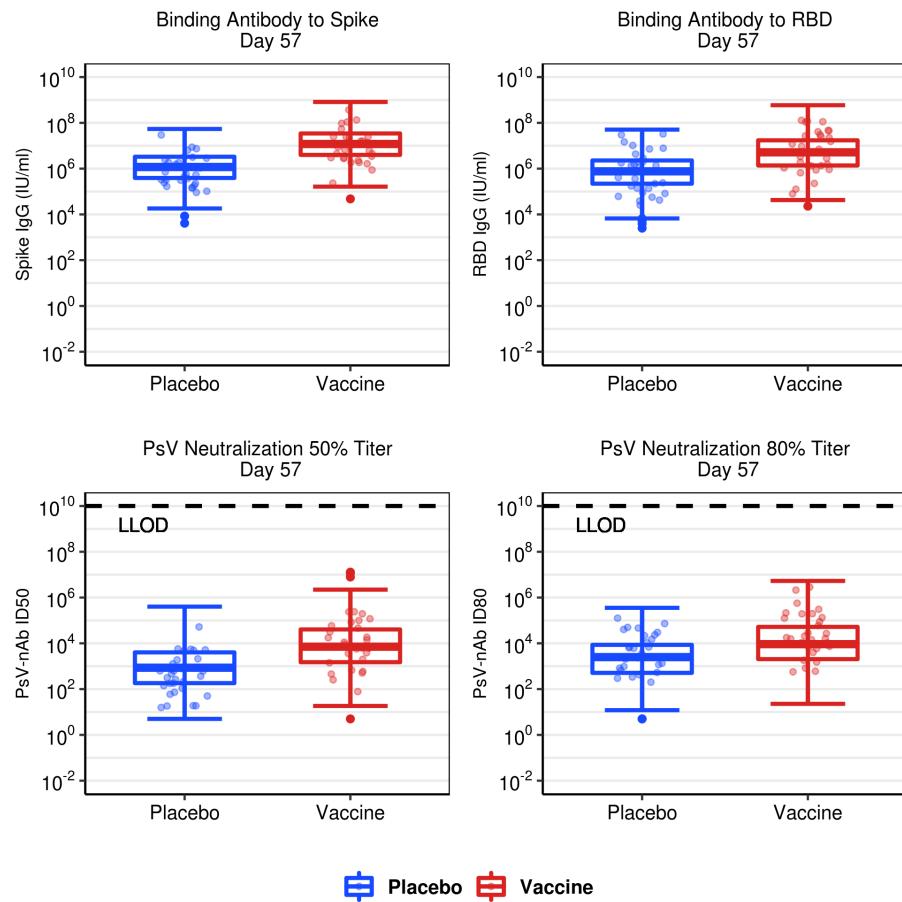


Figure 1.37: (Mock data) Boxplots of D57 Ab markers: baseline positive vaccine + placebo arms

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT51

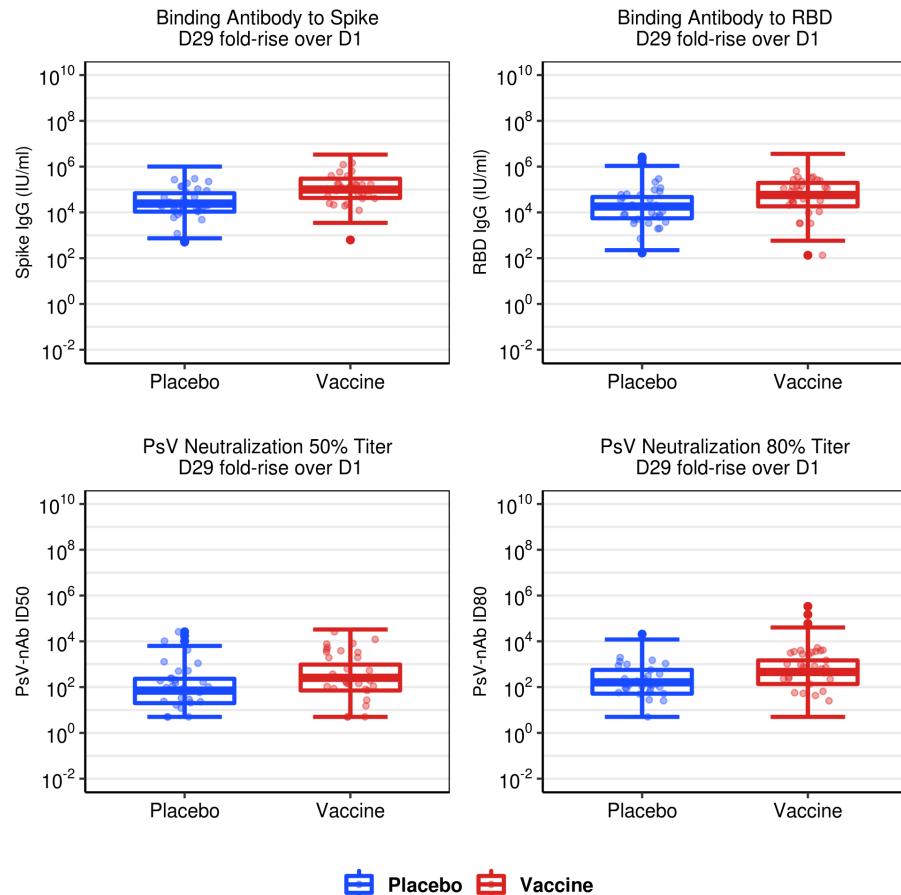


Figure 1.38: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine + placebo arms

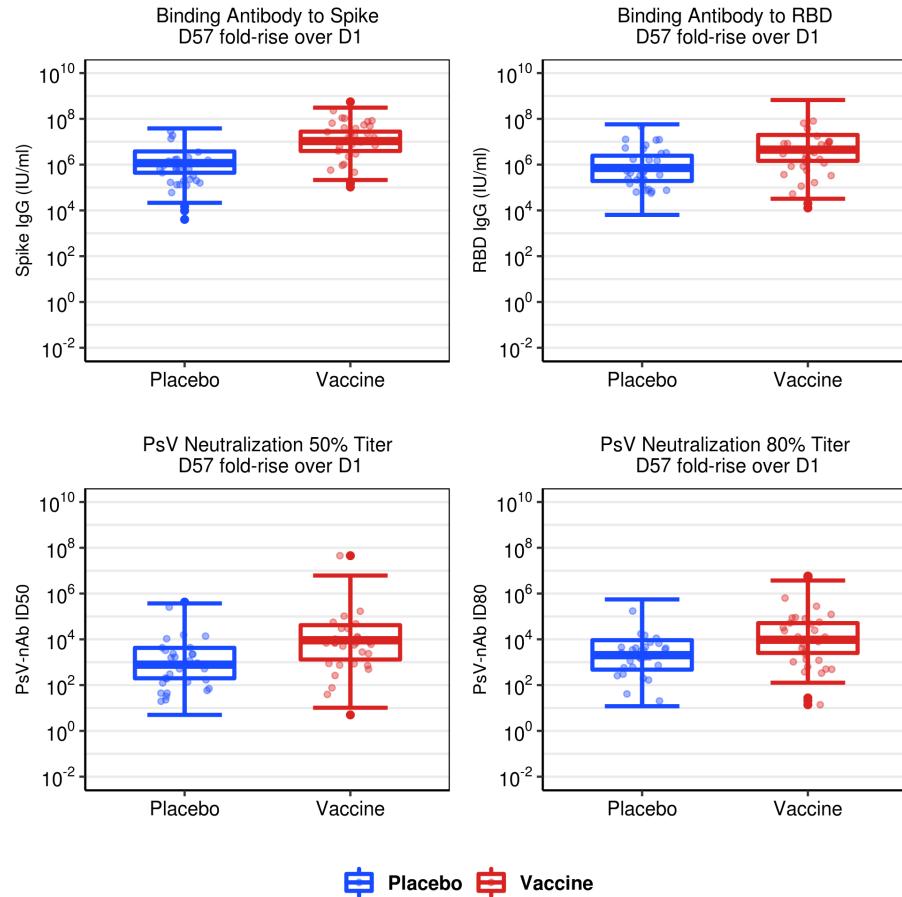


Figure 1.39: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive vaccine + placebo arms

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT53

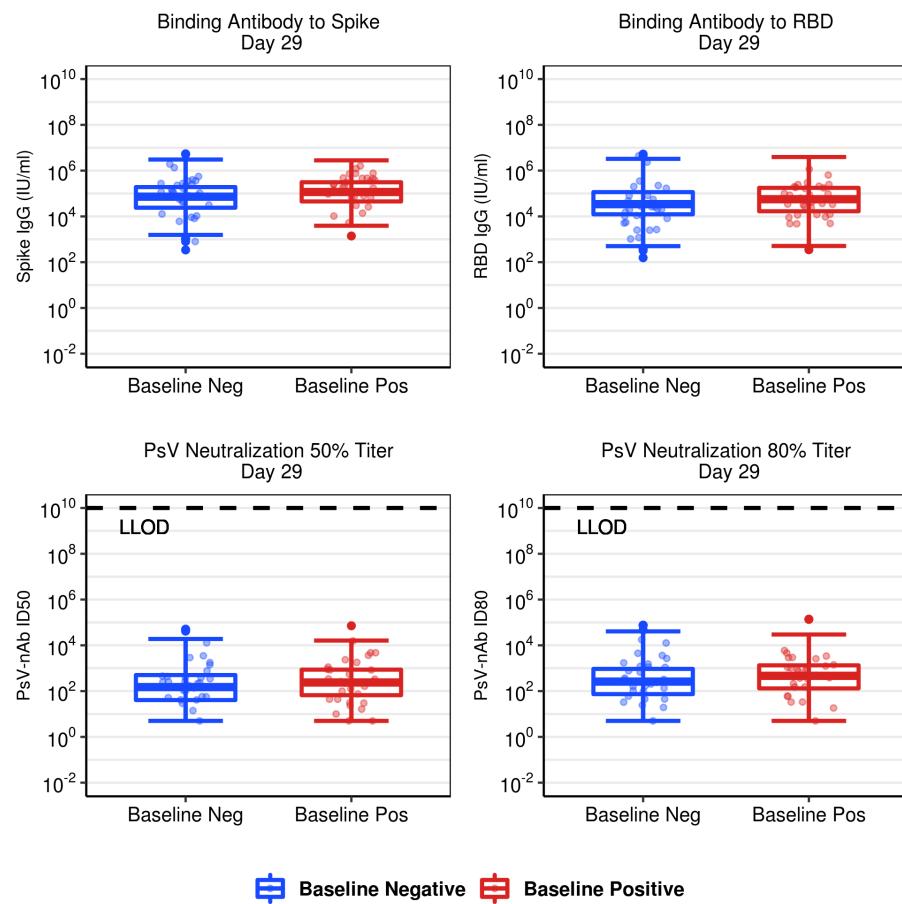


Figure 1.40: (Mock data) Boxplots of D29 Ab markers: baseline positive + negative vaccine arm

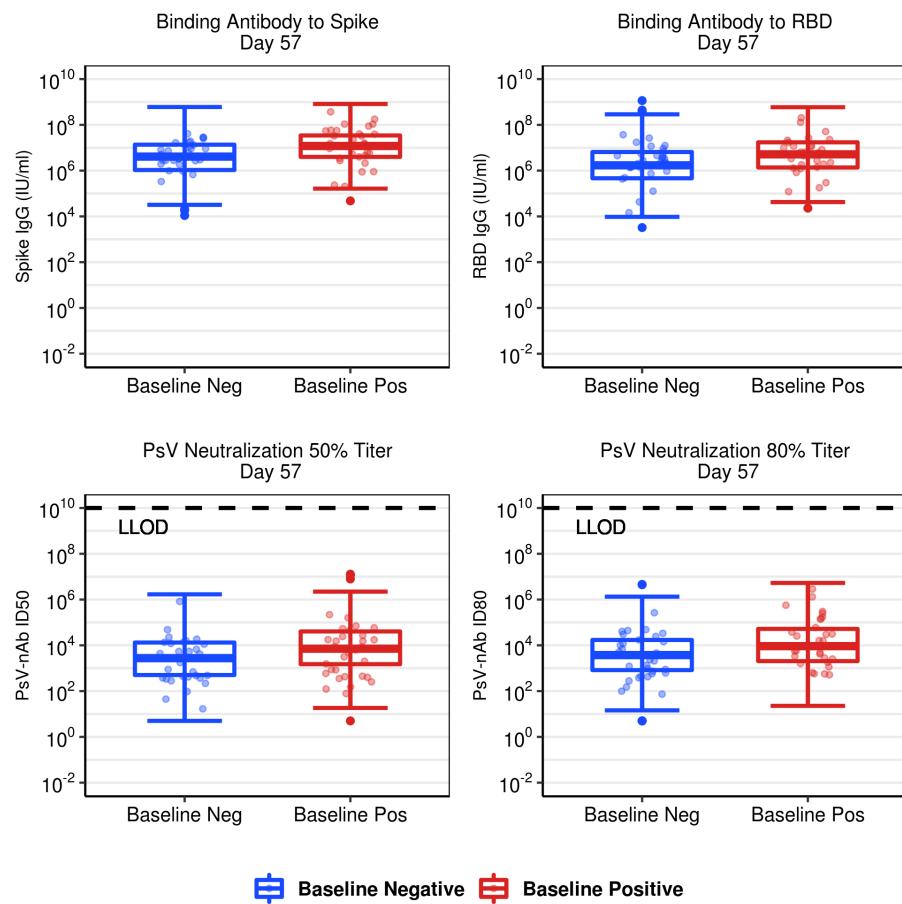


Figure 1.41: (Mock data) Boxplots of D57 Ab markers: baseline positive + negative vaccine arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT55

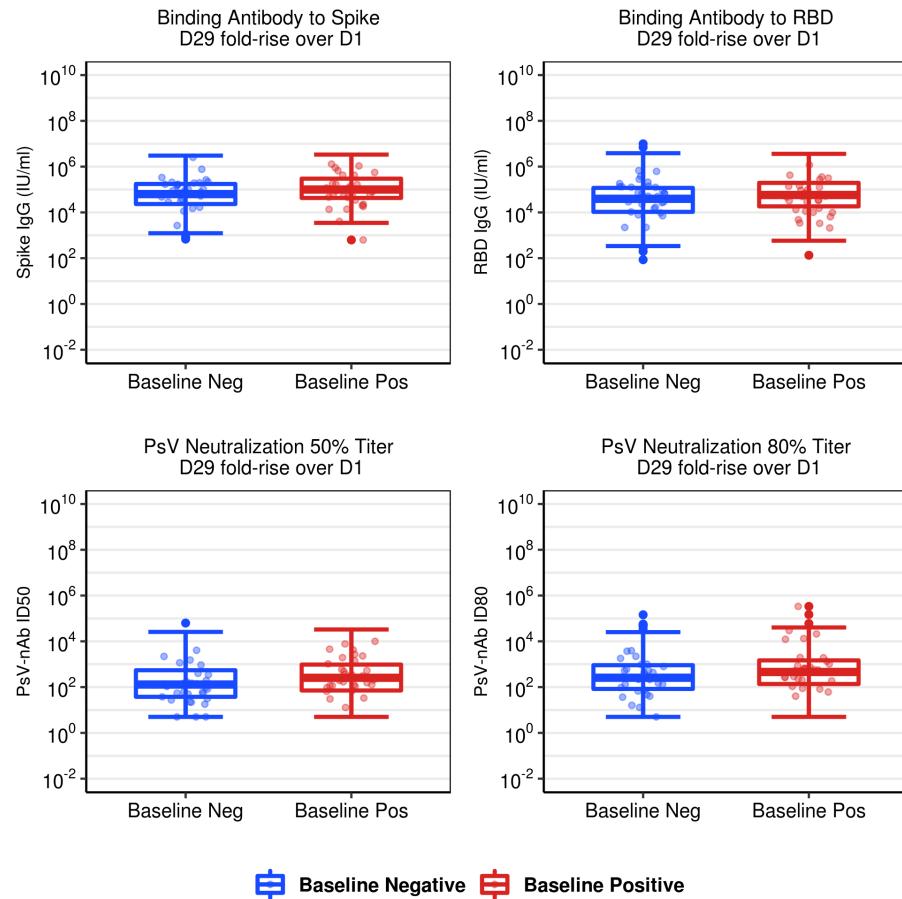


Figure 1.42: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive + negative vaccine arm

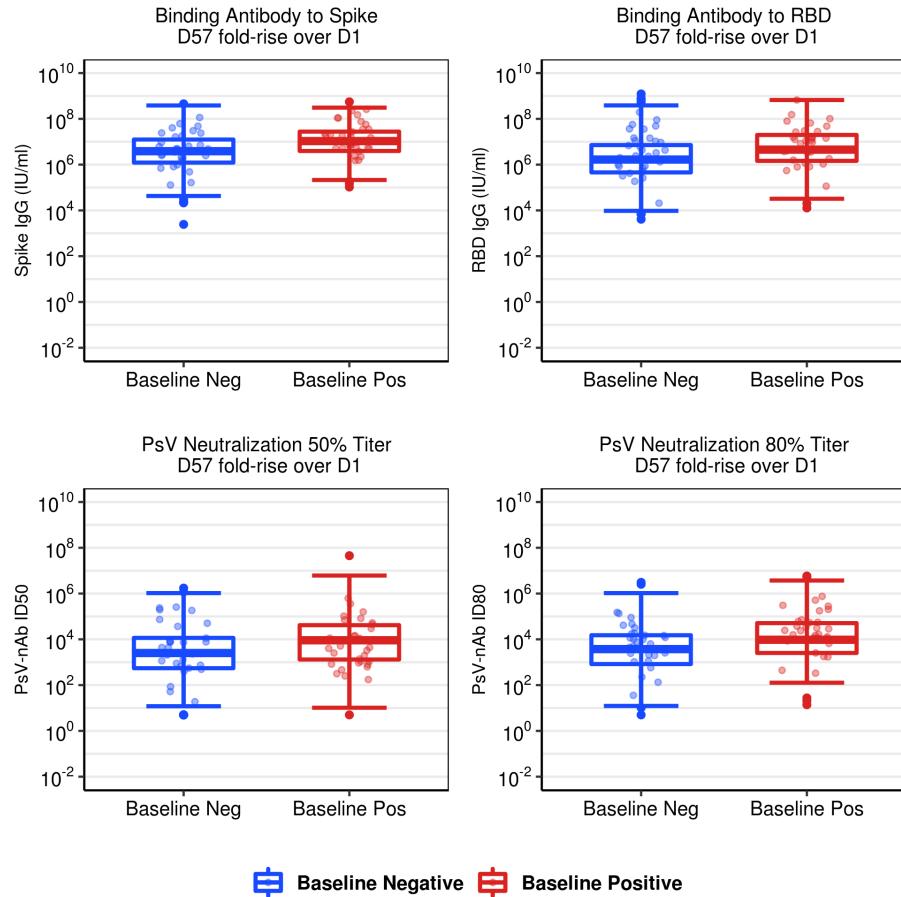


Figure 1.43: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive + negative vaccine arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT57

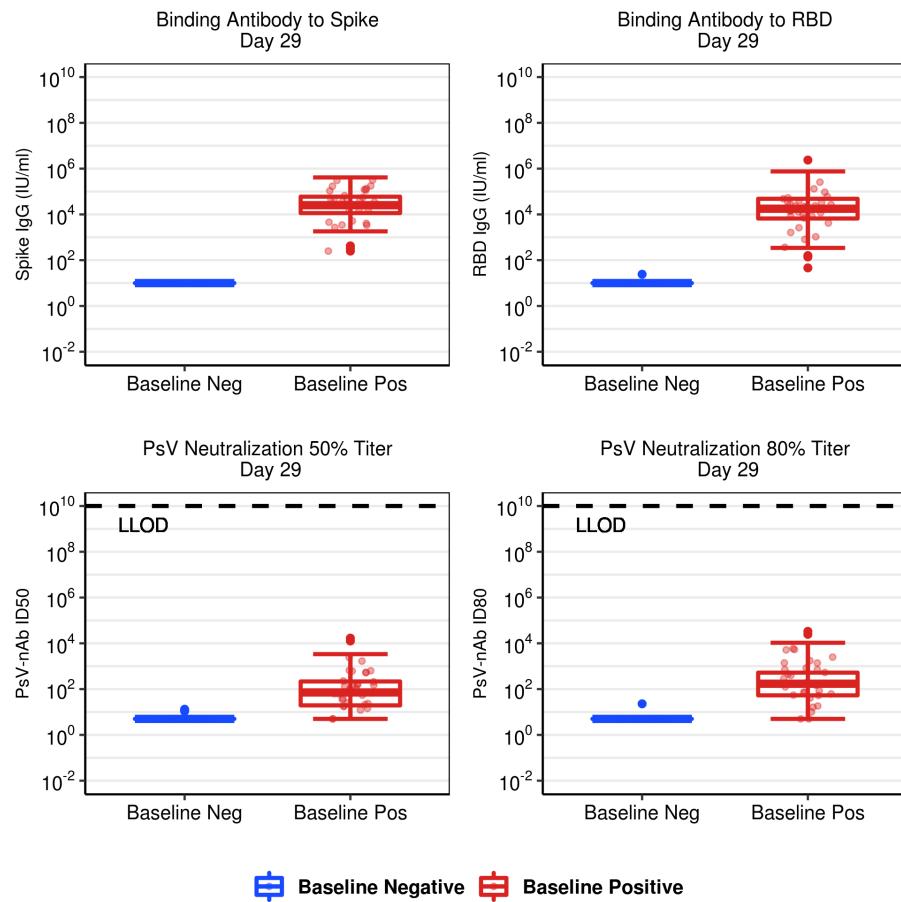


Figure 1.44: (Mock data) Boxplots of D29 Ab markers: baseline positive + negative placebo arm

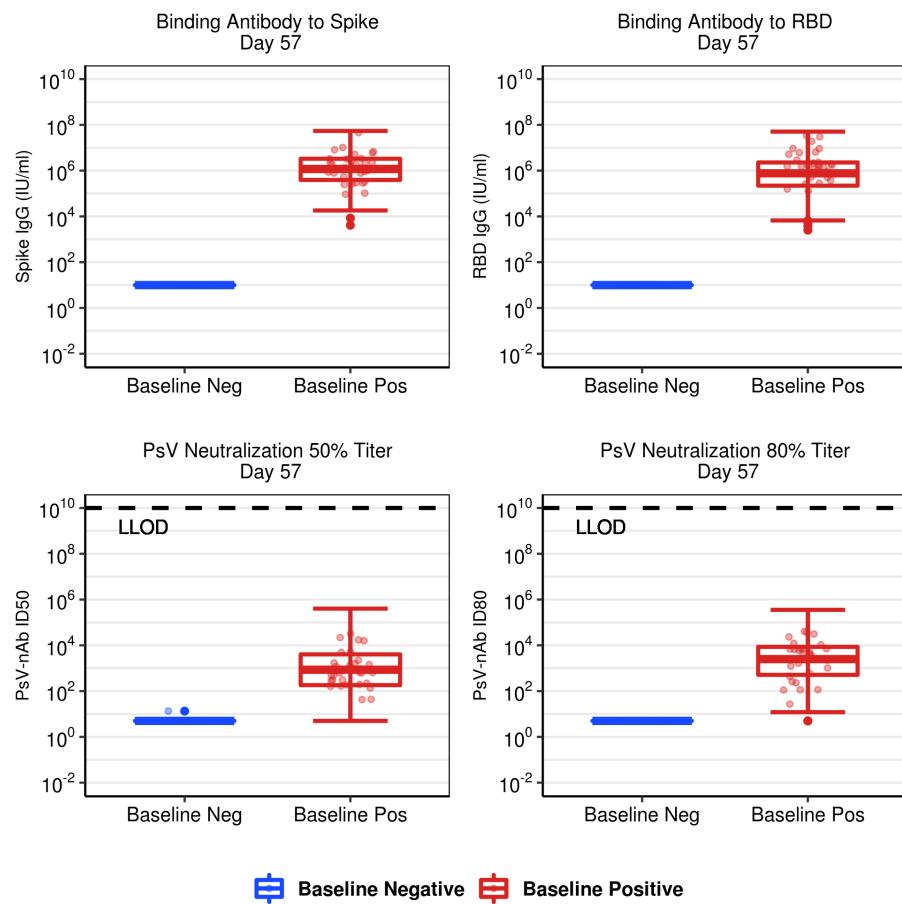


Figure 1.45: (Mock data) Boxplots of D57 Ab markers: baseline positive + negative placebo arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT59

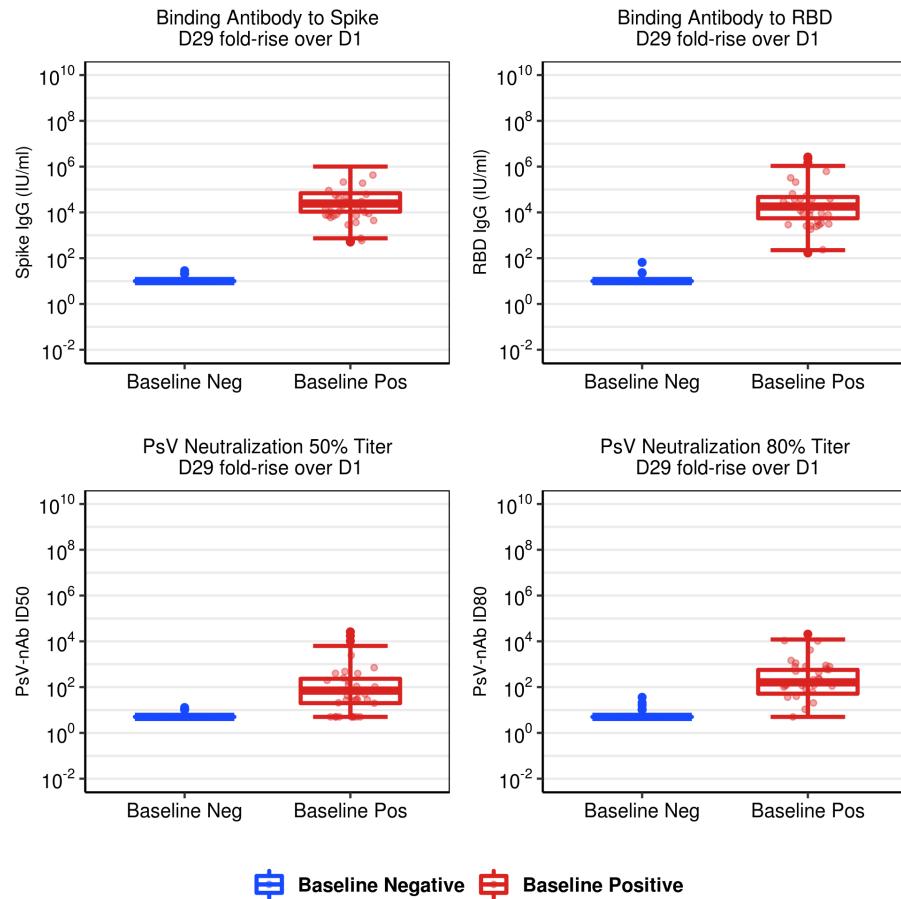


Figure 1.46: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive + negative placebo arm

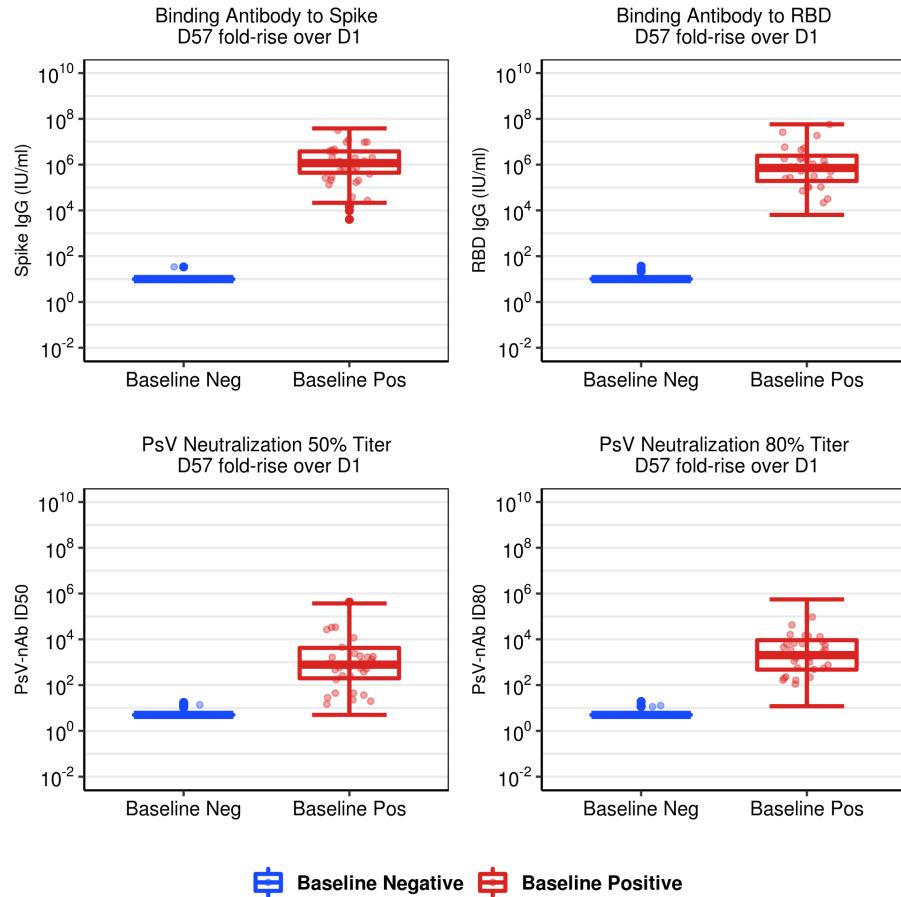


Figure 1.47: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive + negative placebo arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT61

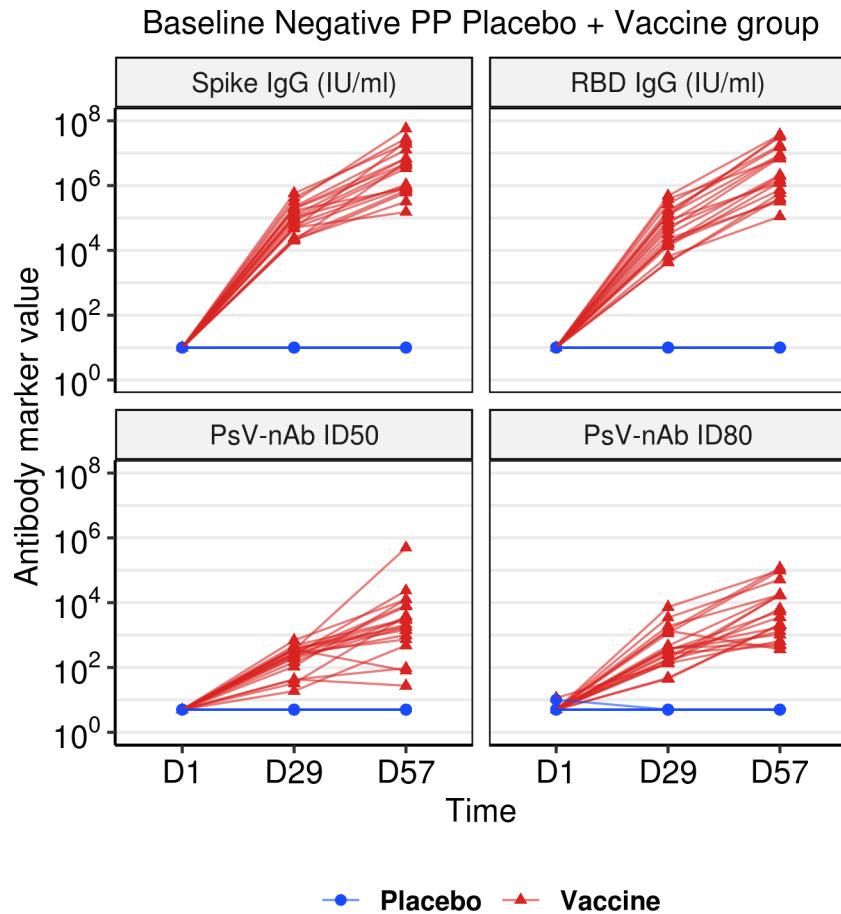


Figure 1.48: (Mock data) Spaghetti plots of Ab markers over time: baseline negative vaccine + placebo arm

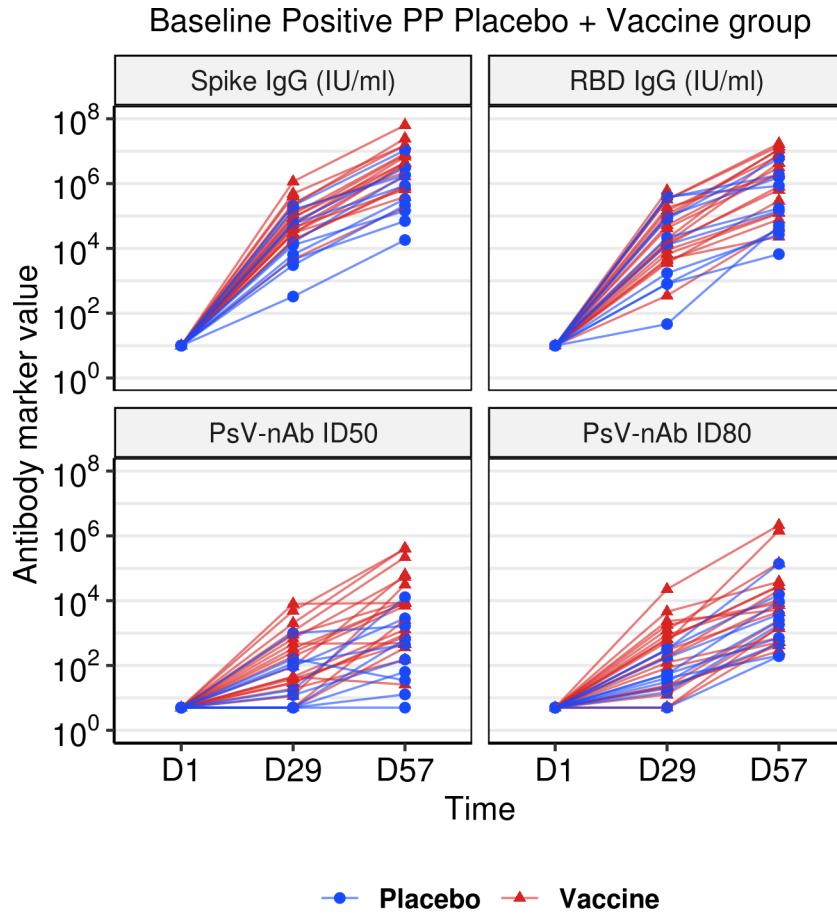


Figure 1.49: (Mock data) Spaghetti plots of Ab markers over time: baseline positive vaccine + placebo arm

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT63

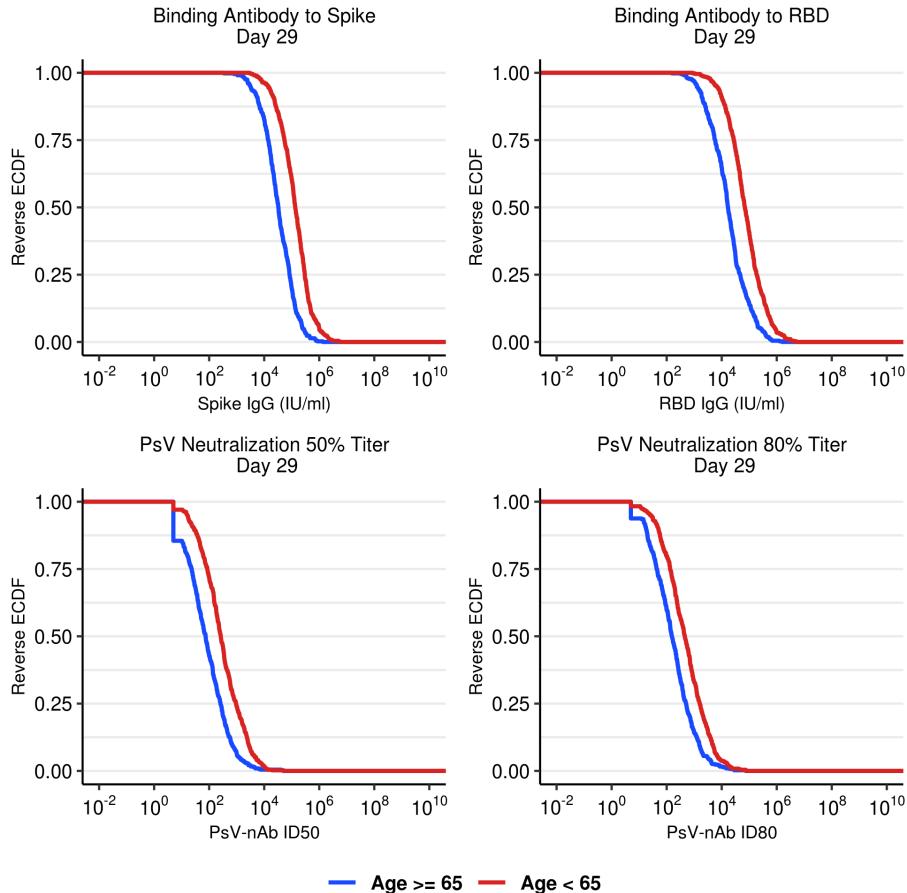


Figure 1.50: (Mock data) RCDF plots for D29 Ab markers: baseline negative vaccine arm by age groups.

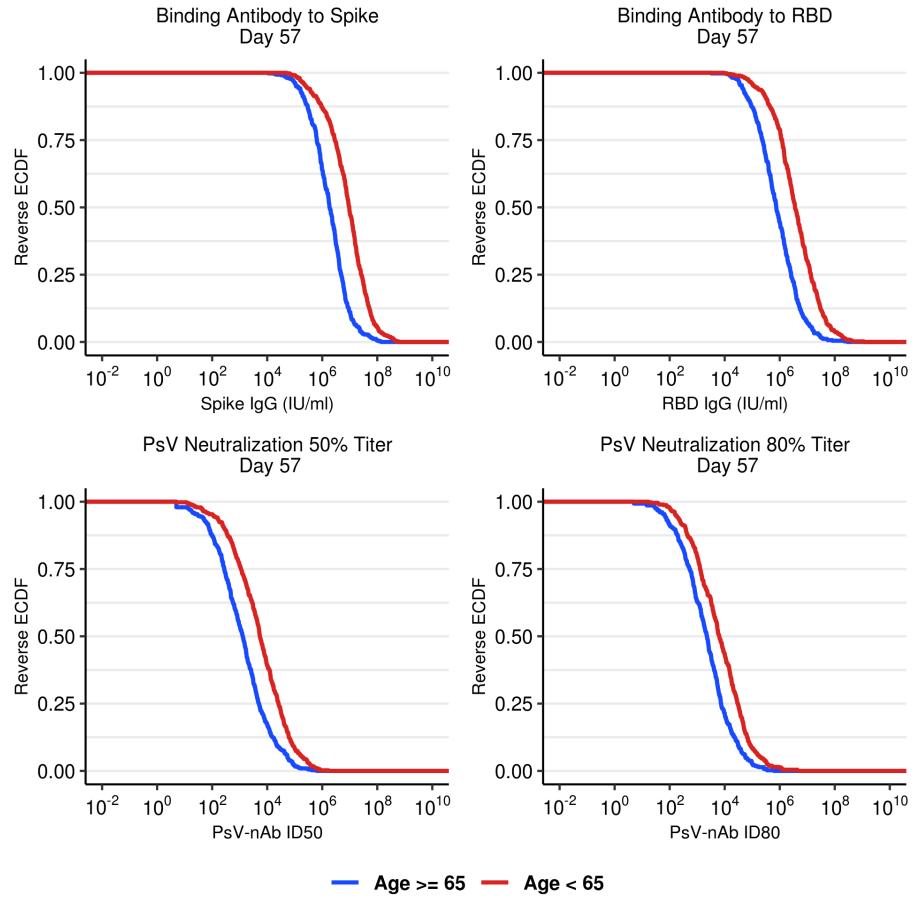


Figure 1.51: (Mock data) RCDF plots for D57 Ab markers: baseline negative vaccine arm by age groups.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT65

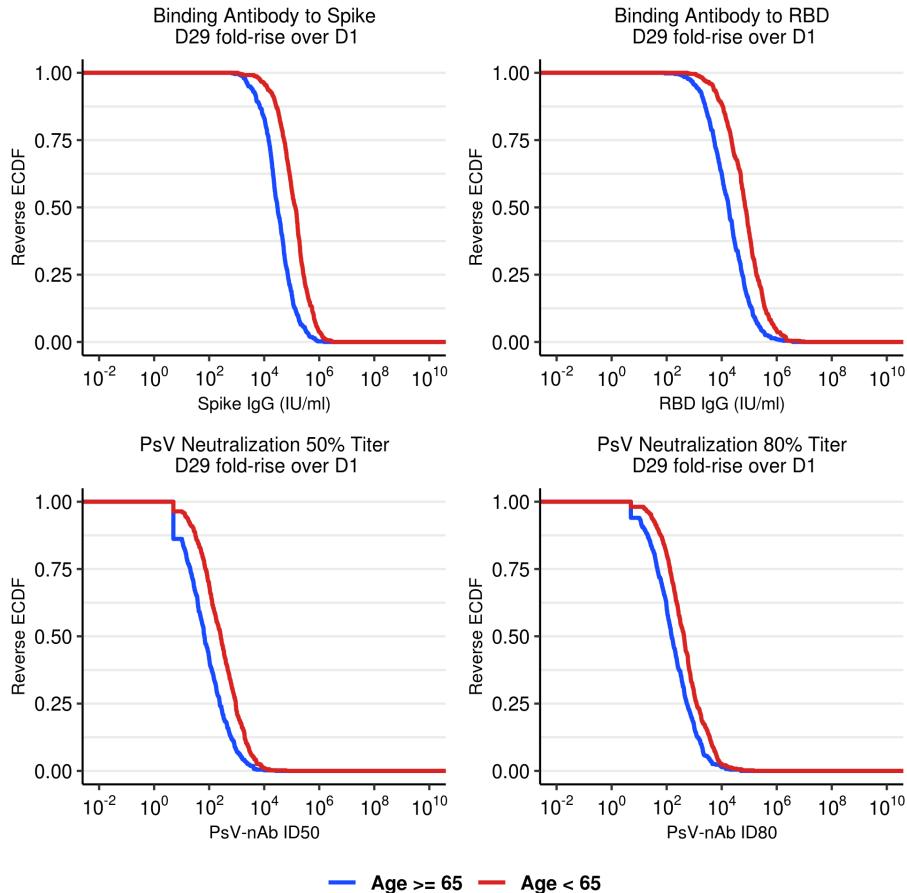


Figure 1.52: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age groups.

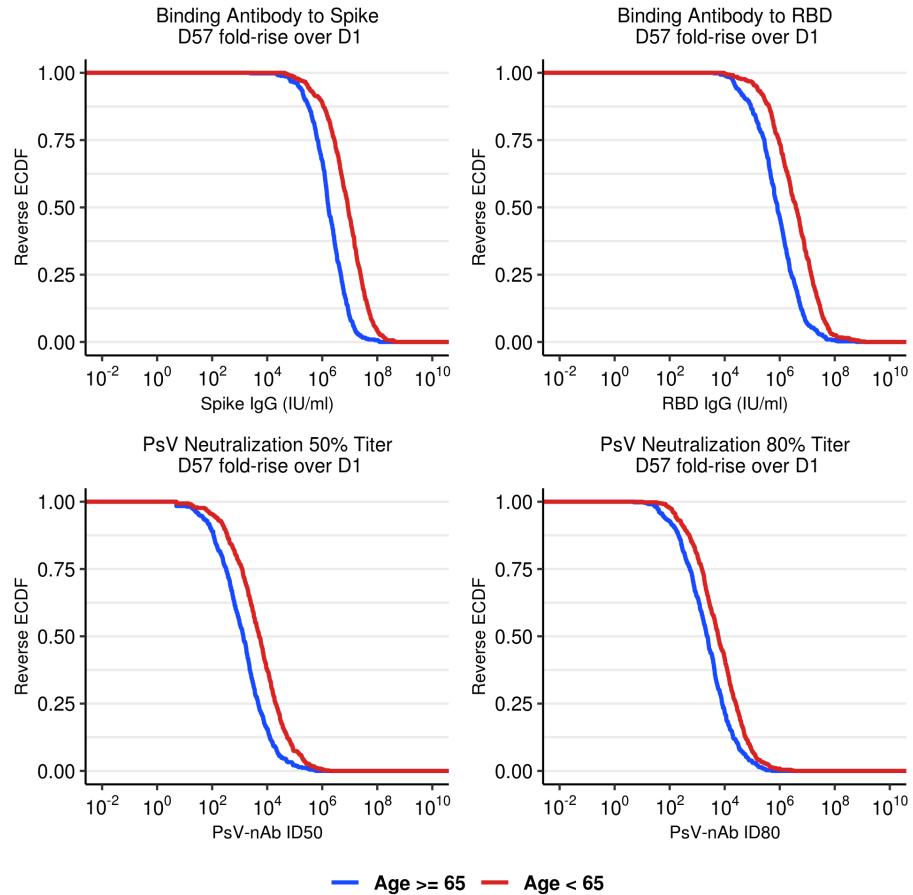


Figure 1.53: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline negative vaccine arm by age groups.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT67

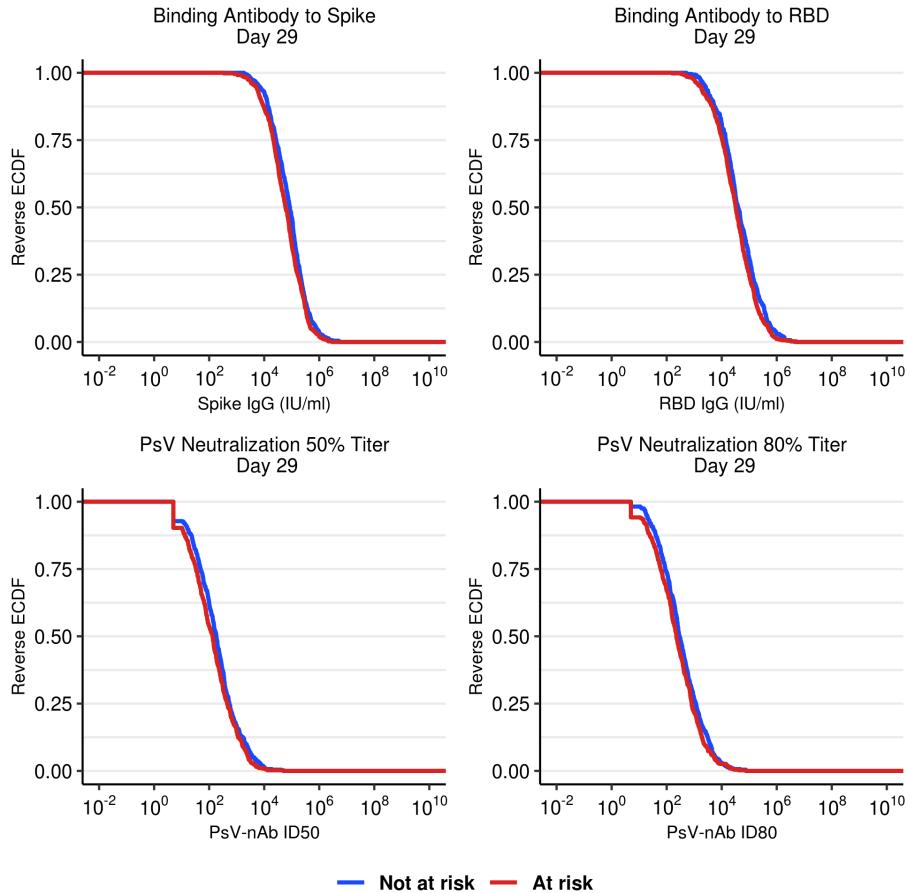


Figure 1.54: (Mock data) RCDF plots for D29 Ab markers: baseline negative vaccine arm by high-risk condition.

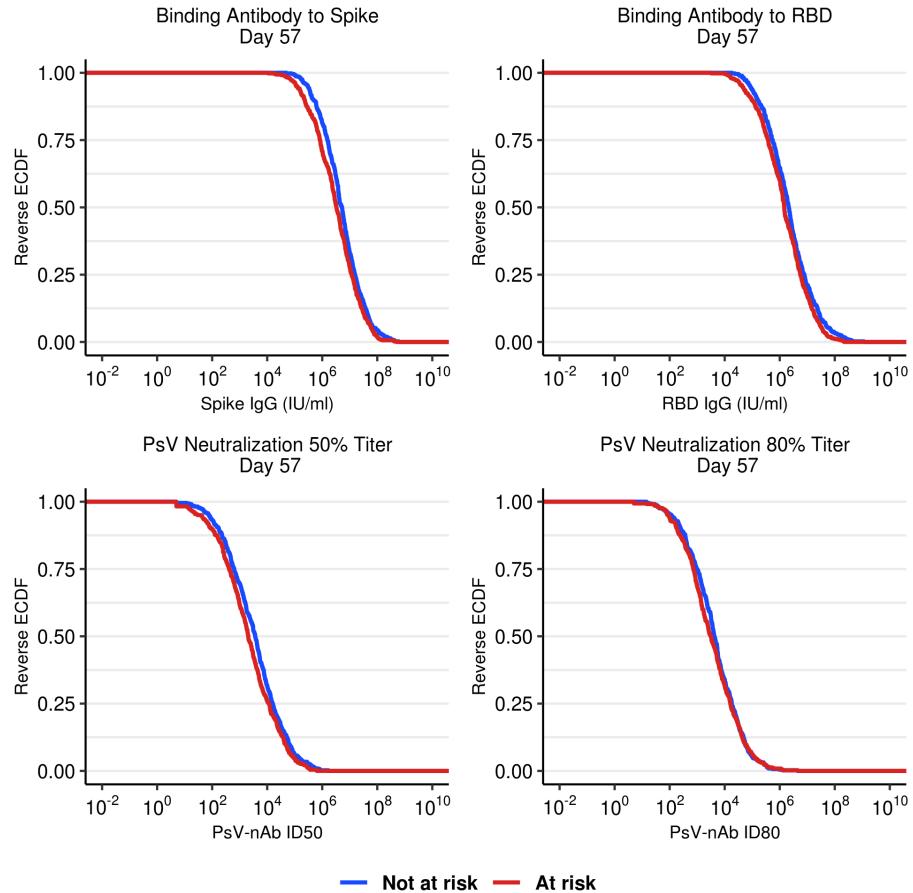


Figure 1.55: (Mock data) RCDF plots for D57 Ab markers: baseline negative vaccine arm by high-risk condition.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT69

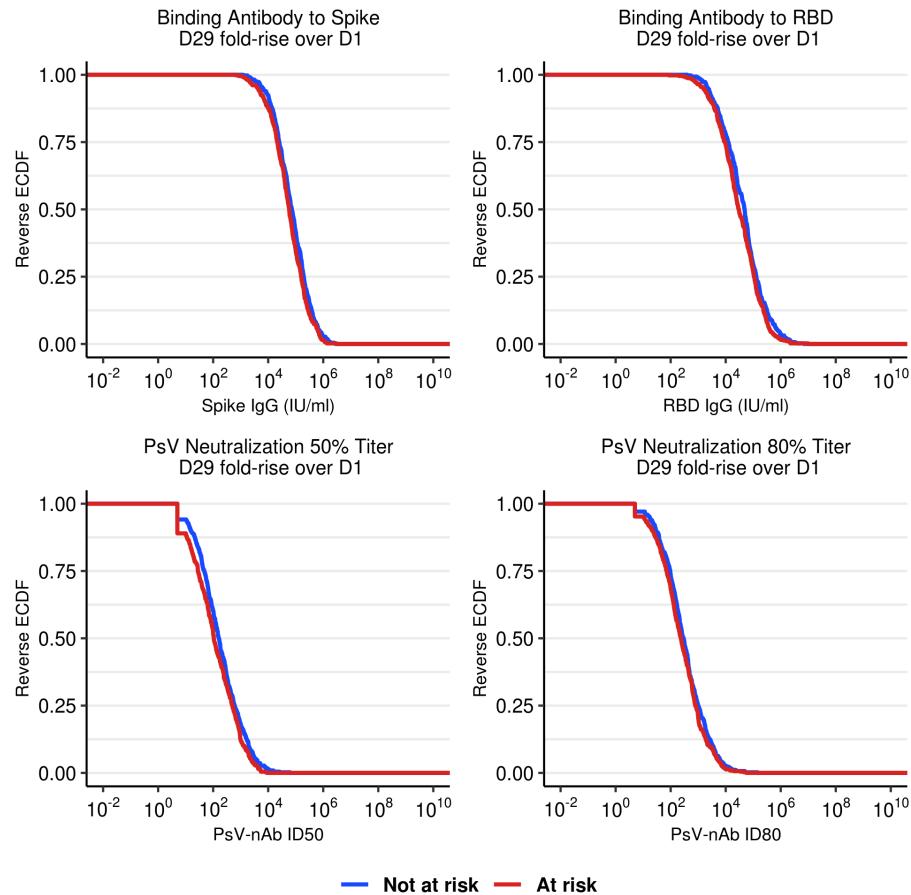


Figure 1.56: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by high-risk condition.

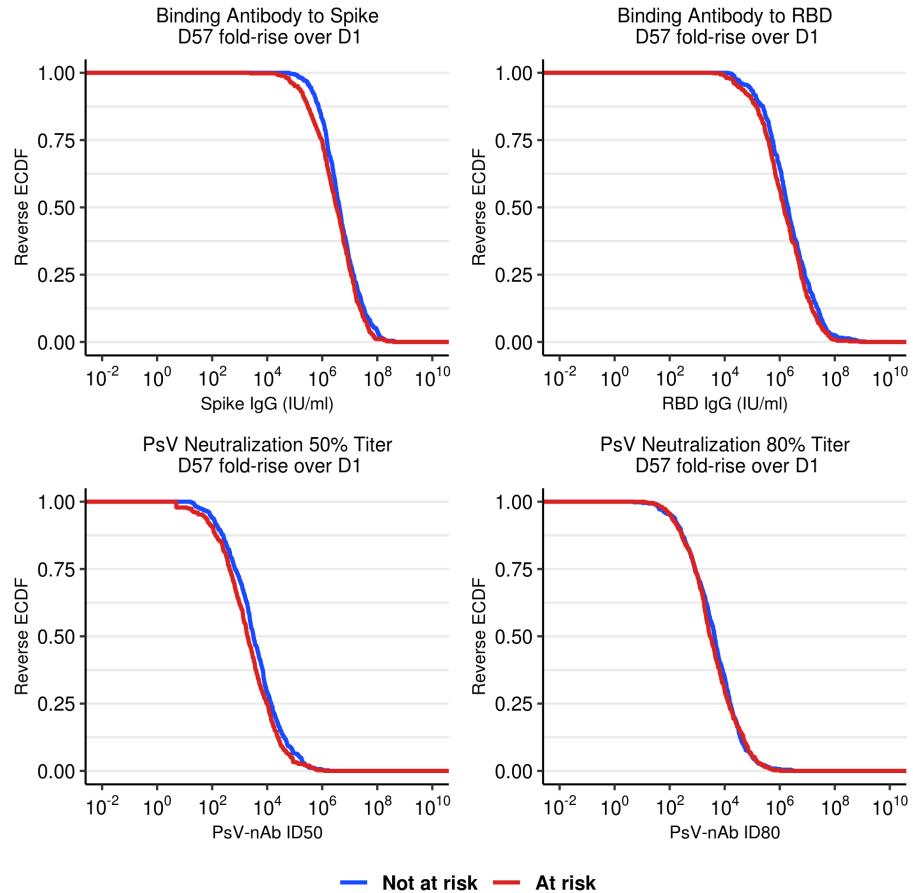


Figure 1.57: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline negative vaccine arm by high-risk condition.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT71

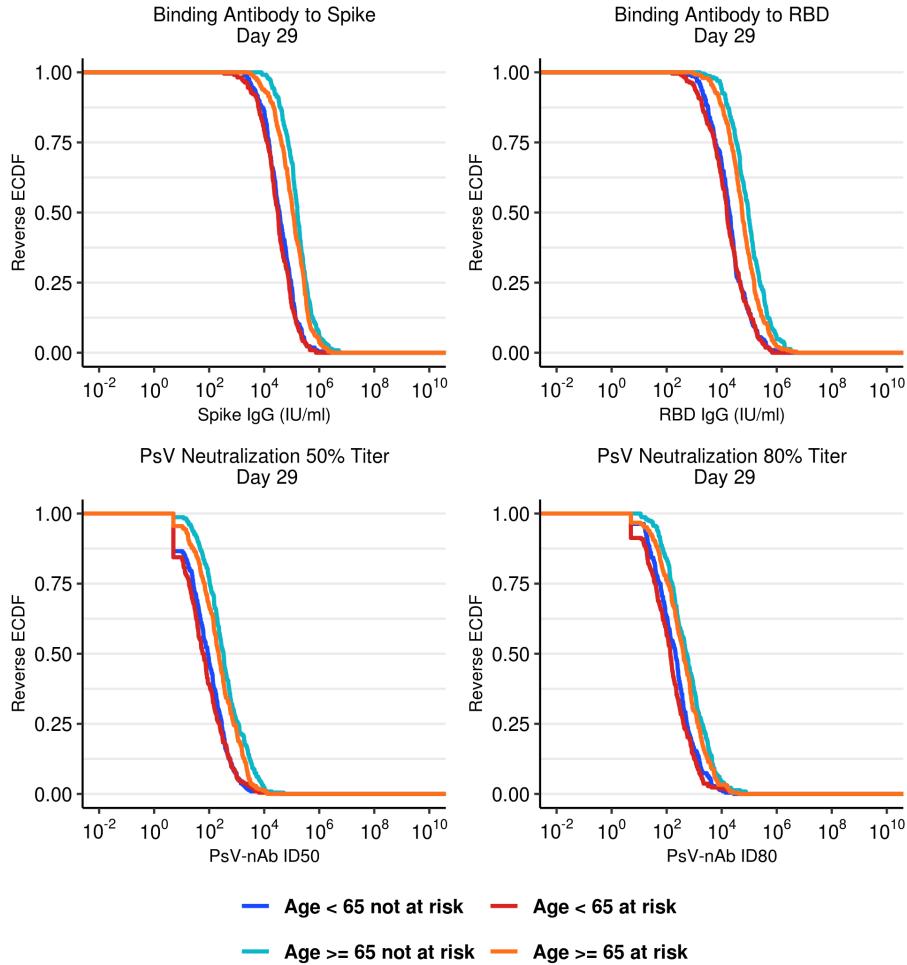


Figure 1.58: (Mock data) RCDF plots for D29 Ab markers: baseline negative vaccine arm by age and high-risk condition.

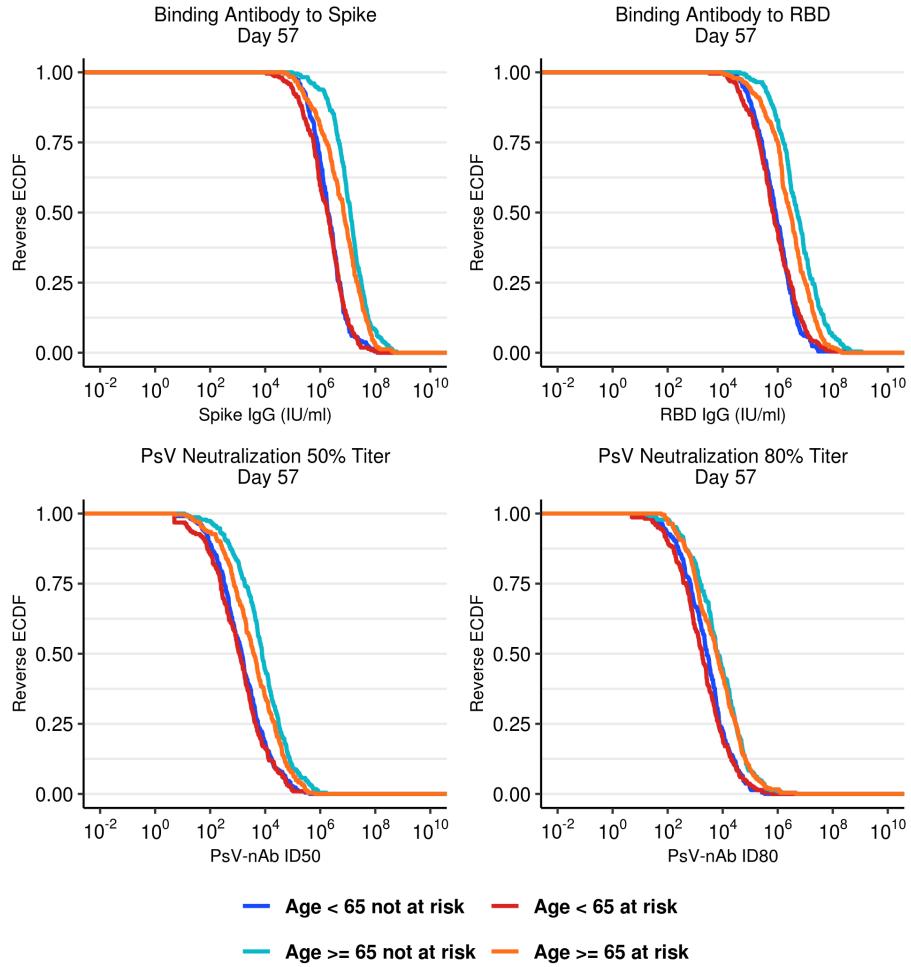


Figure 1.59: (Mock data) RCDF plots for D57 Ab markers: baseline negative vaccine arm by age and high-risk condition.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT73

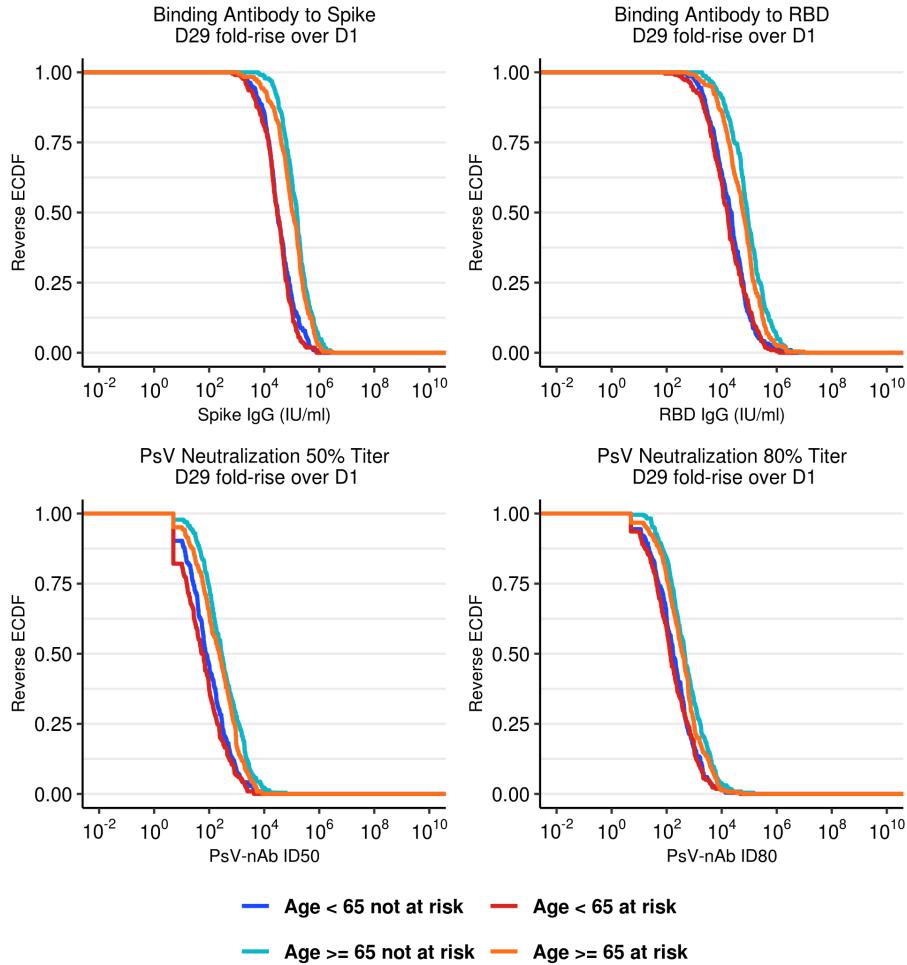


Figure 1.60: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and high-risk condition.

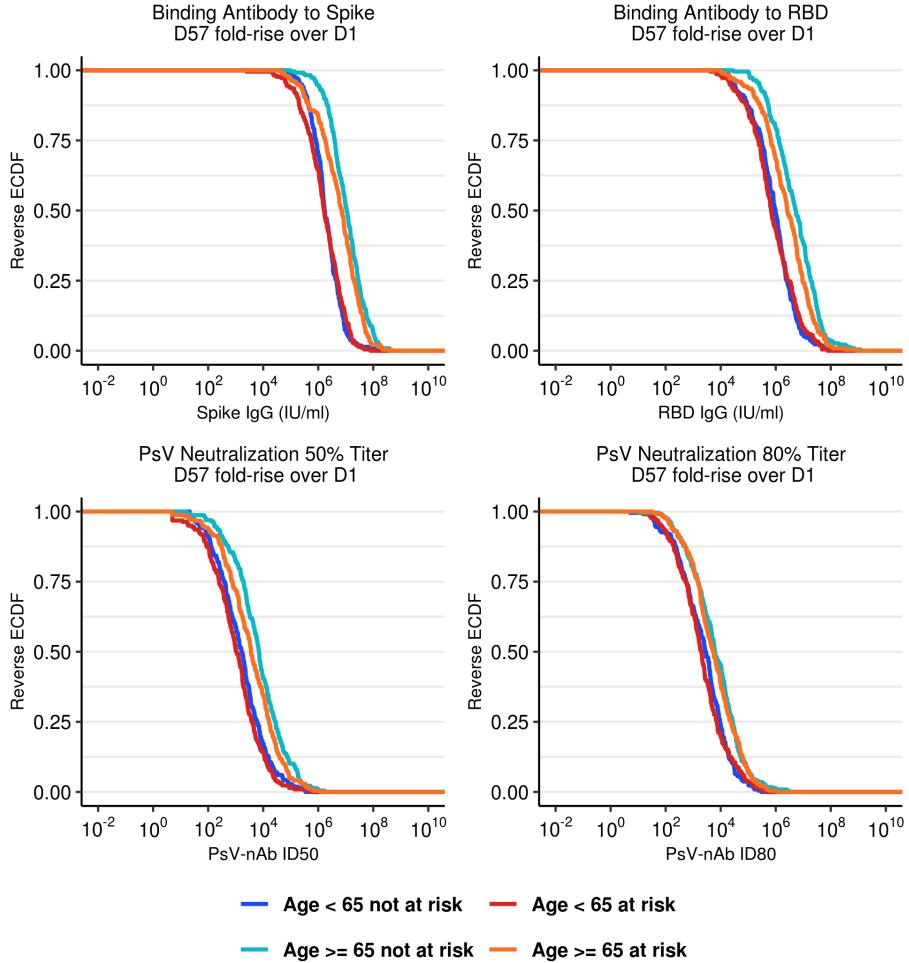


Figure 1.61: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and high-risk condition.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT75

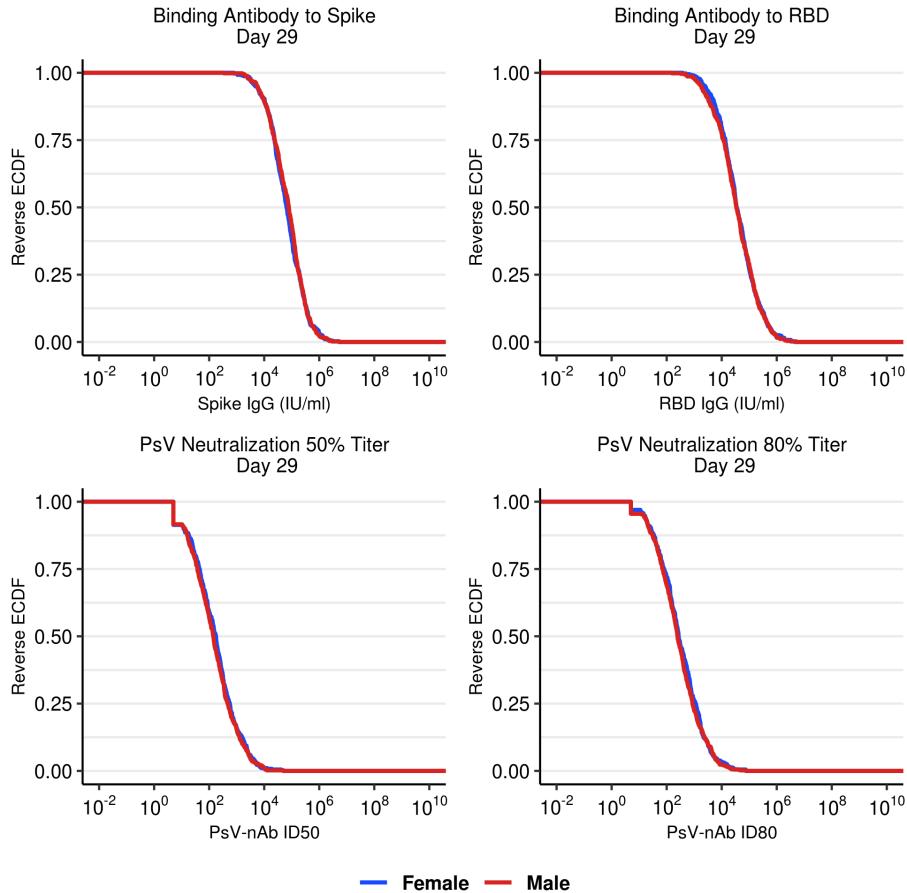


Figure 1.62: (Mock data) RCDF plots for D29 Ab markers: baseline negative vaccine arm by sex assigned at birth.

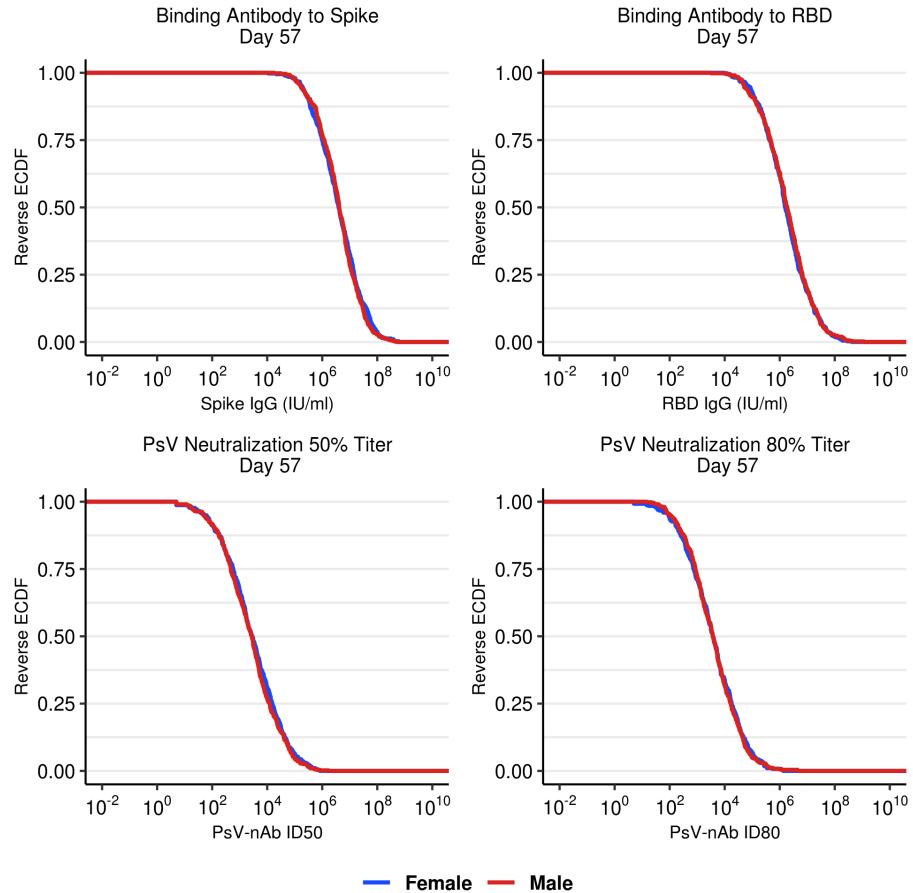


Figure 1.63: (Mock data) RCDF plots for D57 Ab markers: baseline negative vaccine arm by sex assigned at birth.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT77

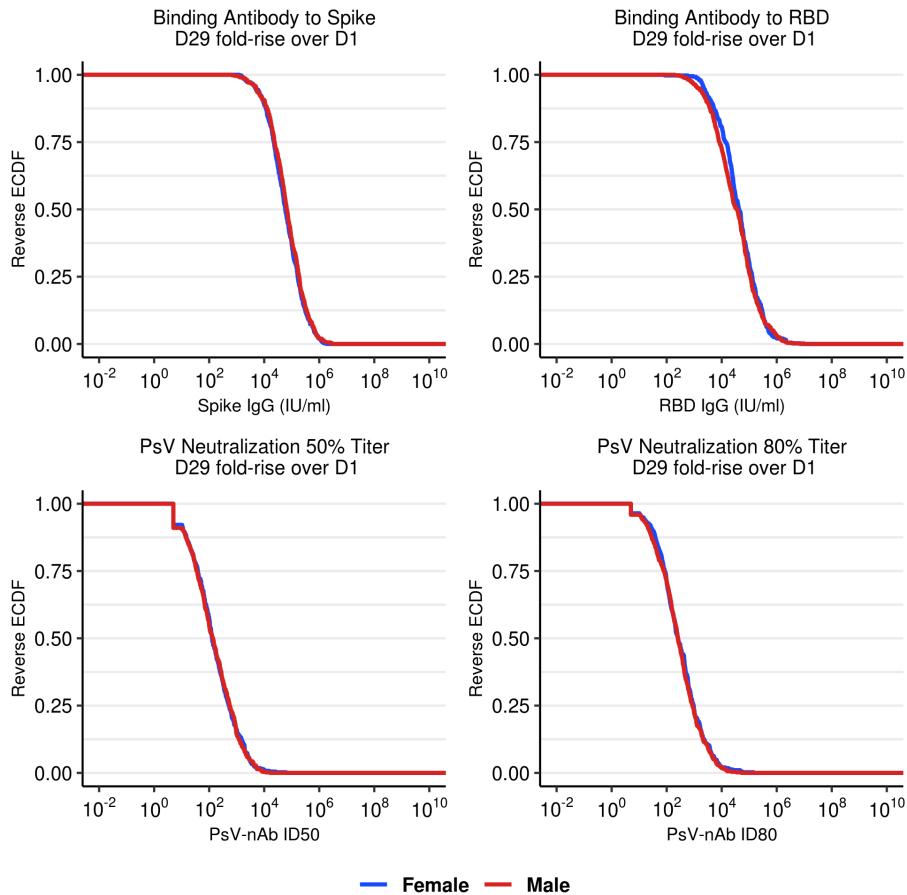


Figure 1.64: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by sex assigned at birth.

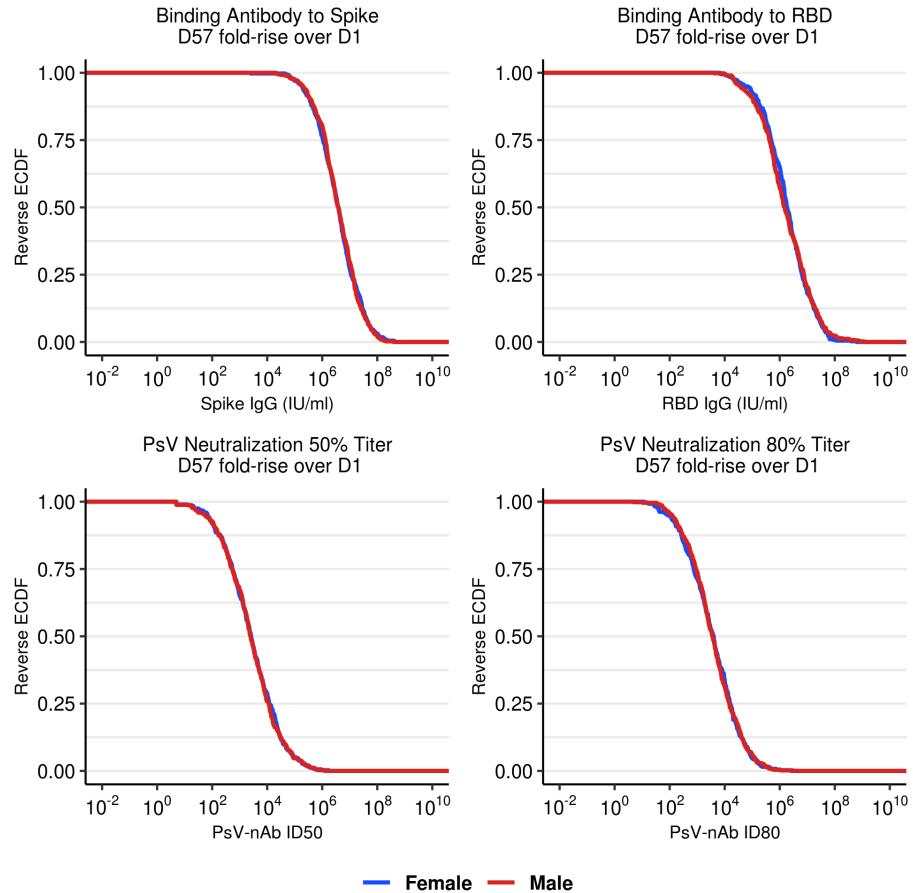


Figure 1.65: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline negative vaccine arm by sex assigned at birth.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT79

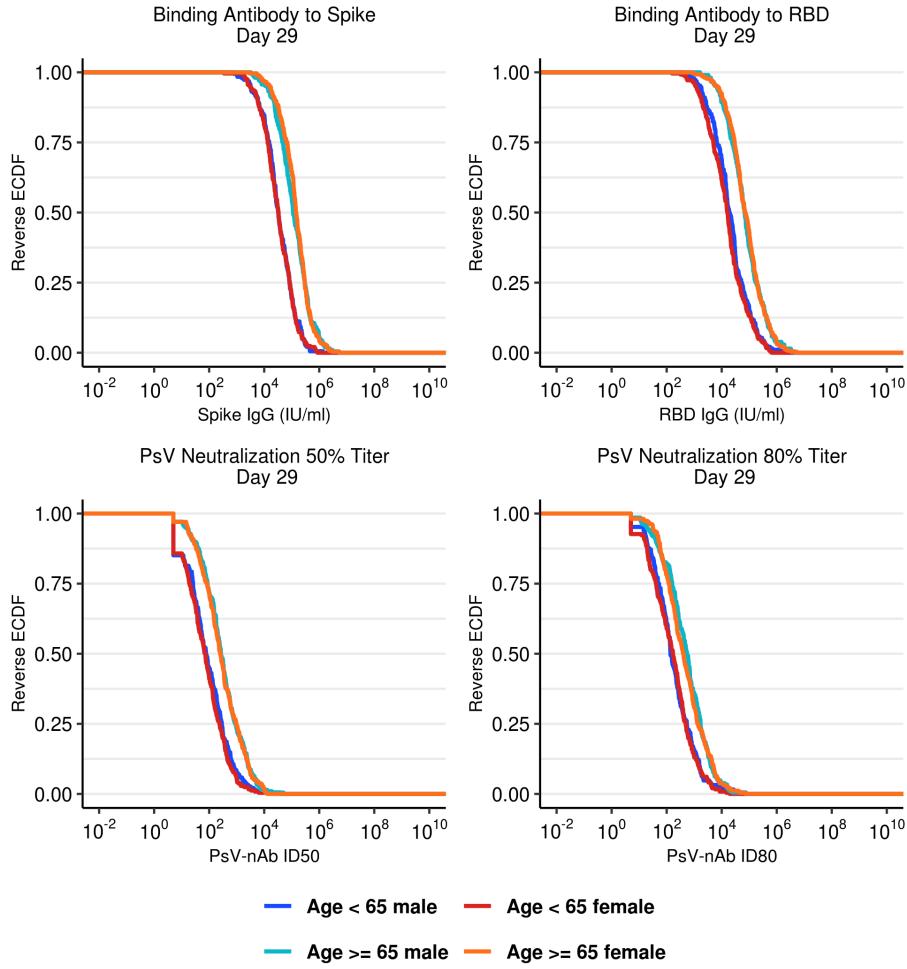


Figure 1.66: (Mock data) RCDF plots for D29 Ab markers: baseline negative vaccine arm by age and sex assigned at birth.

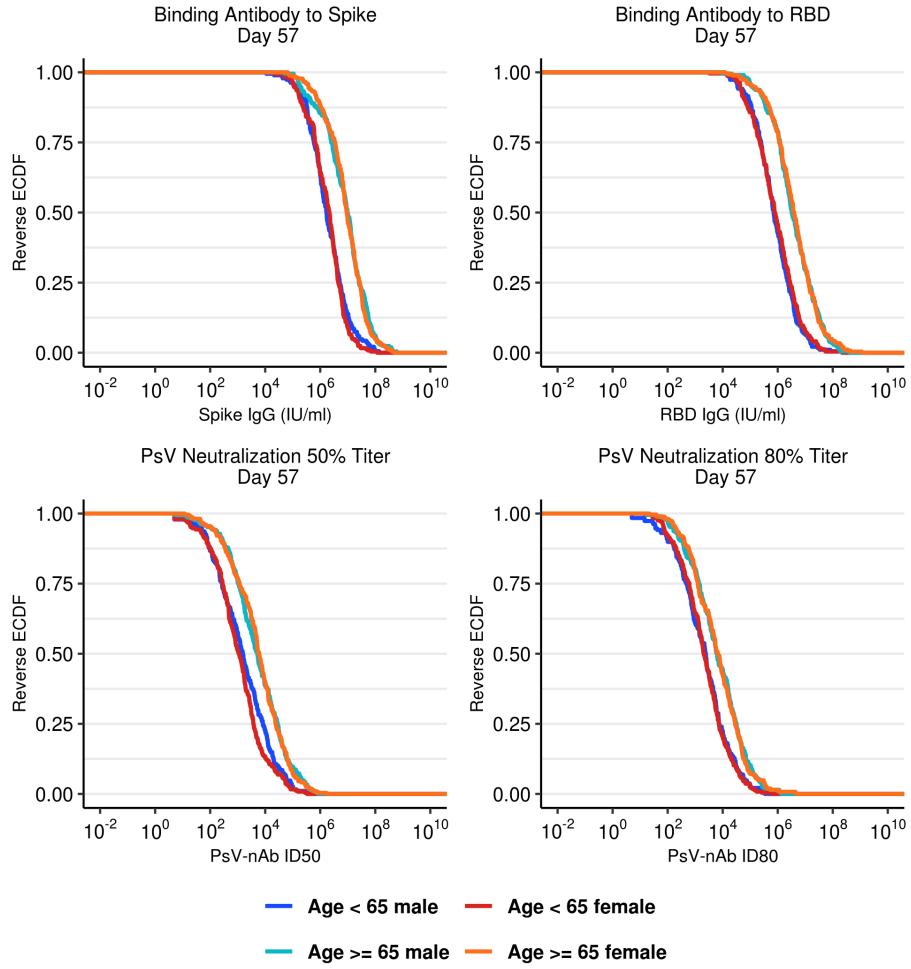


Figure 1.67: (Mock data) RCDF plots for D57 Ab markers: baseline negative vaccine arm by age and sex assigned at birth.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT81

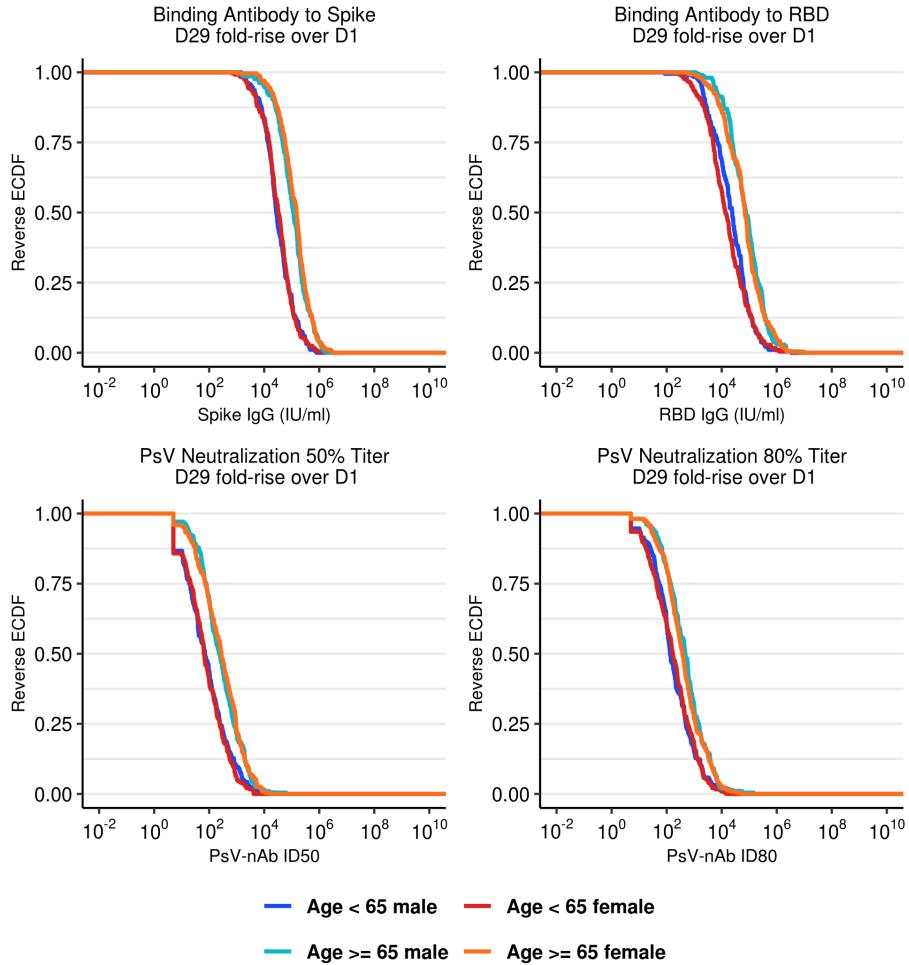


Figure 1.68: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and sex assigned at birth.

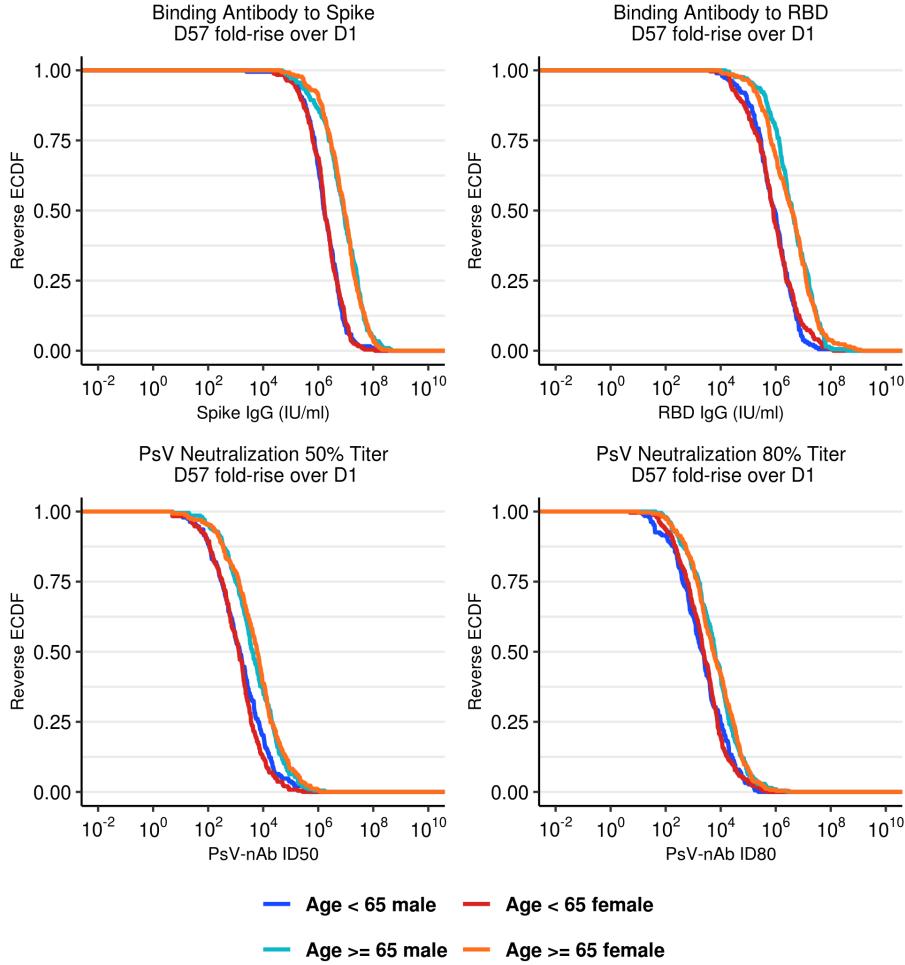


Figure 1.69: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and sex at birth.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT83

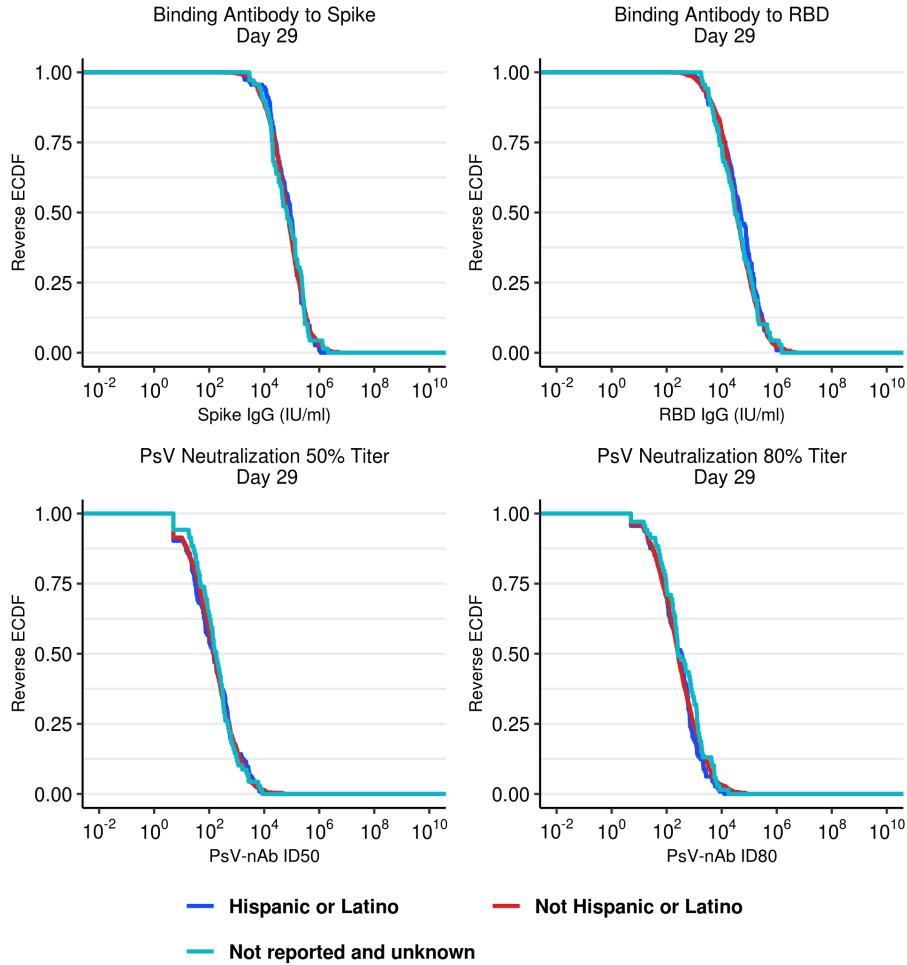


Figure 1.70: (Mock data) RCDF plots for D29 Ab markers: baseline negative vaccine arm by ethnicity.

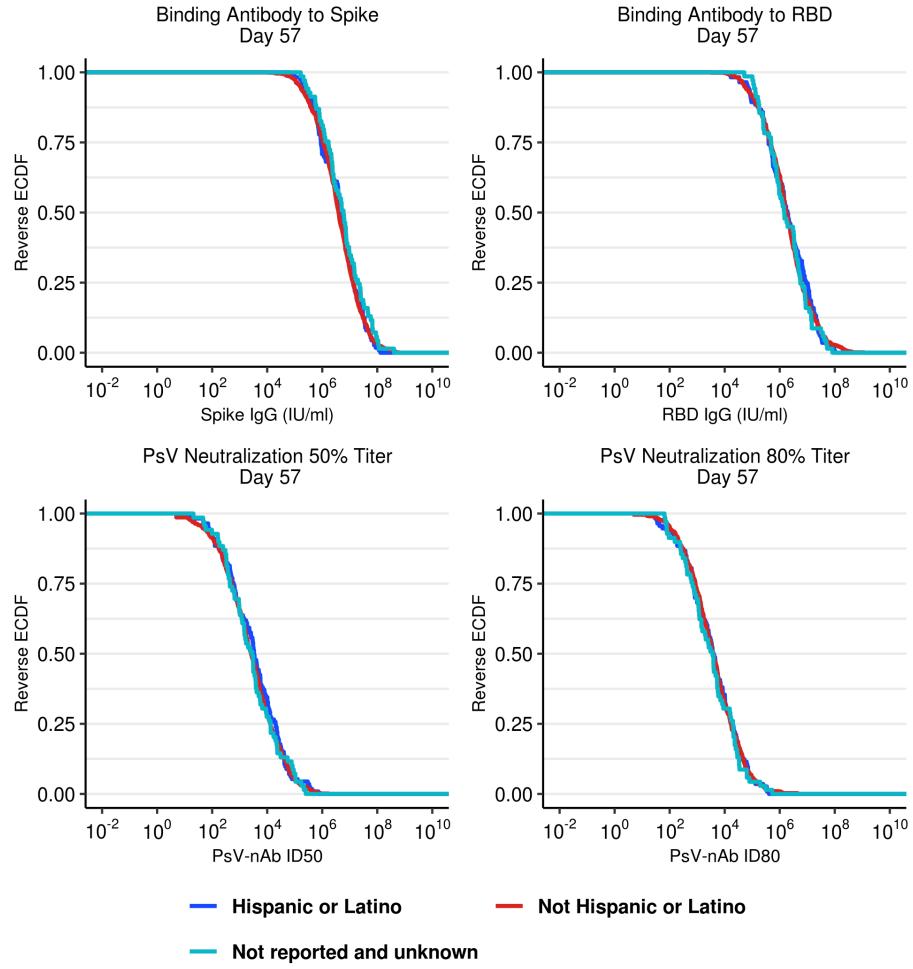


Figure 1.71: (Mock data) RCDF plots for D57 Ab markers: baseline negative vaccine arm by ethnicity.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT85

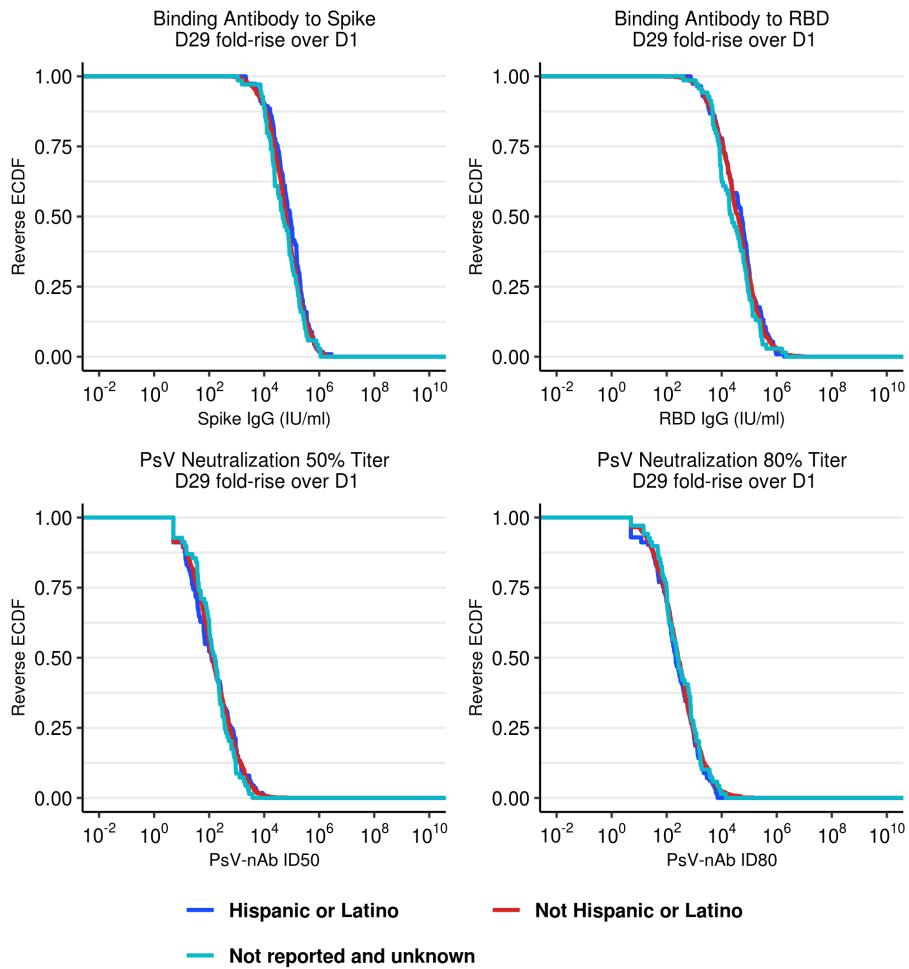


Figure 1.72: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by ethnicity.

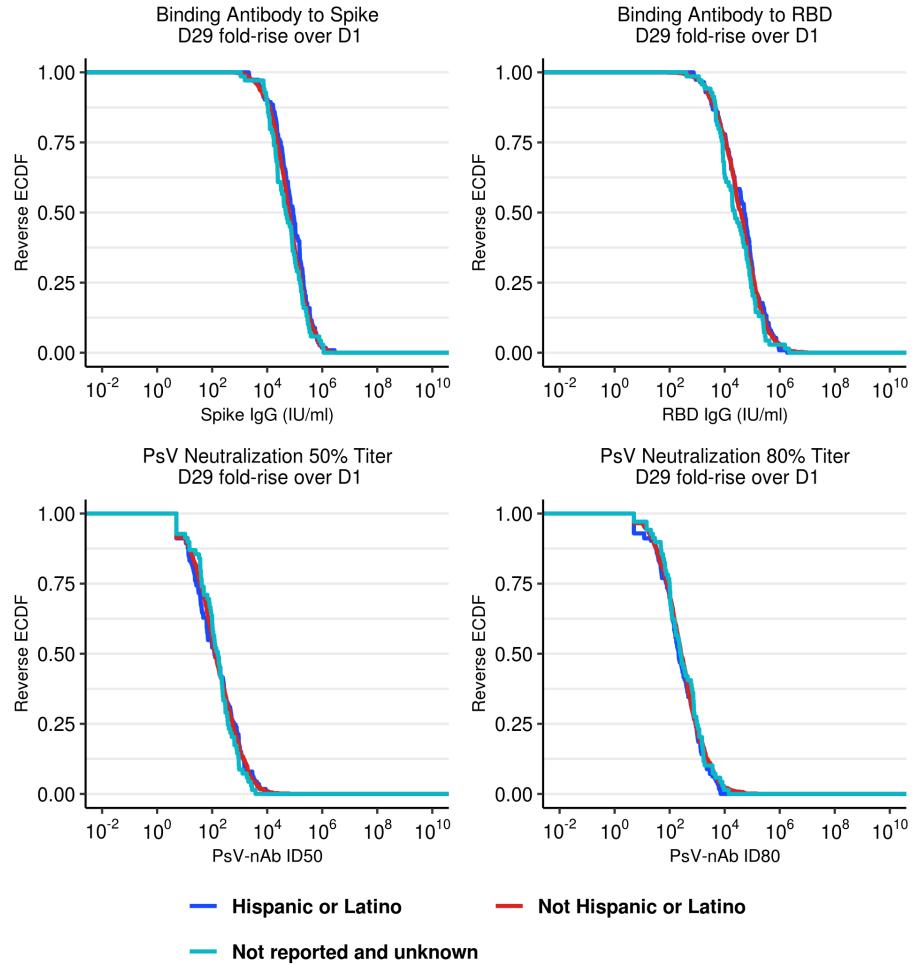


Figure 1.73: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by ethnicity.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT87

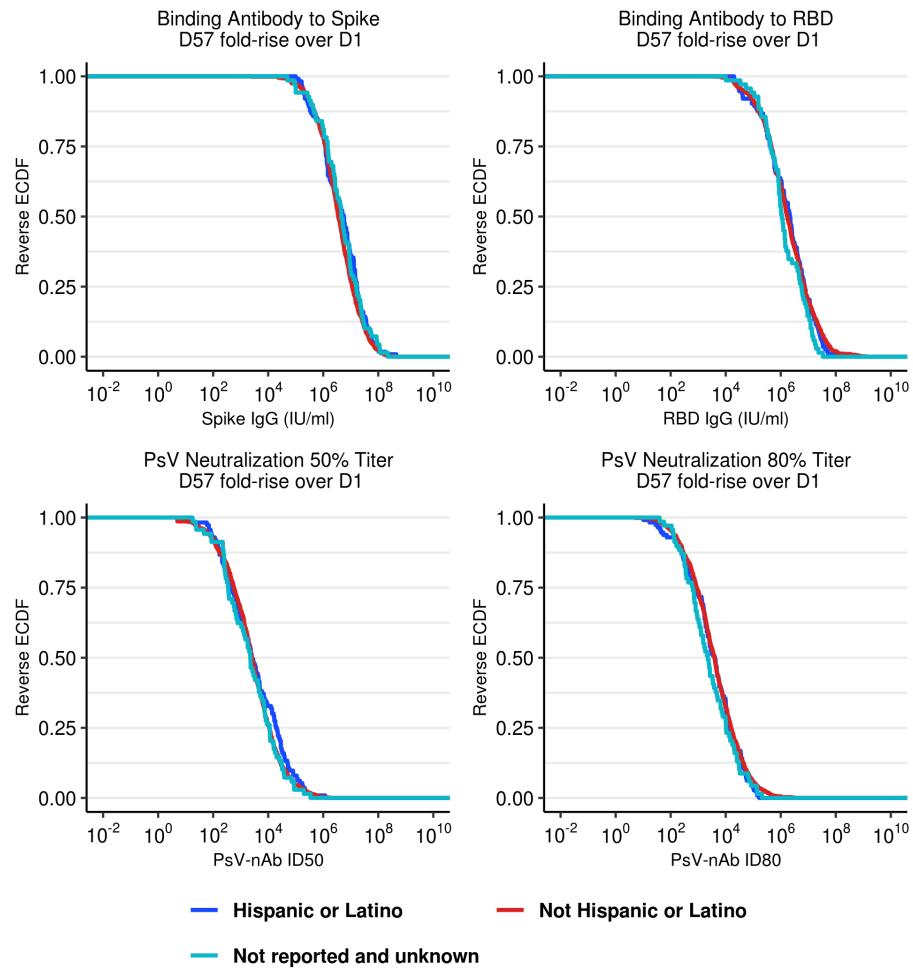


Figure 1.74: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline negative vaccine arm by ethnicity.

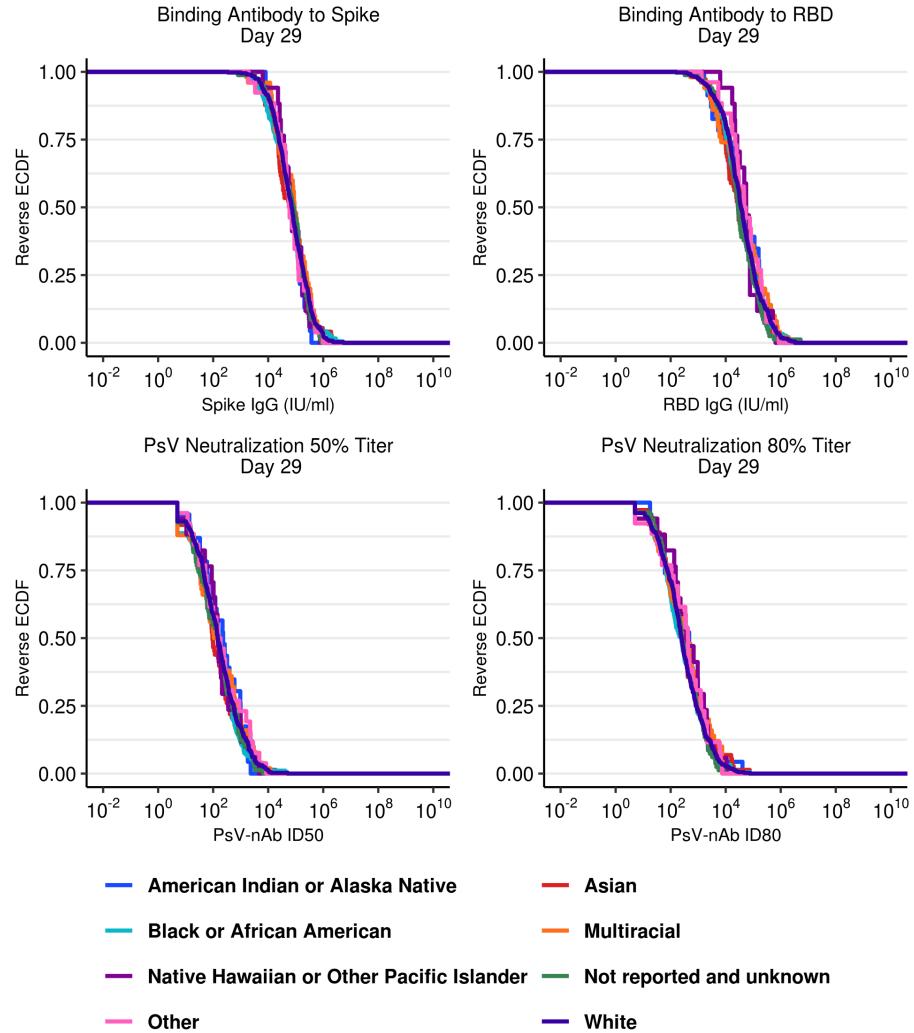


Figure 1.75: (Mock data) RCDF plots for D29 Ab markers: baseline negative vaccine arm by race.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT89

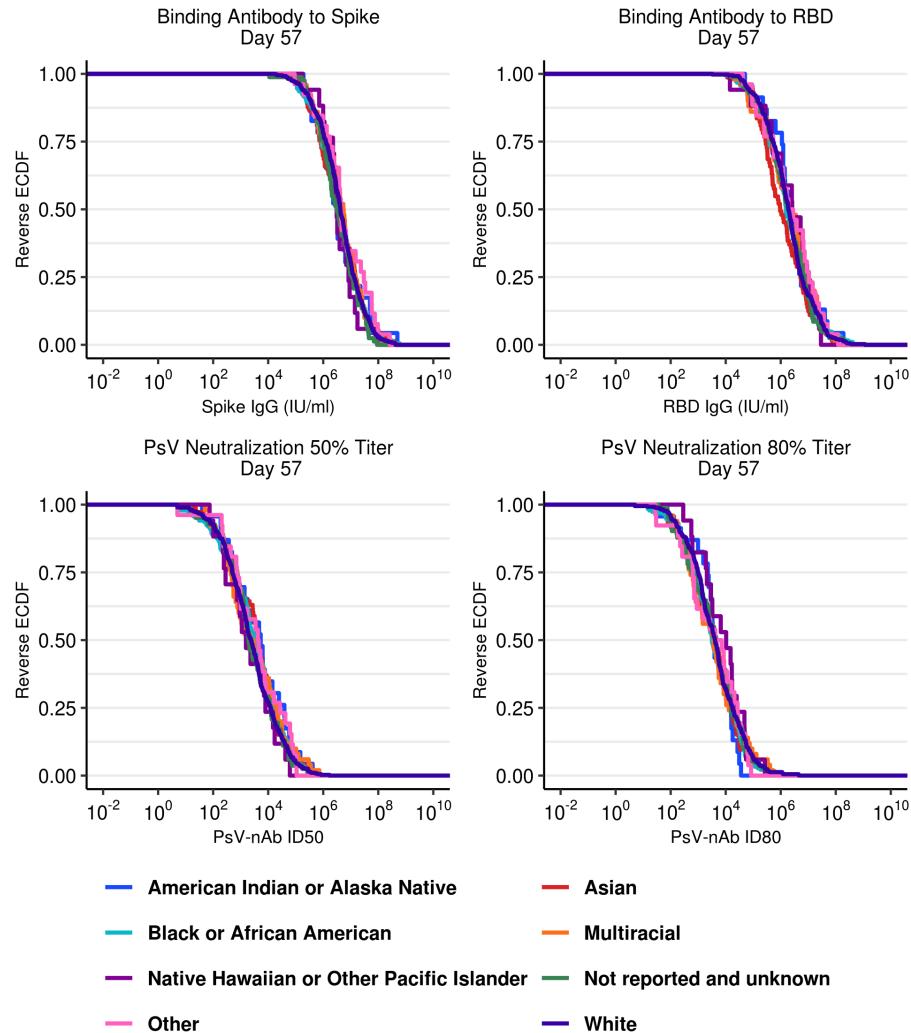


Figure 1.76: (Mock data) RCDF plots for D57 Ab markers: baseline negative vaccine arm by race.

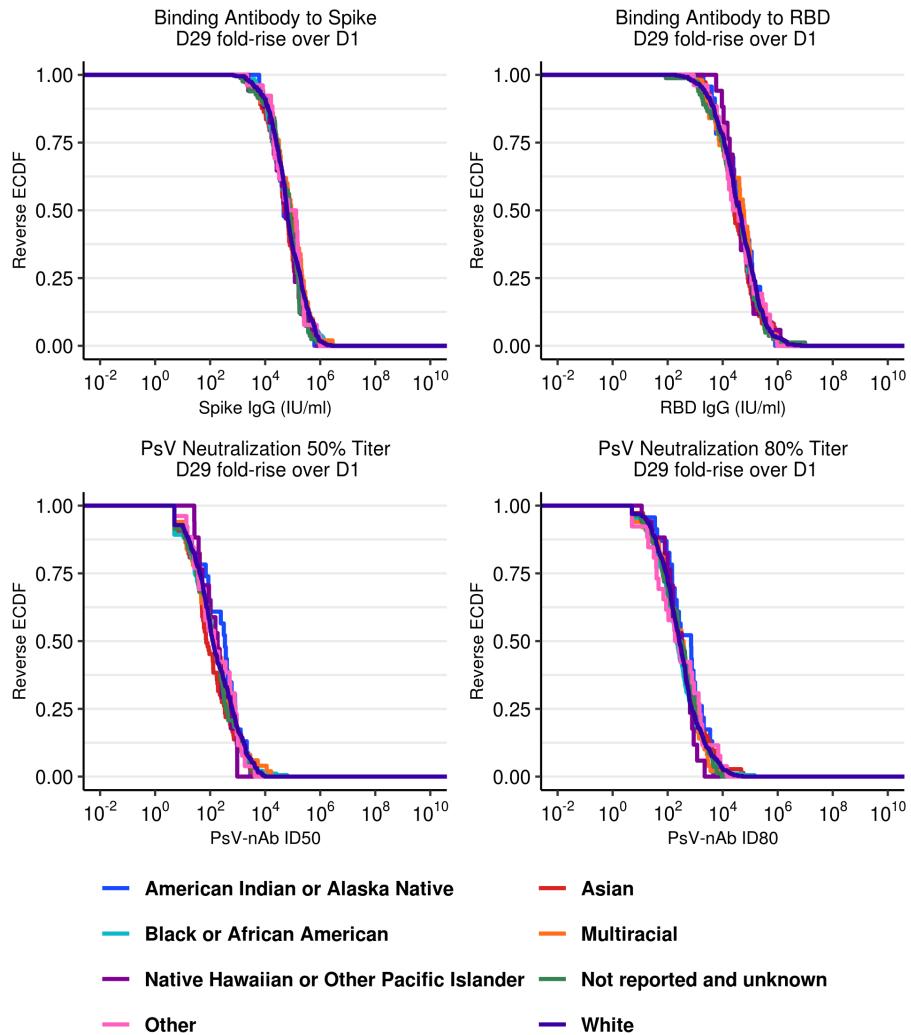


Figure 1.77: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by race.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT91

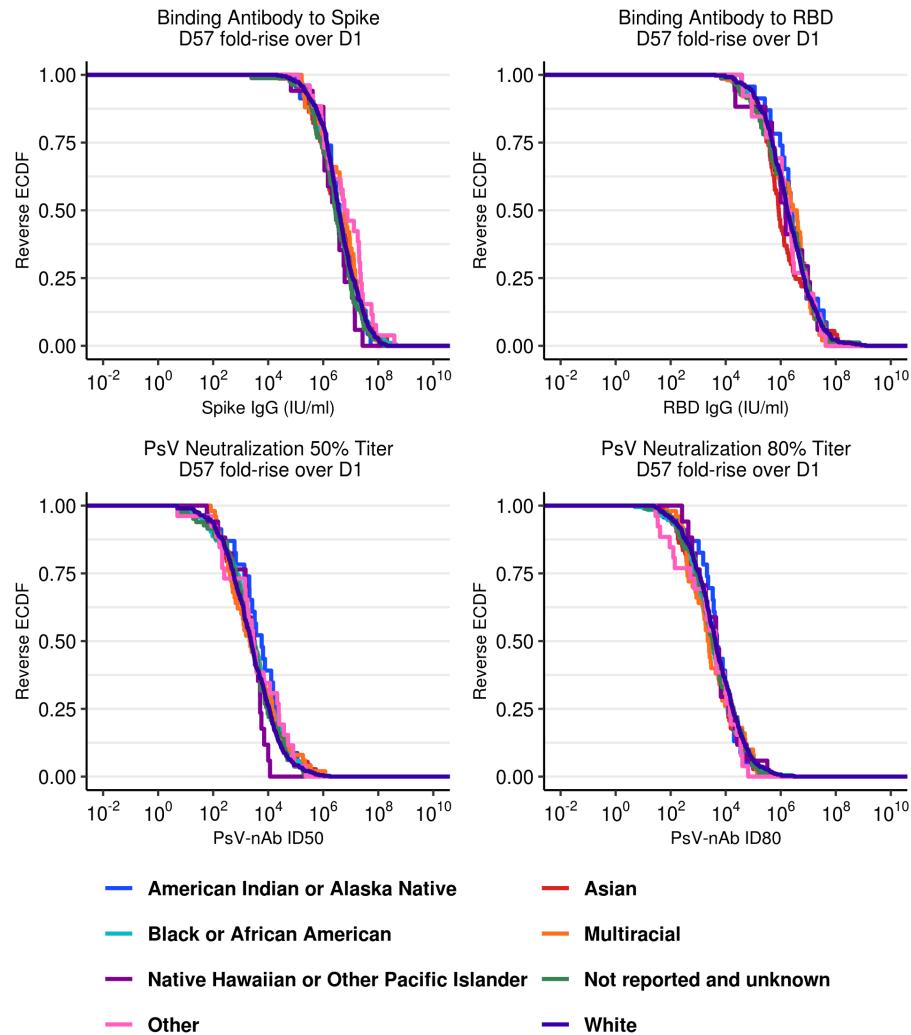


Figure 1.78: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline negative vaccine arm by race.

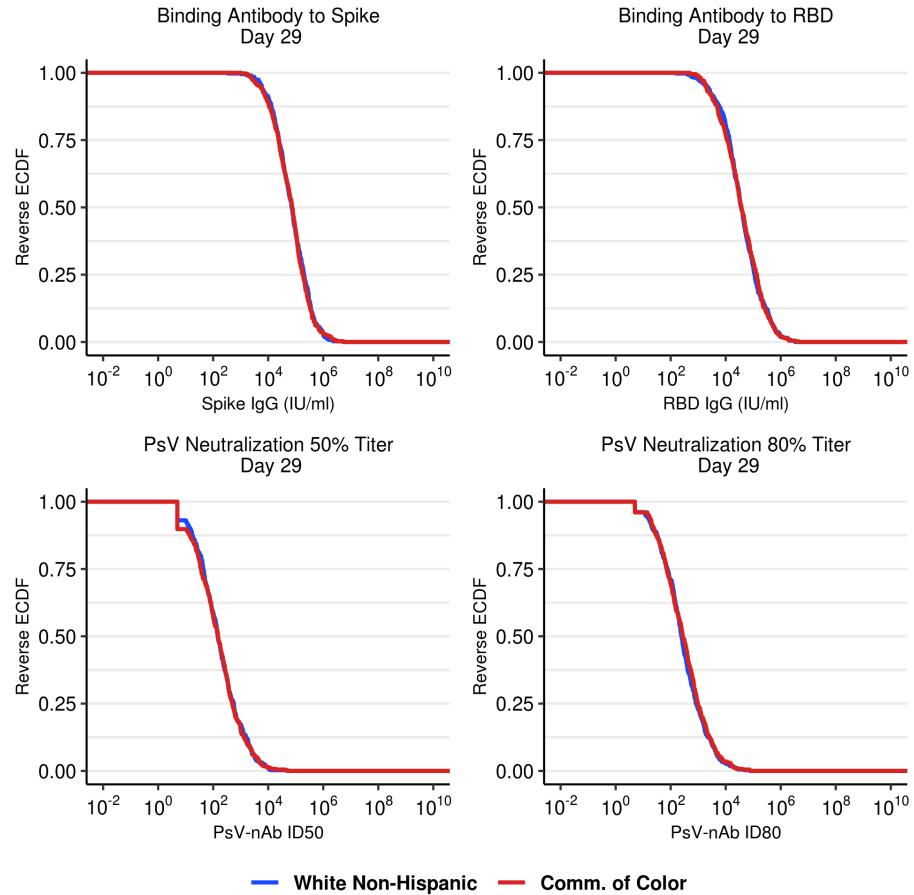


Figure 1.79: (Mock data) RCDF plots for D29 Ab markers: baseline negative vaccine arm by dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT93

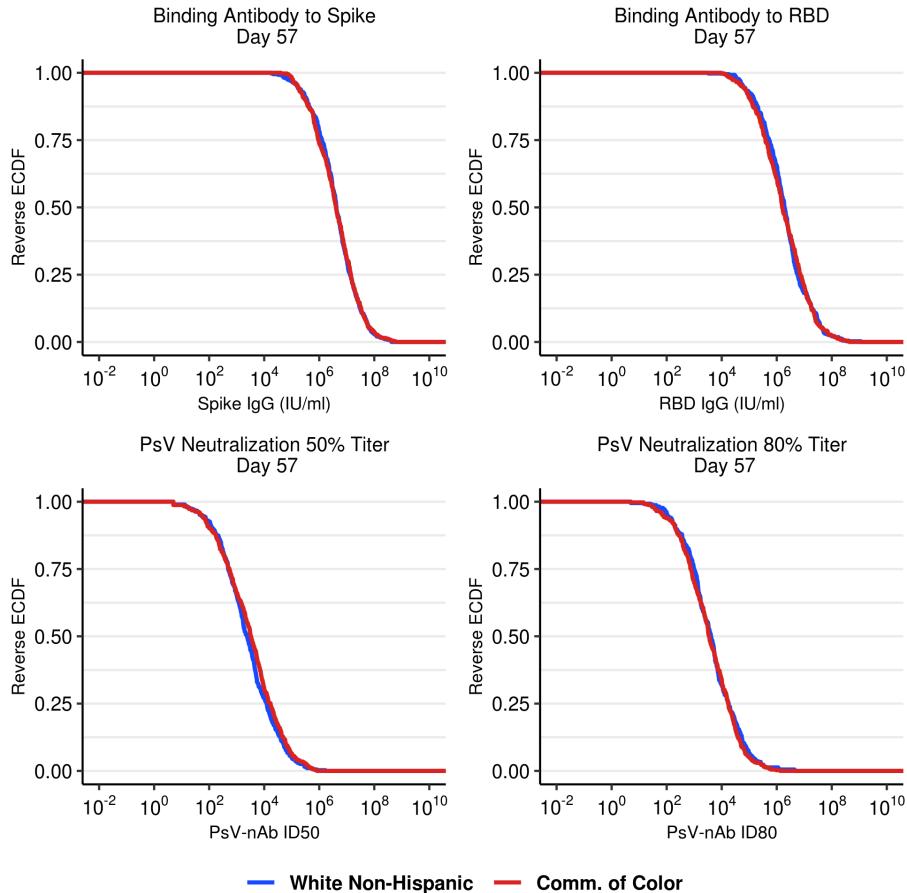


Figure 1.80: (Mock data) RCDF plots for D57 Ab markers: baseline negative vaccine arm by dichotomous classification of race and ethnic group.

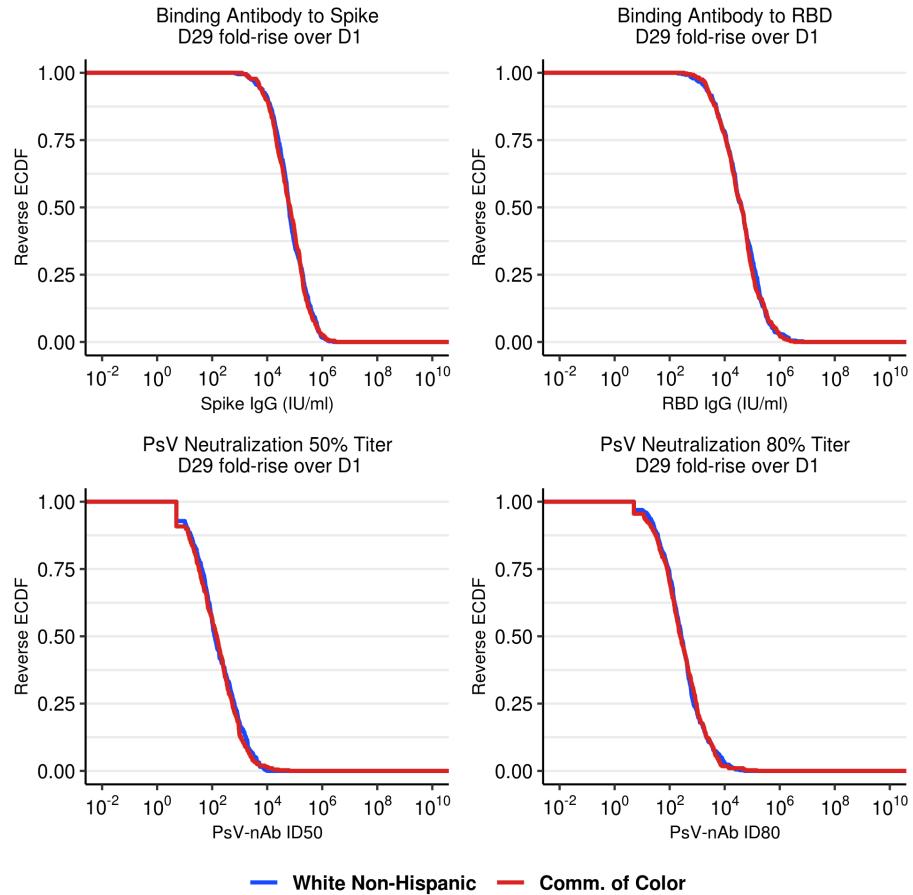


Figure 1.81: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT95

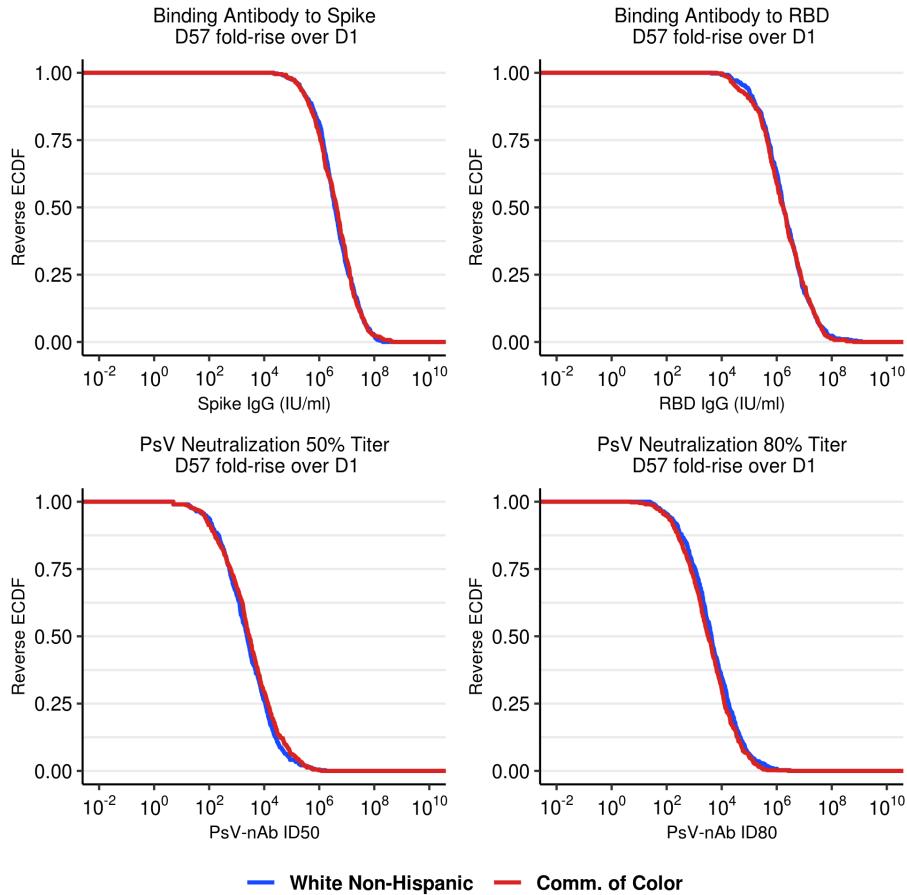


Figure 1.82: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline negative vaccine arm by dichotomous classification of race and ethnic group.

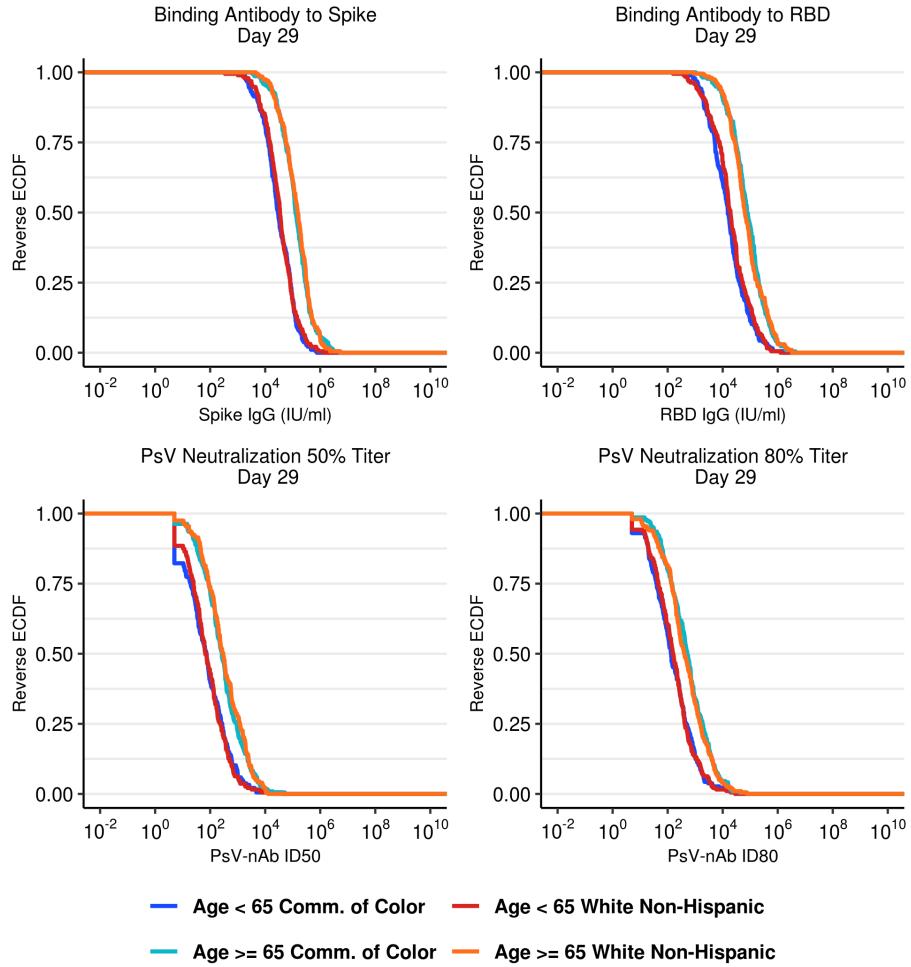


Figure 1.83: (Mock data) RCDF plots for D29 Ab markers: baseline negative vaccine arm by age and dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT97

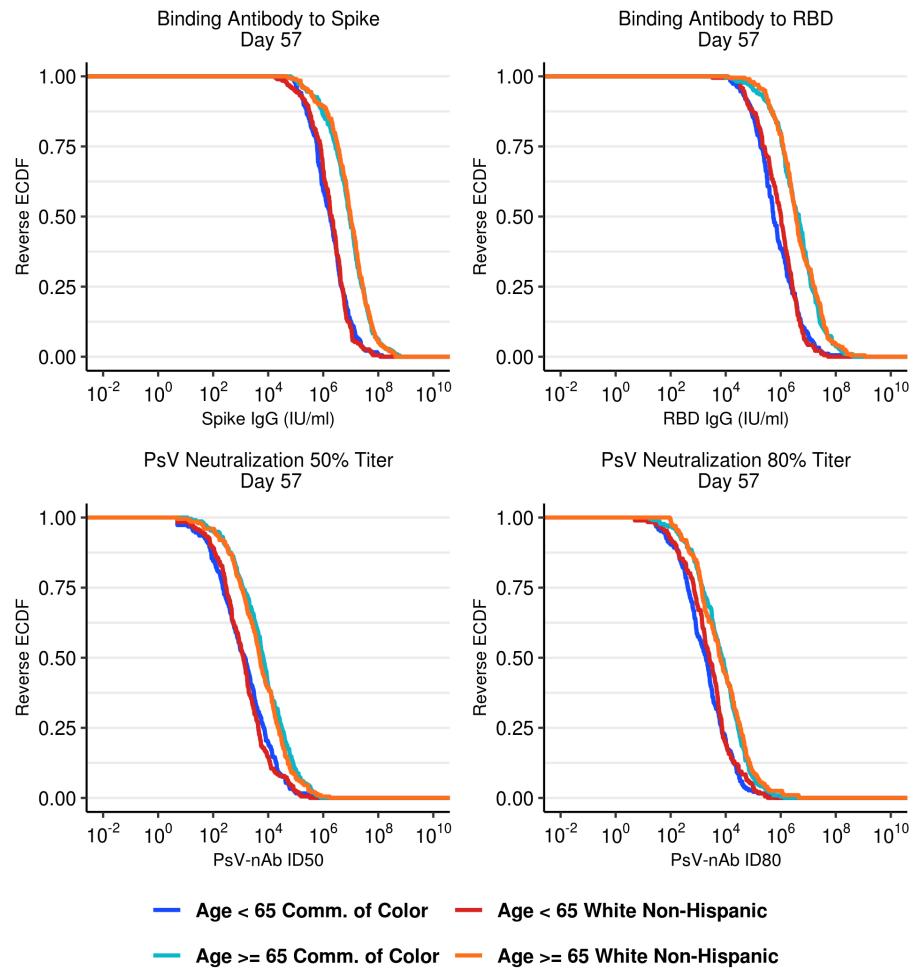


Figure 1.84: (Mock data) RCDF plots for D57 Ab markers: baseline negative vaccine arm by age and dichotomous classification of race and ethnic group.

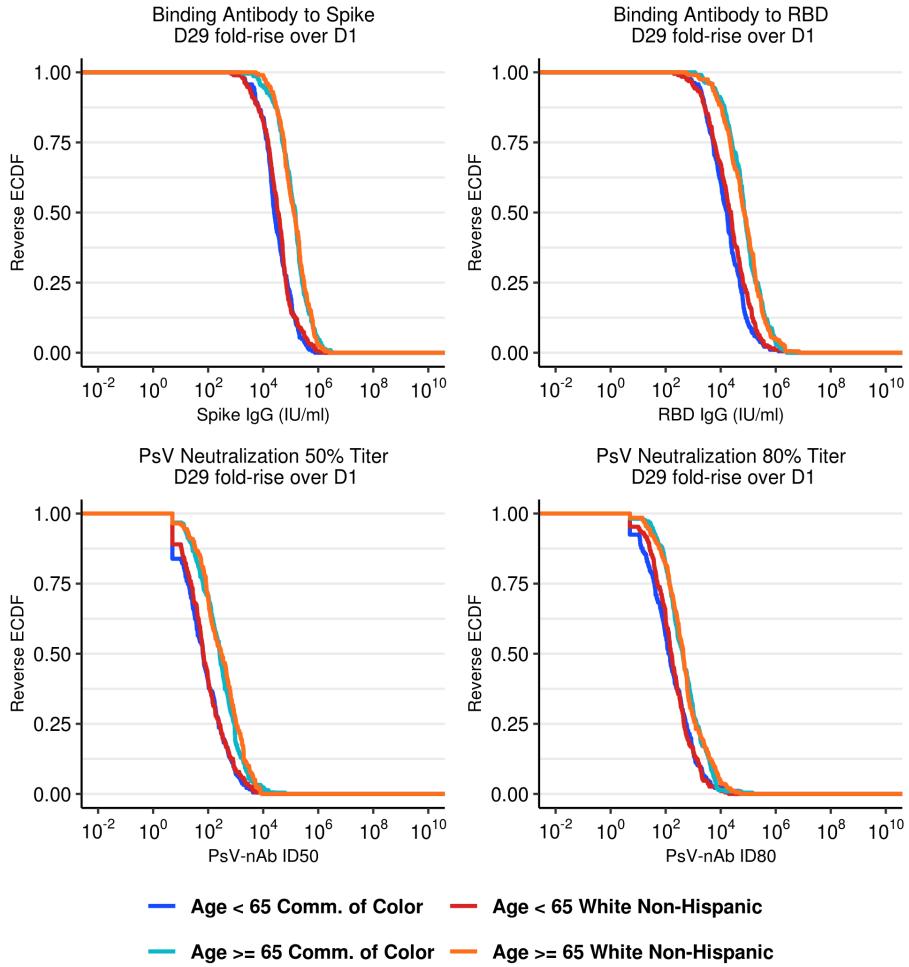


Figure 1.85: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT99

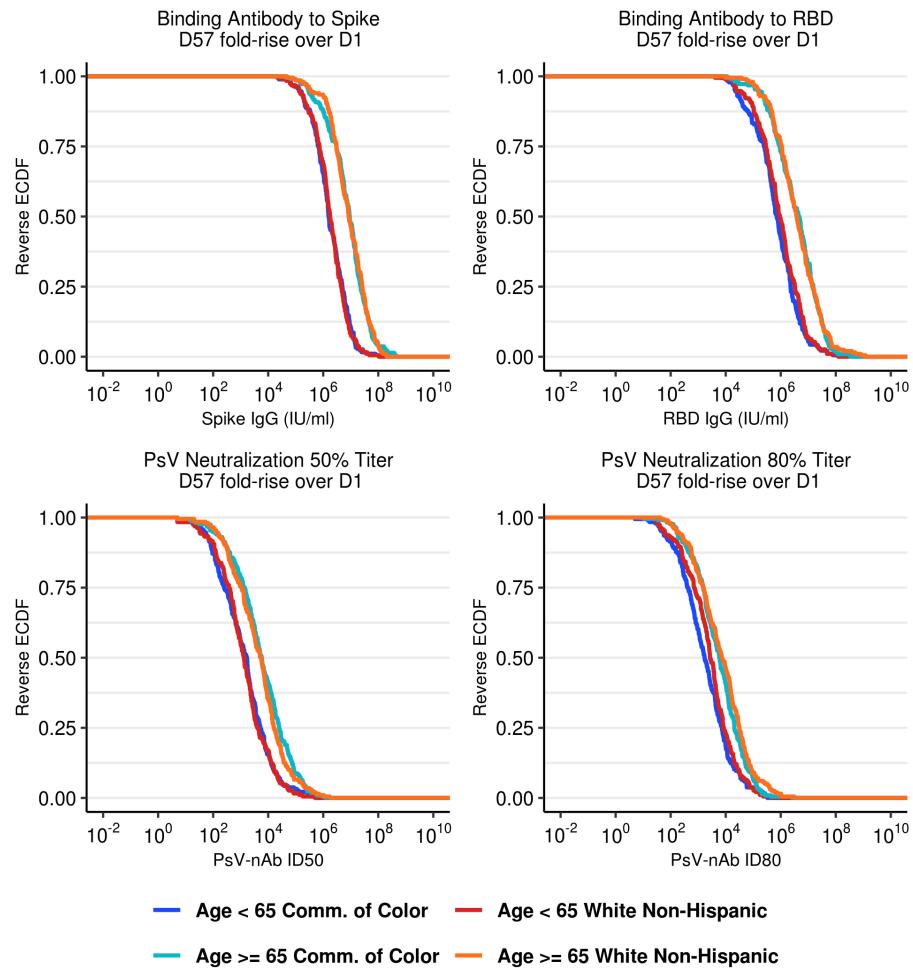


Figure 1.86: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline negative vaccine arm by age and dichotomous classification of race and ethnic group.

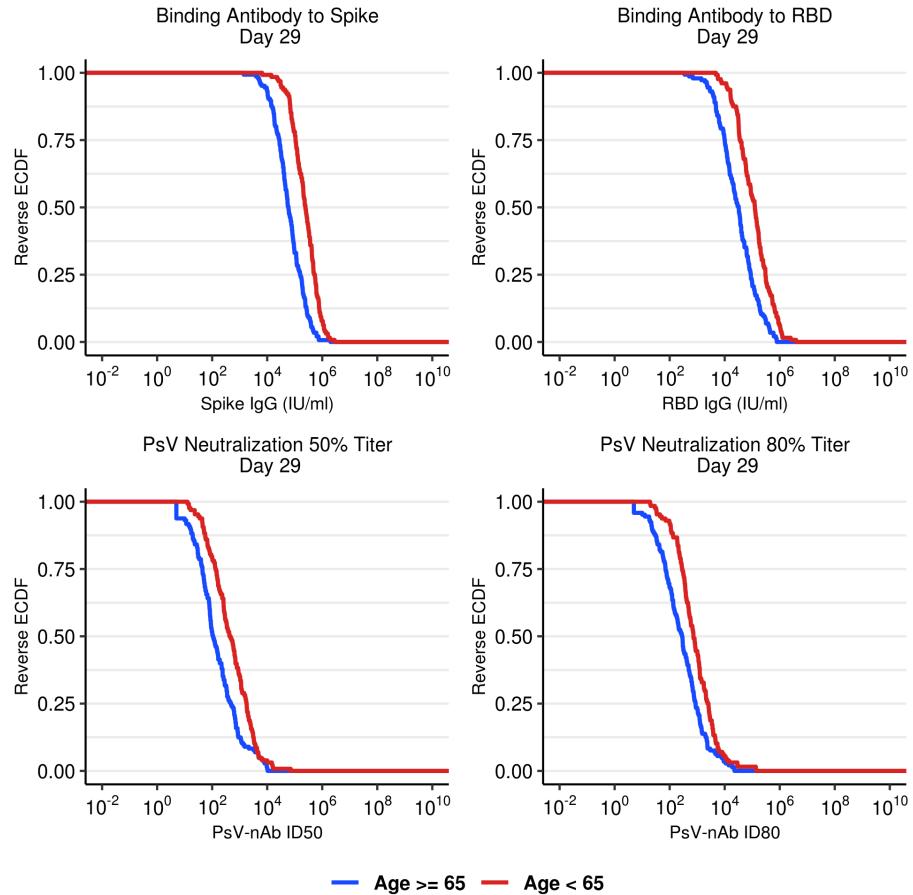


Figure 1.87: (Mock data) RCDF plots for D29 Ab markers: baseline positive vaccine arm by age groups.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT101

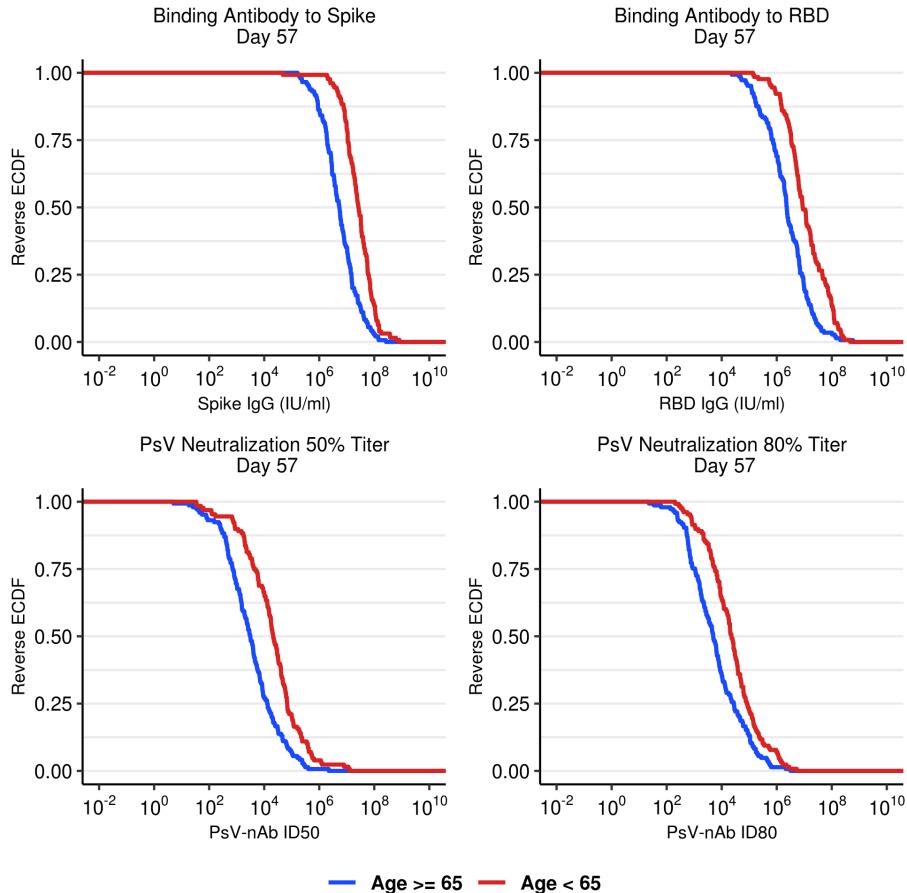


Figure 1.88: (Mock data) RCDF plots for D57 Ab markers: baseline positive vaccine arm by age groups.

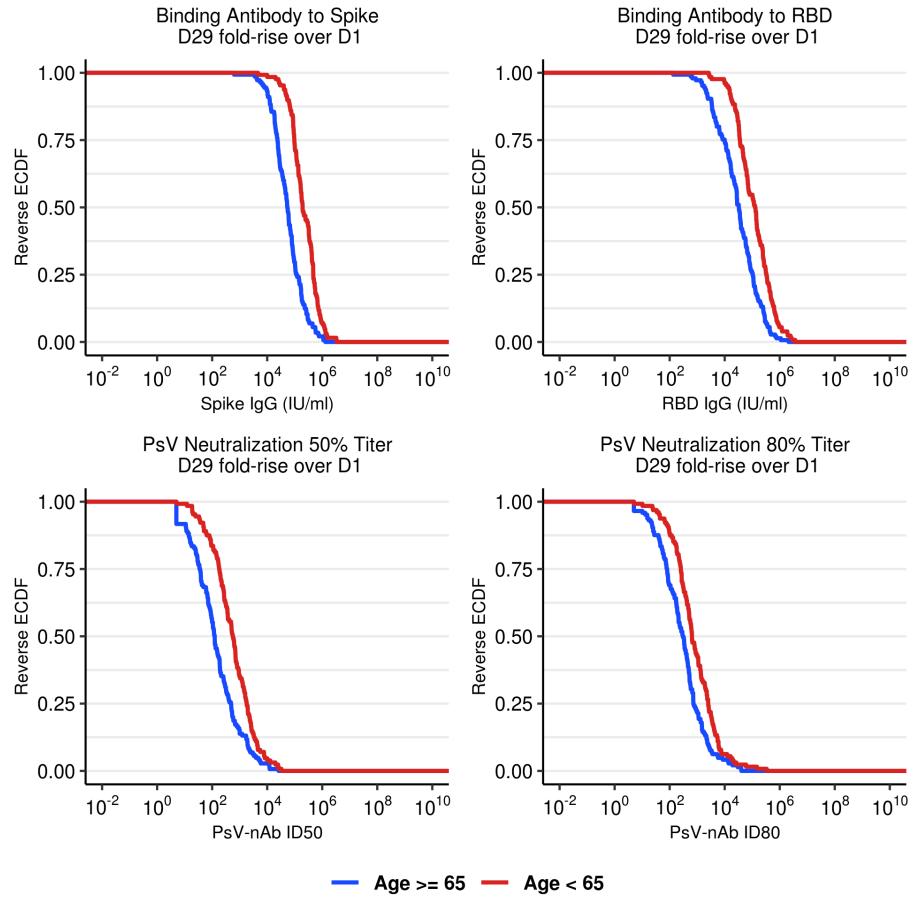


Figure 1.89: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age groups.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT103

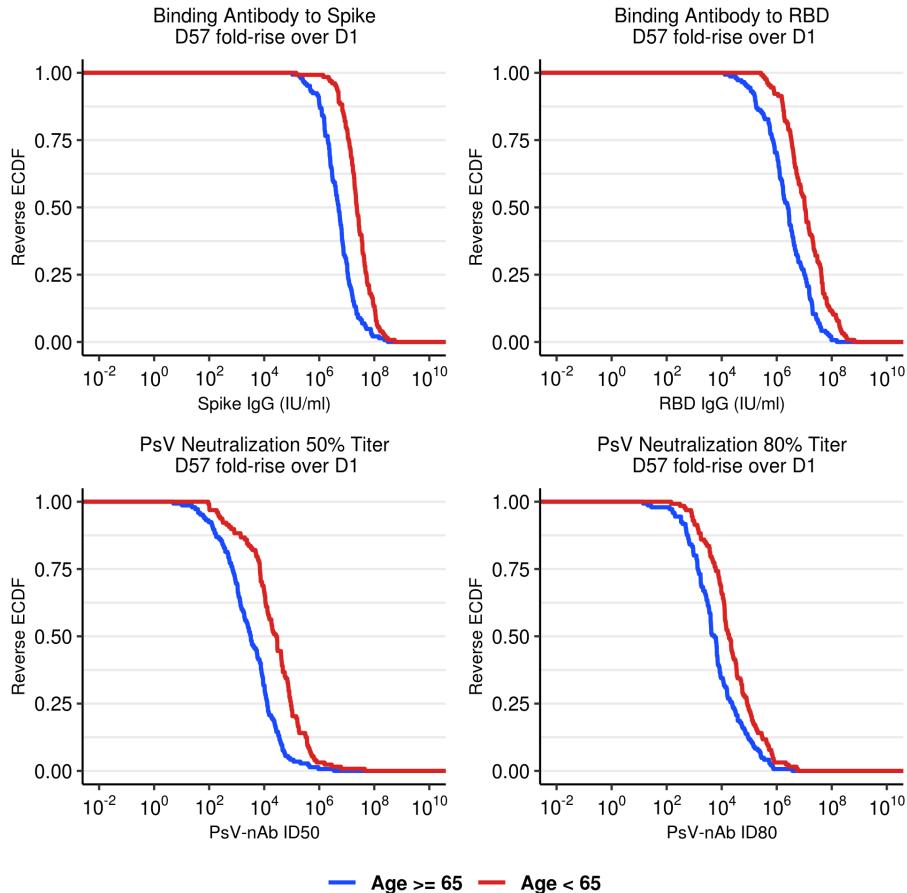


Figure 1.90: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by age groups.

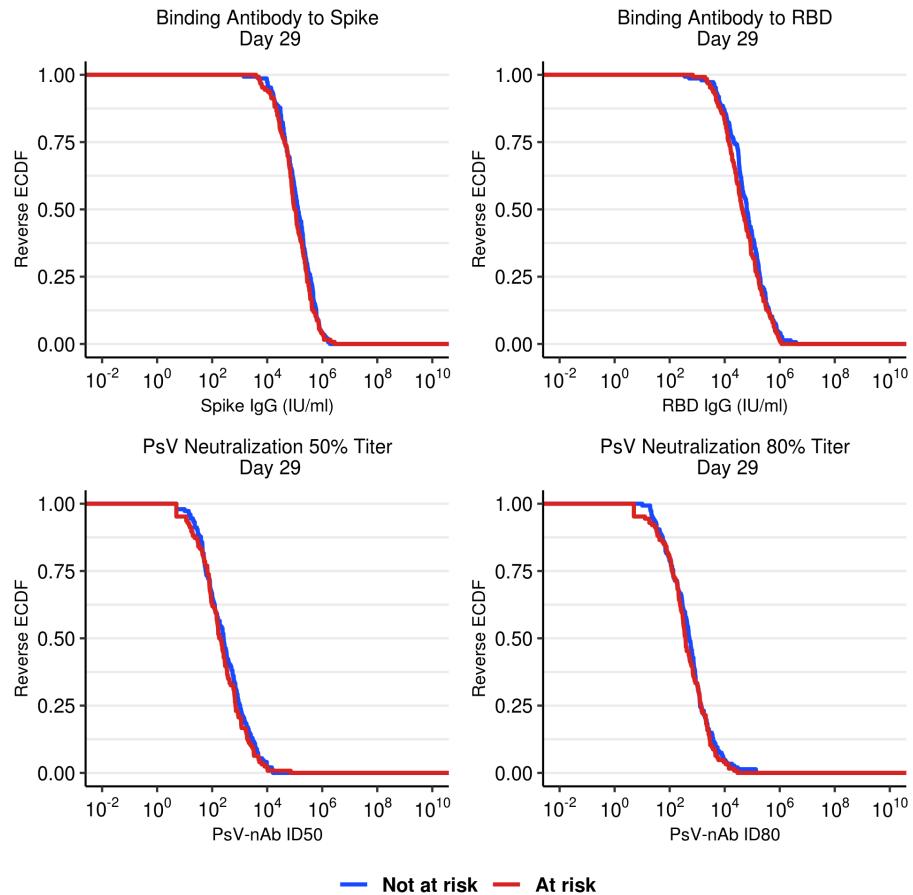


Figure 1.91: (Mock data) RCDF plots for D29 Ab markers: baseline positive vaccine arm by high-risk condition.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT105

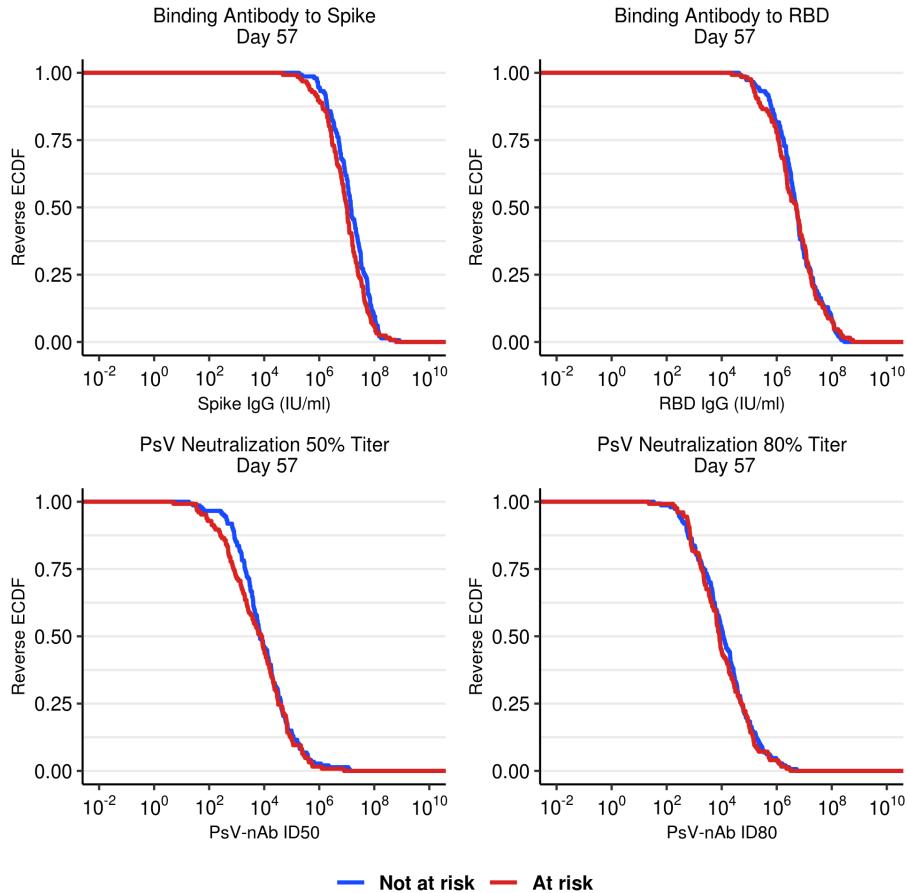


Figure 1.92: (Mock data) RCDF plots for D57 Ab markers: baseline positive vaccine arm by high-risk condition.

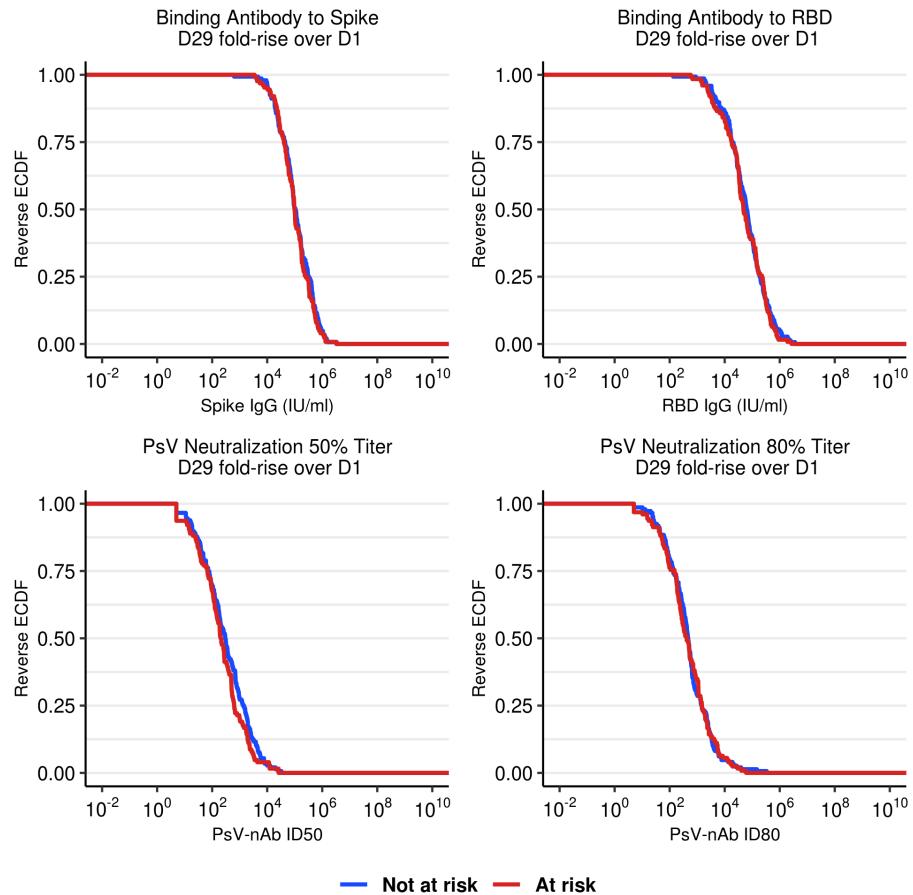


Figure 1.93: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by high-risk condition.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT107

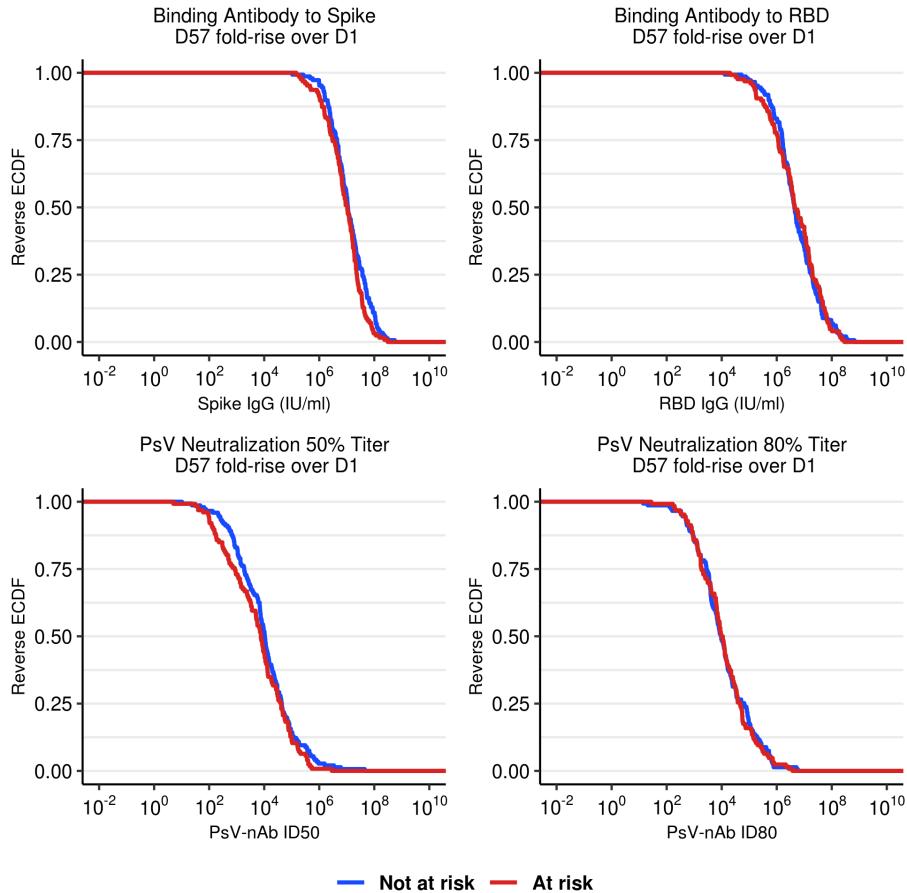


Figure 1.94: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by high-risk condition.

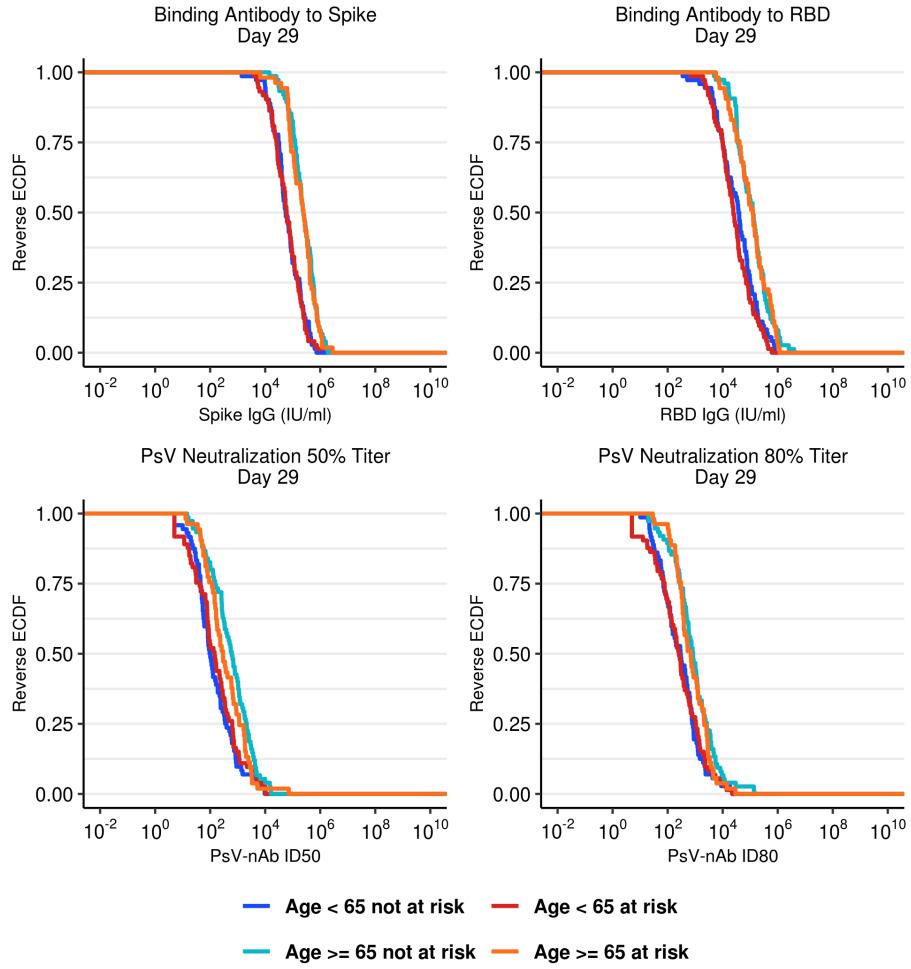


Figure 1.95: (Mock data) RCDF plots for D29 Ab markers: baseline positive vaccine arm by age and high-risk condition.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT109

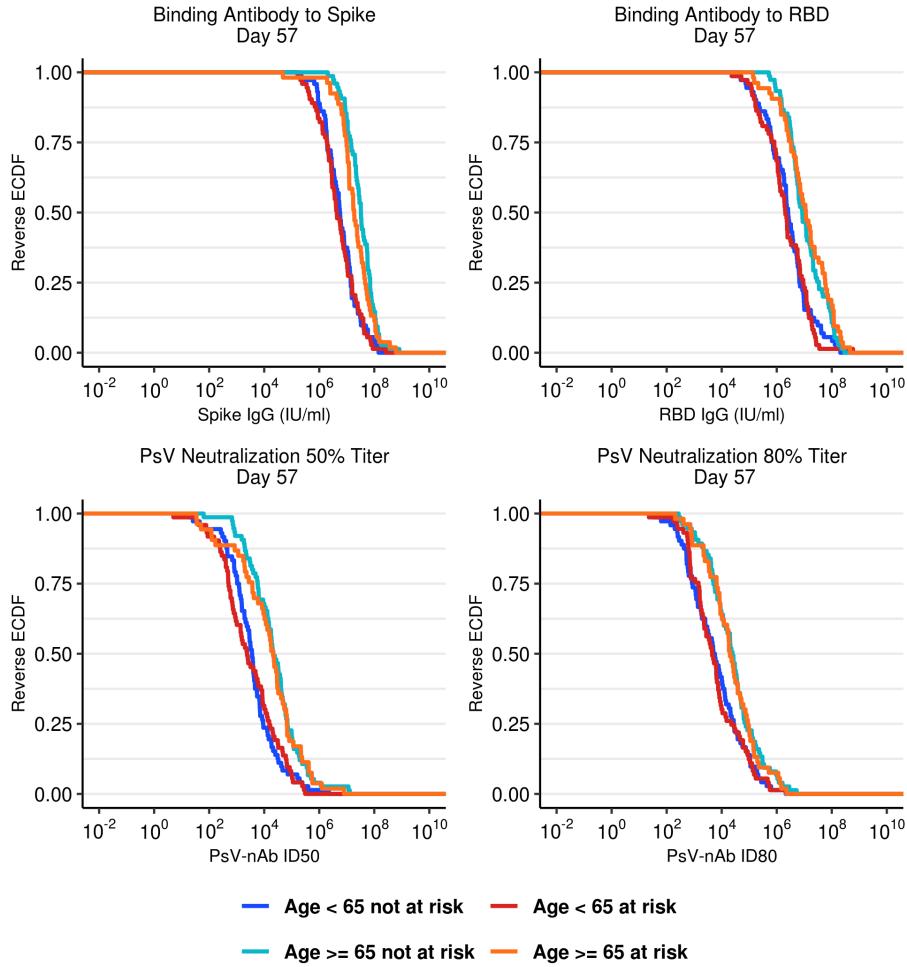


Figure 1.96: (Mock data) RCDF plots for D57 Ab markers: baseline positive vaccine arm by age and high-risk condition.

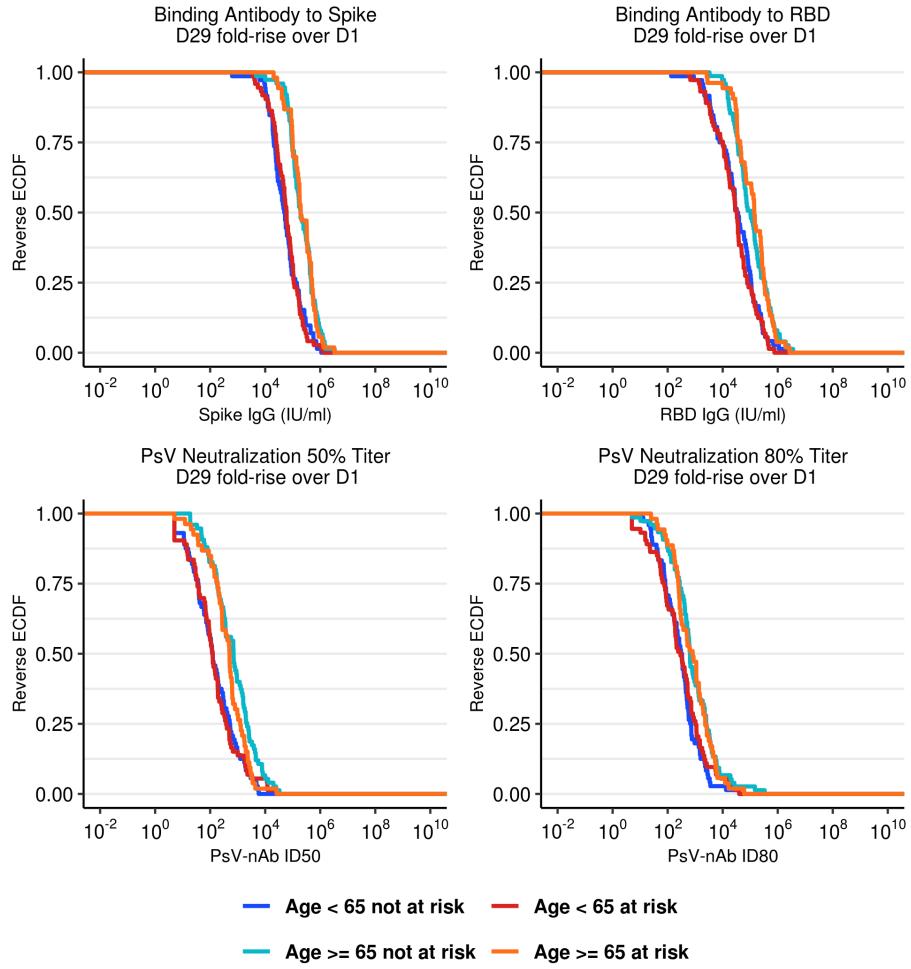


Figure 1.97: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and high-risk condition.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT111

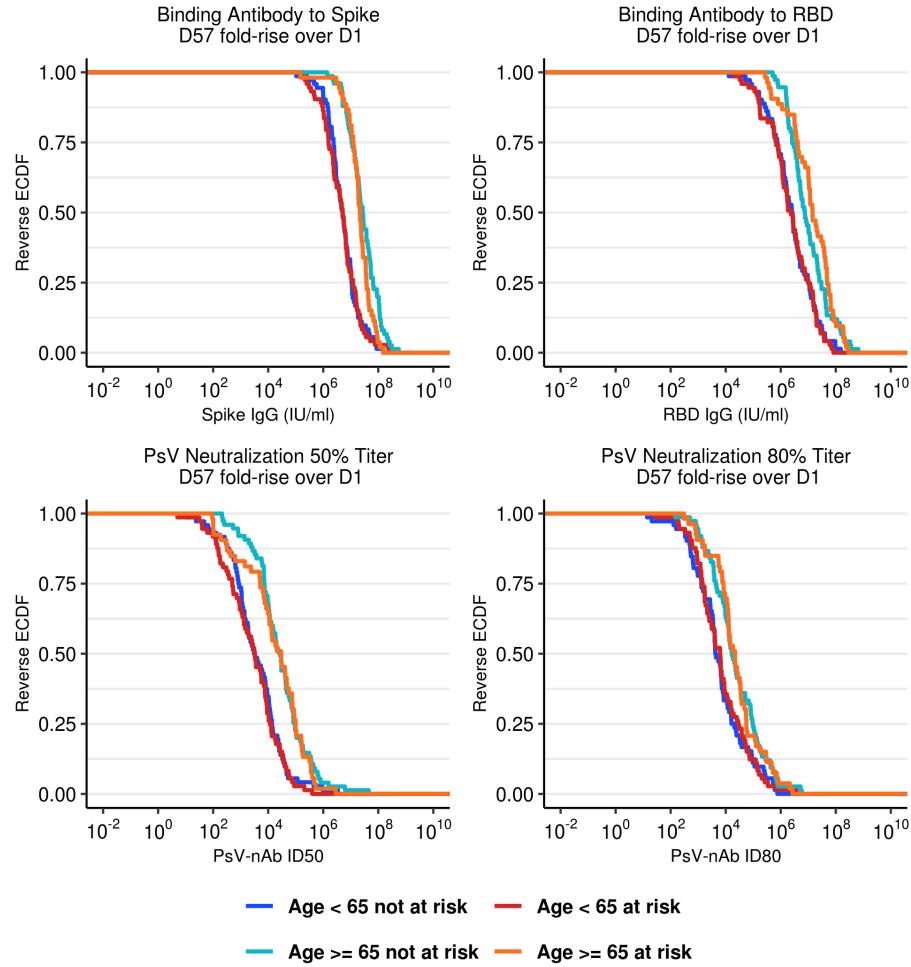


Figure 1.98: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and high-risk condition.

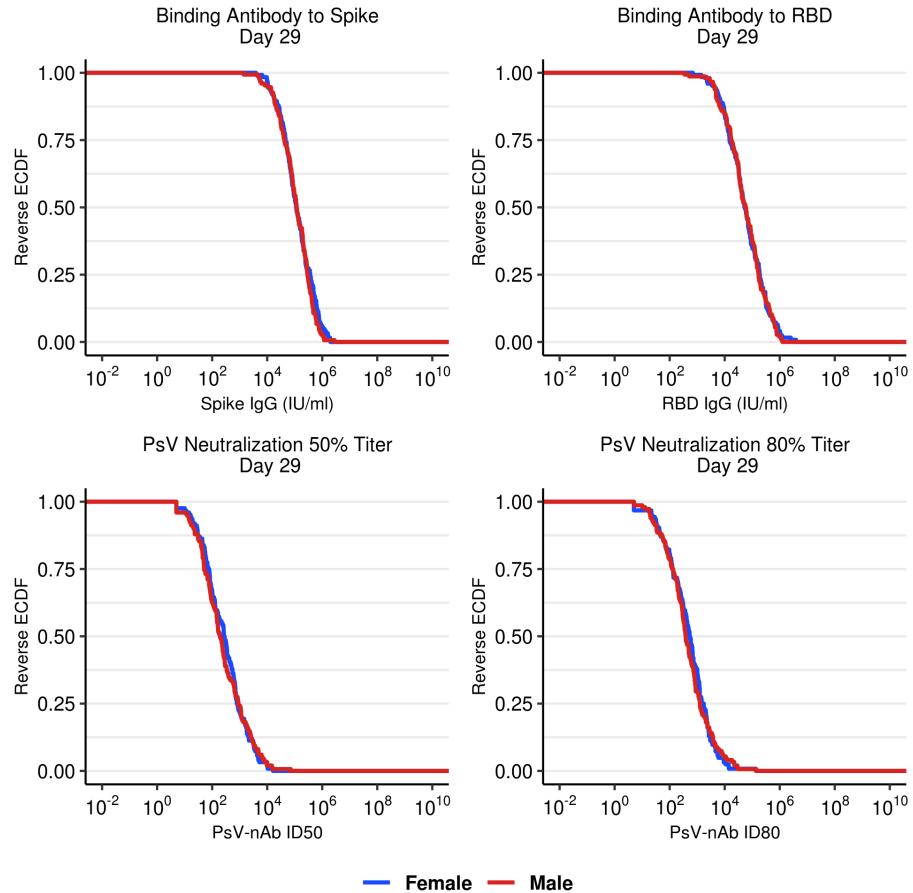


Figure 1.99: (Mock data) RCDF plots for D29 Ab markers: baseline positive vaccine arm by sex assigned at birth.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT113

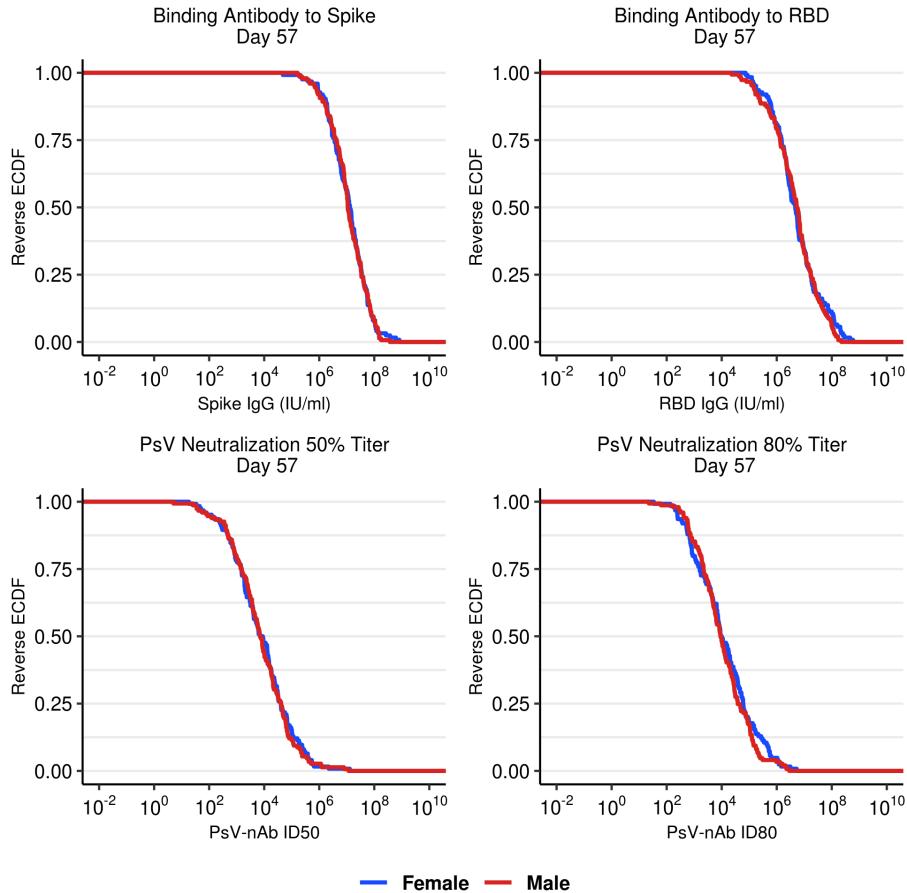


Figure 1.100: (Mock data) RCDF plots for D57 Ab markers: baseline positive vaccine arm by sex assigned at birth.

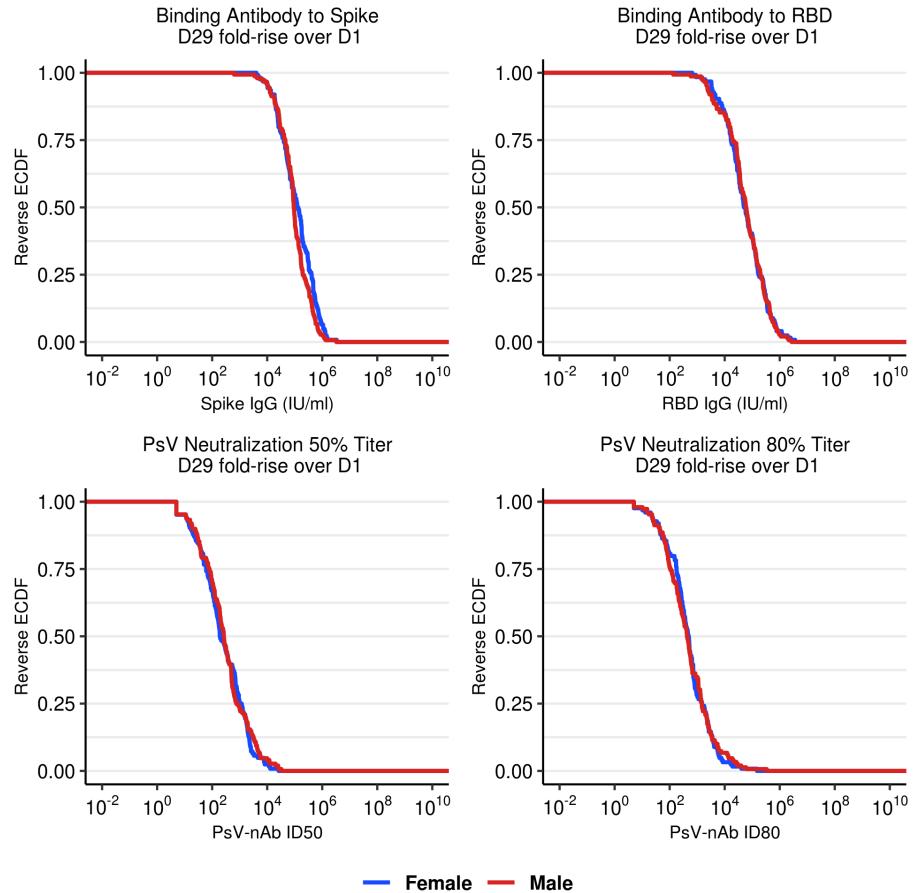


Figure 1.101: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by sex assigned at birth.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT115

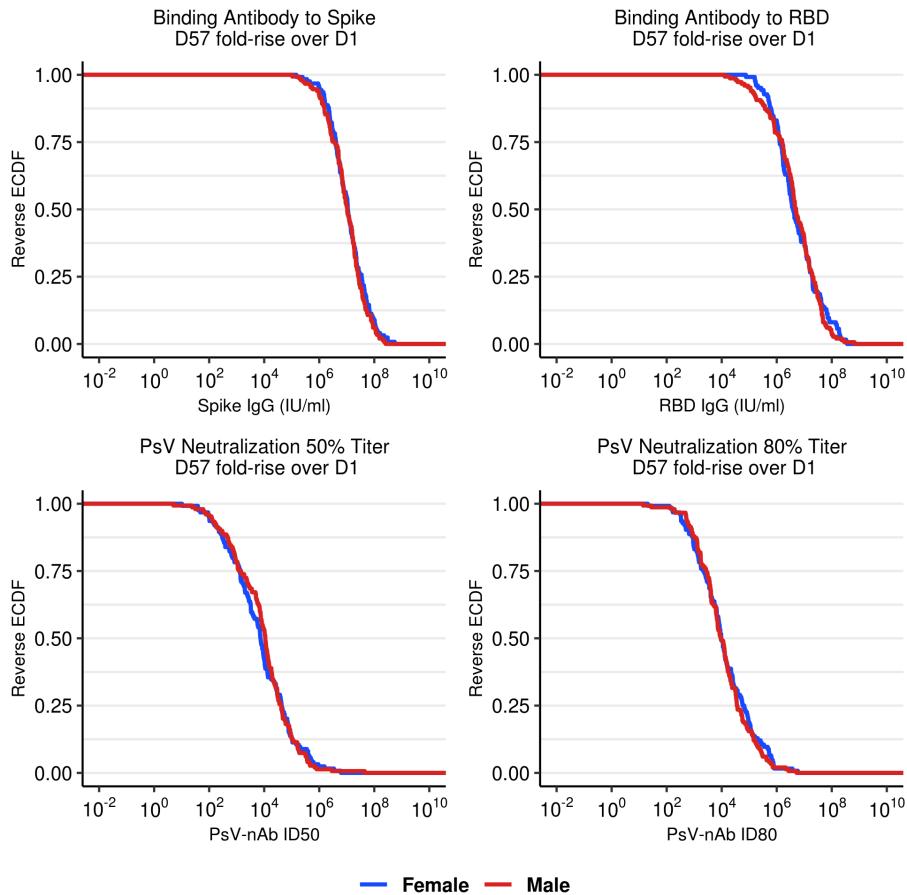


Figure 1.102: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by sex assigned at birth.

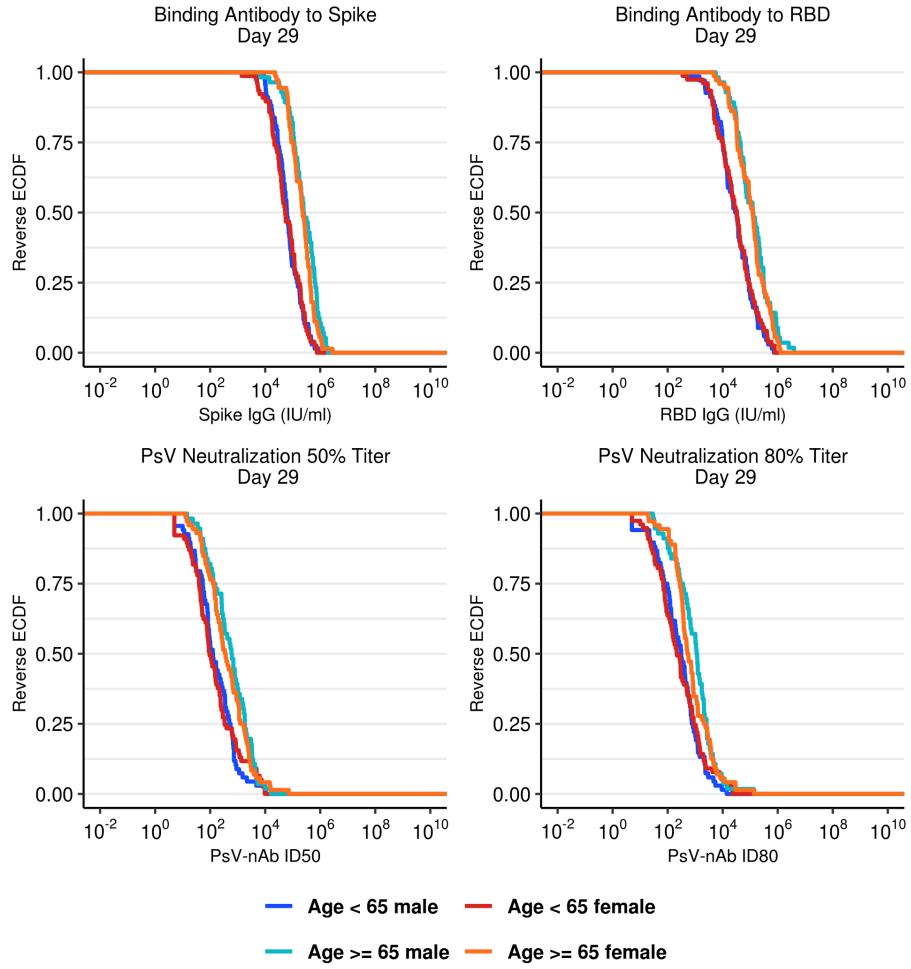


Figure 1.103: (Mock data) RCDF plots for D29 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT117

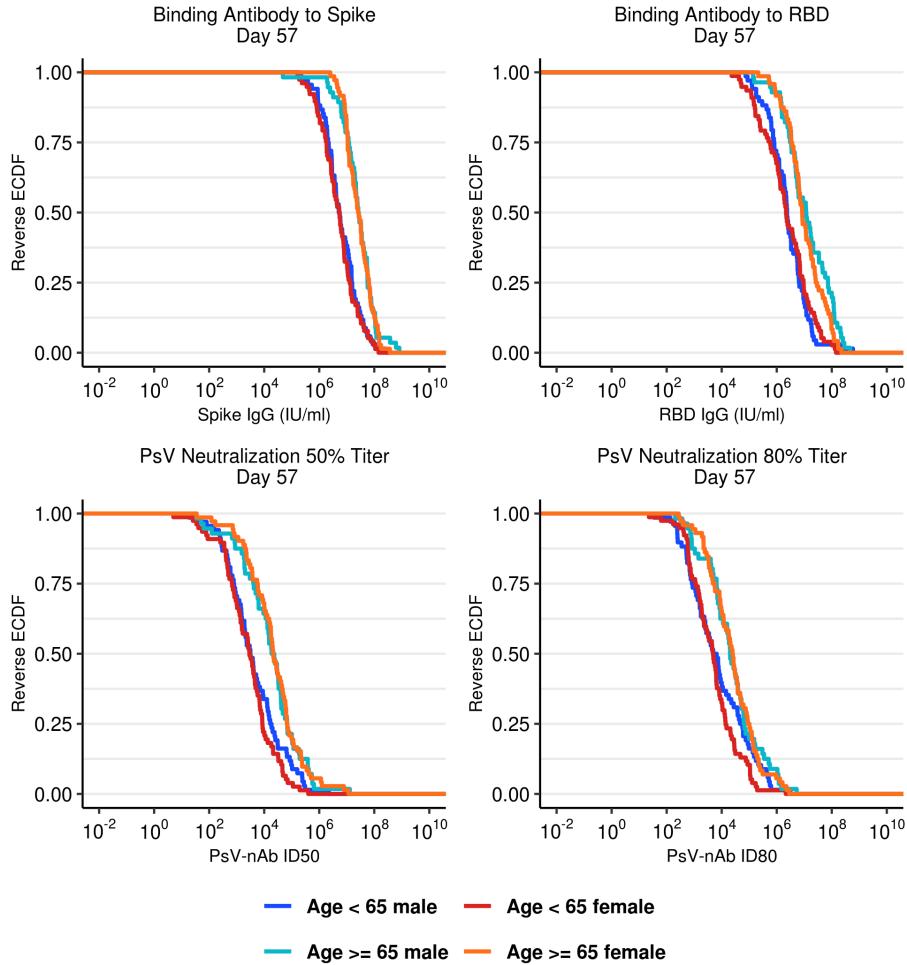


Figure 1.104: (Mock data) RCDF plots for D57 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

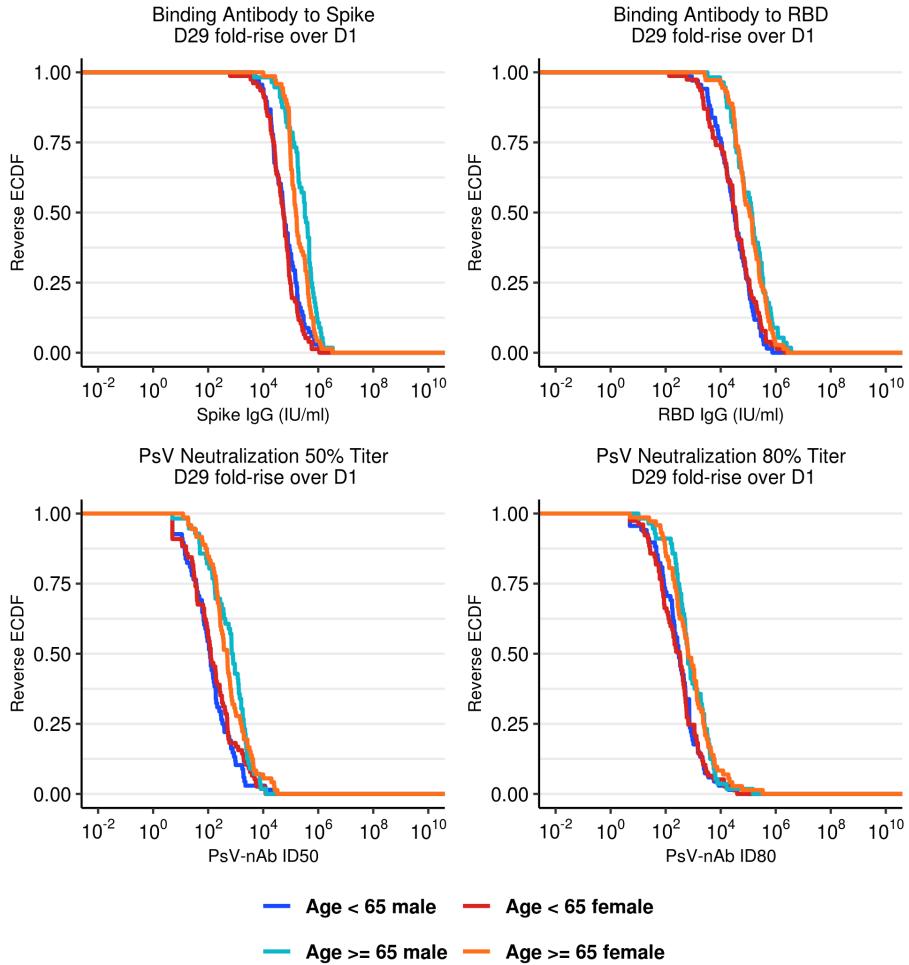


Figure 1.105: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT119

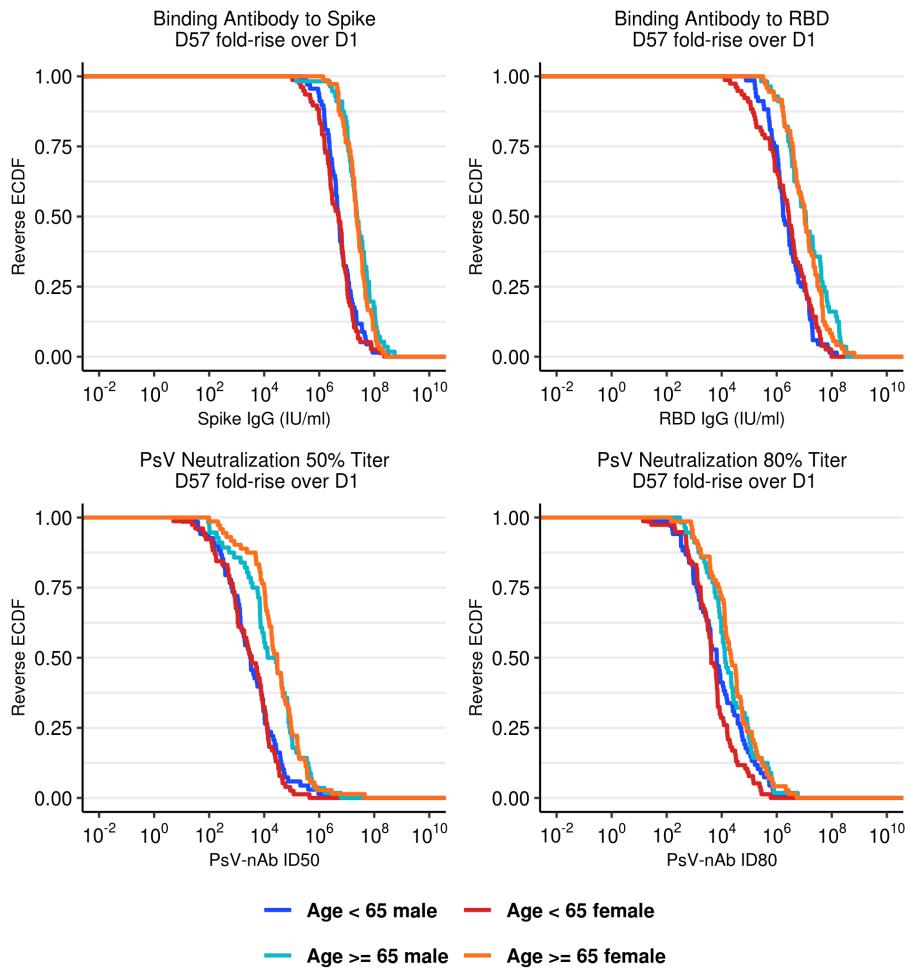


Figure 1.106: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

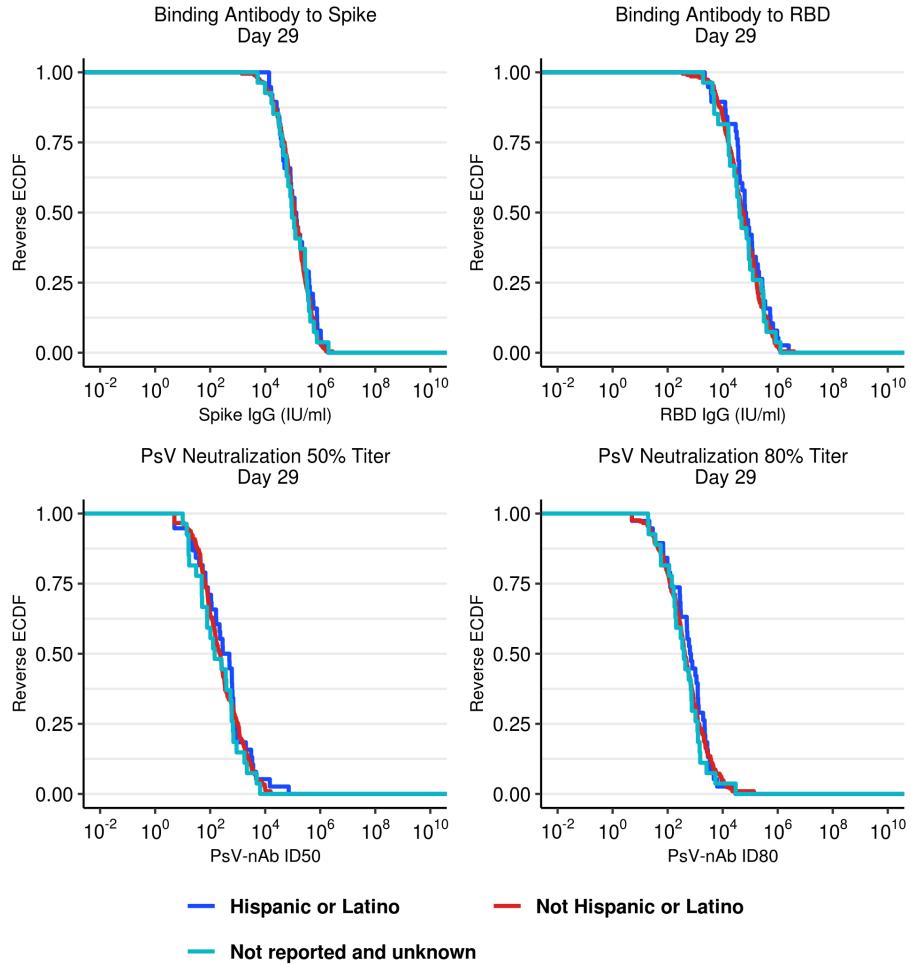


Figure 1.107: (Mock data) RCDF plots for D29 Ab markers: baseline positive vaccine arm by ethnicity.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT121

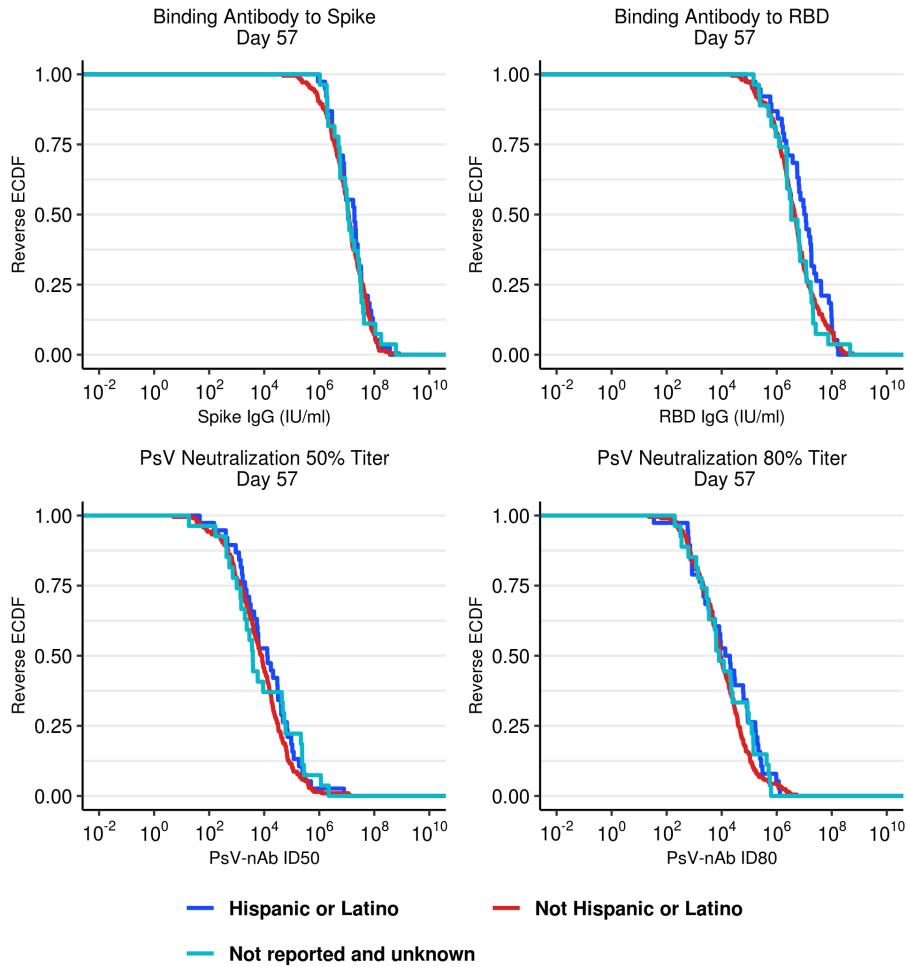


Figure 1.108: (Mock data) RCDF plots for D57 Ab markers: baseline positive vaccine arm by ethnicity.

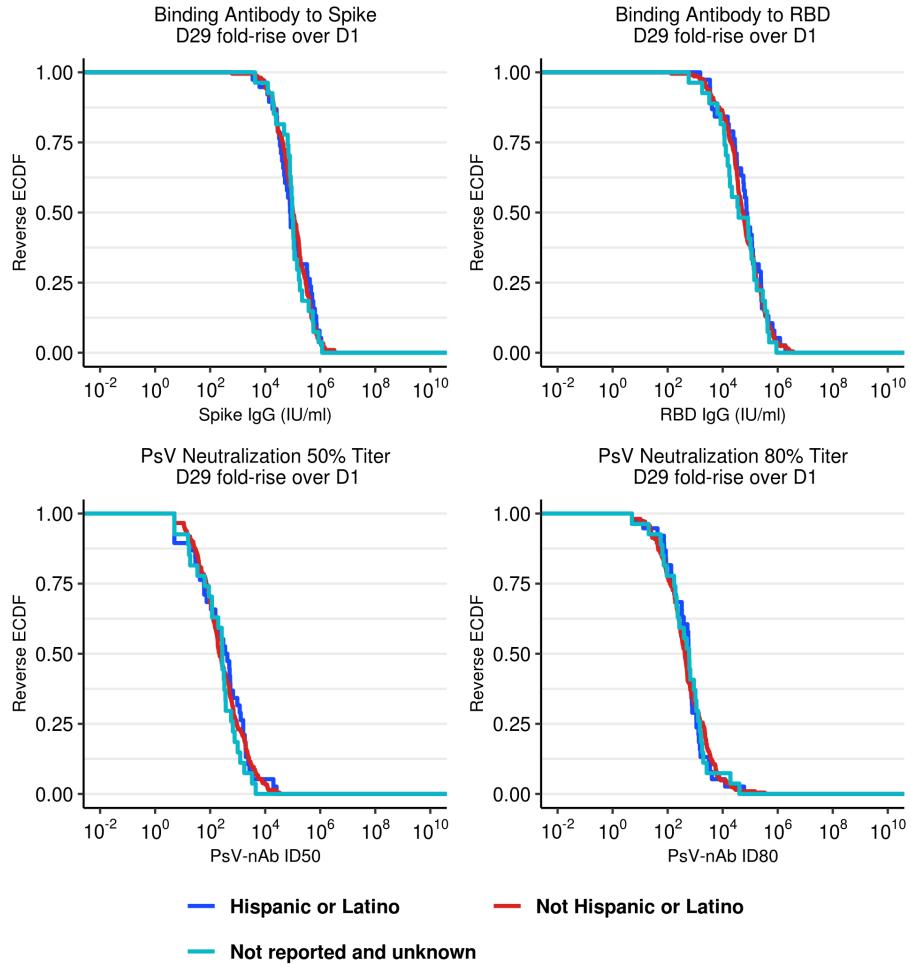


Figure 1.109: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by ethnicity.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT123

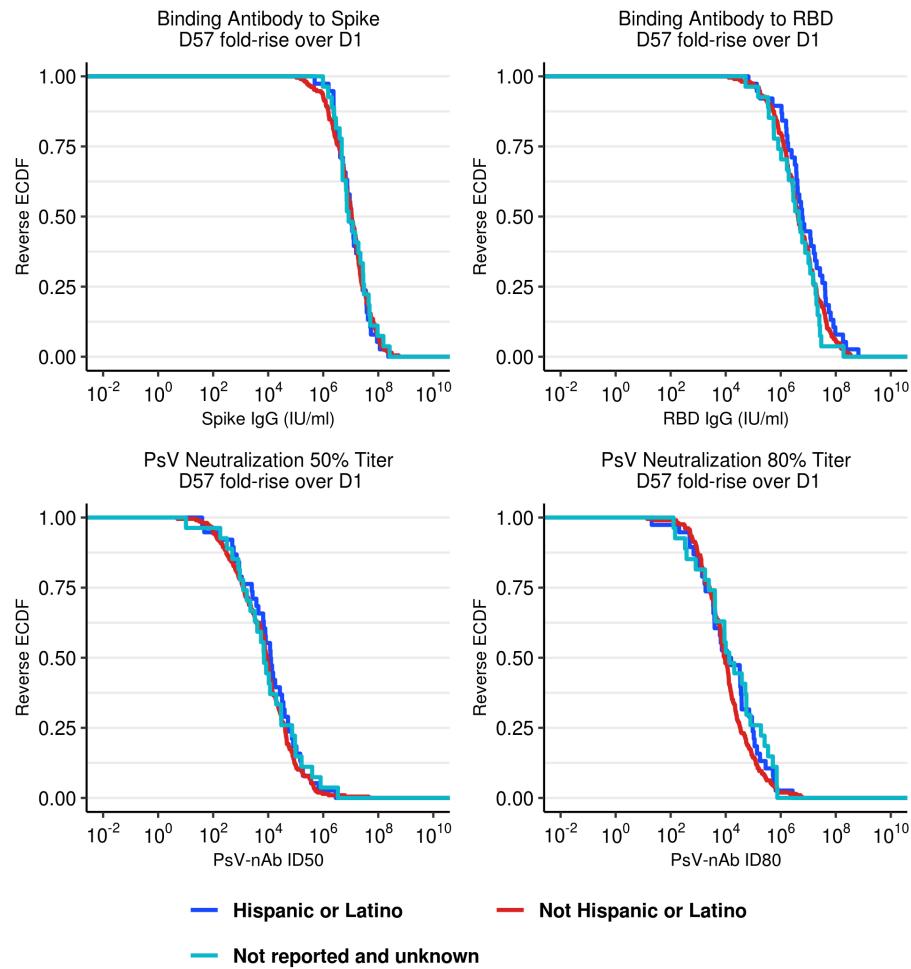


Figure 1.110: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by ethnicity.

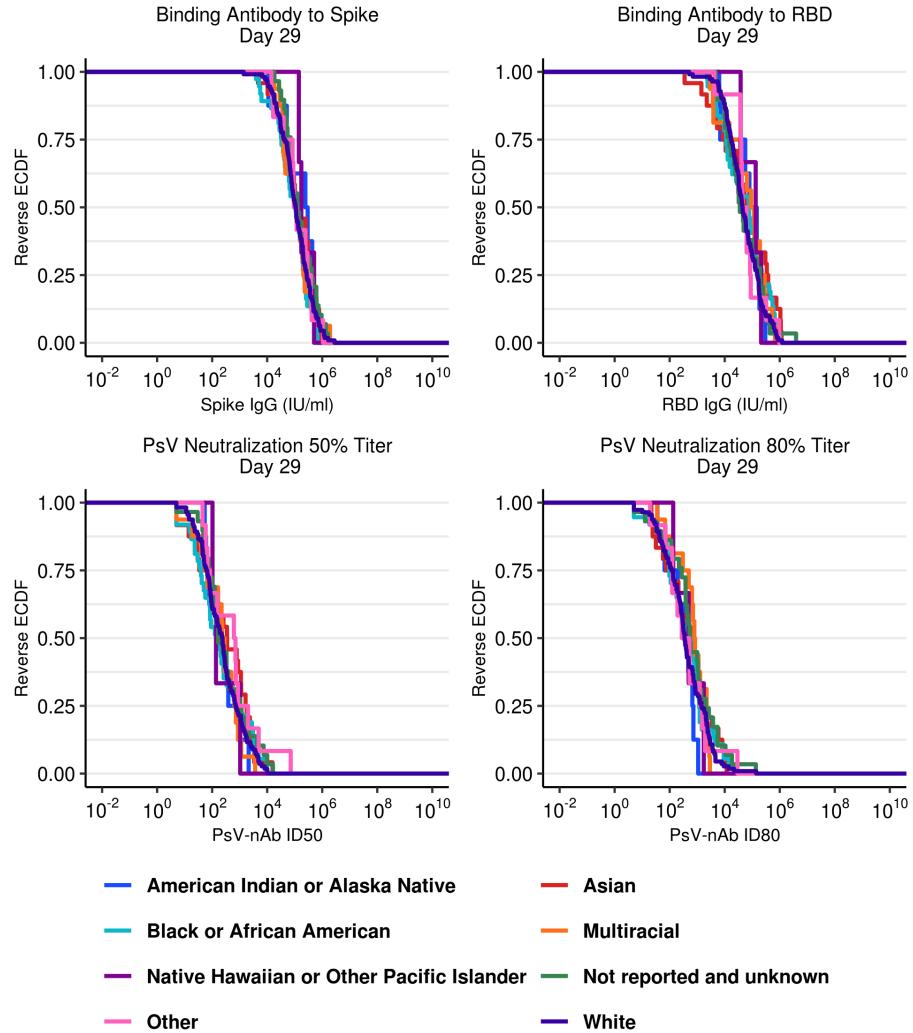


Figure 1.111: (Mock data) RCDF plots for D29 Ab markers: baseline positive vaccine arm by race.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT125

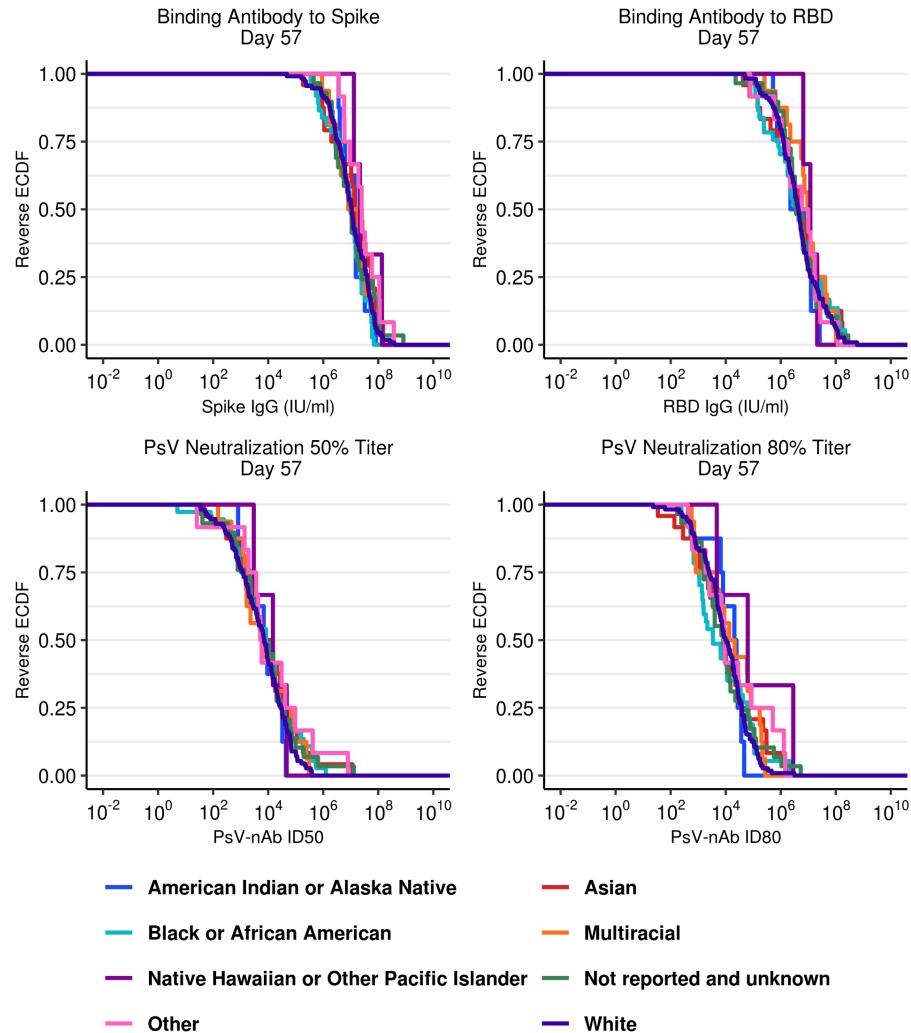


Figure 1.112: (Mock data) RCDF plots for D57 Ab markers: baseline positive vaccine arm by race.

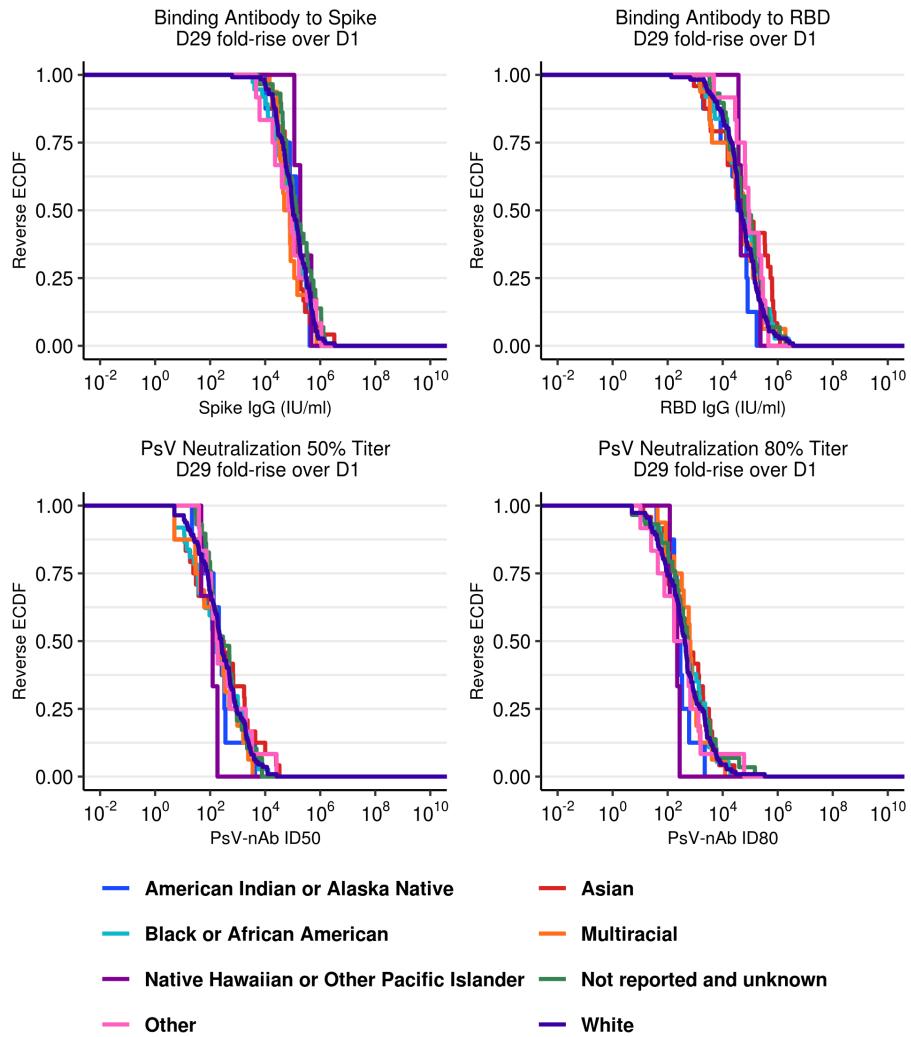


Figure 1.113: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by race.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT127

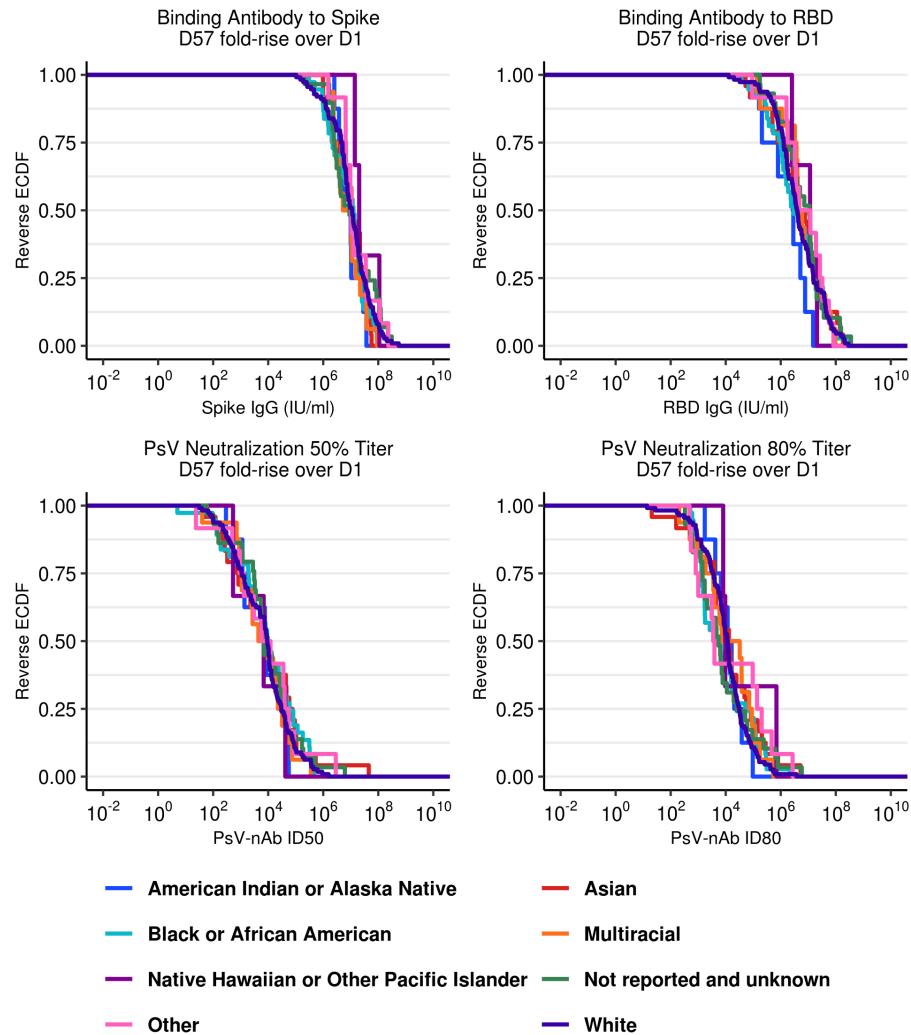


Figure 1.114: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by race.

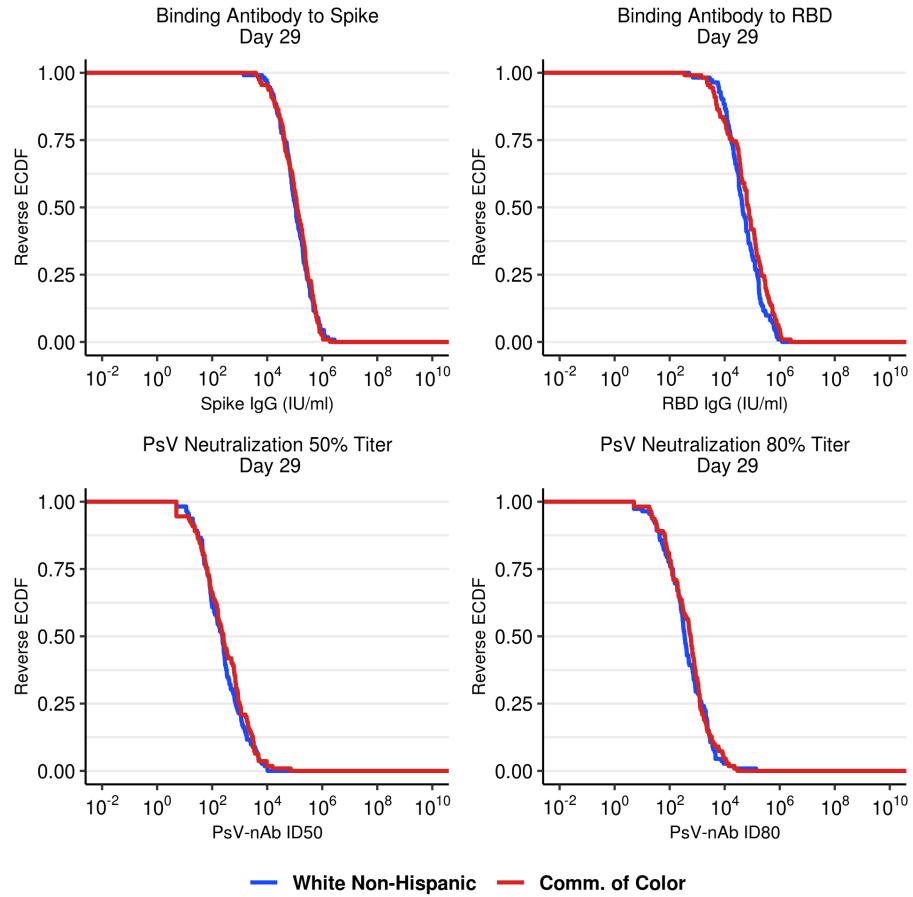


Figure 1.115: (Mock data) RCDF plots for D29 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT129

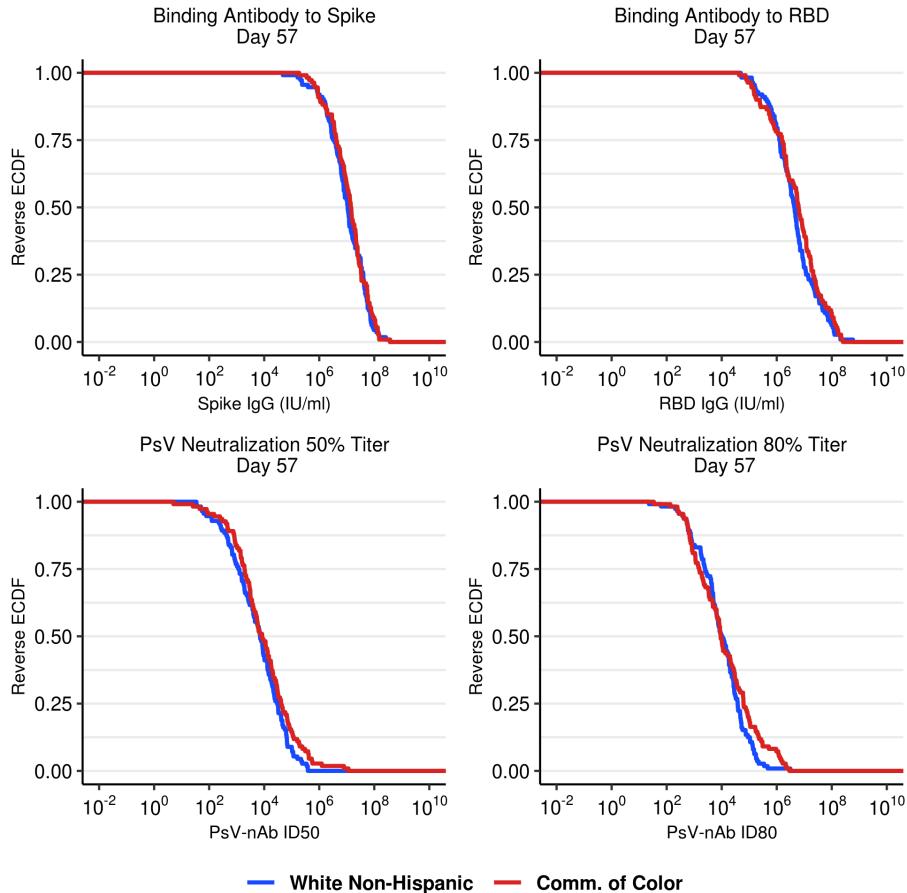


Figure 1.116: (Mock data) RCDF plots for D57 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group.

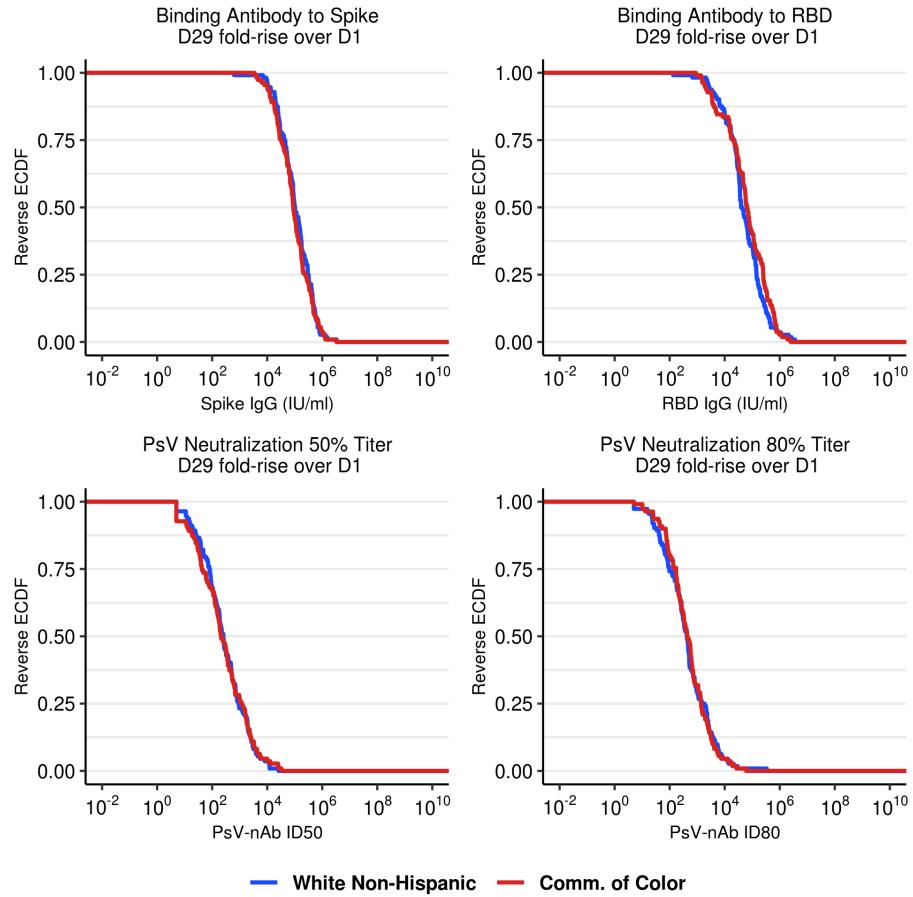


Figure 1.117: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT131

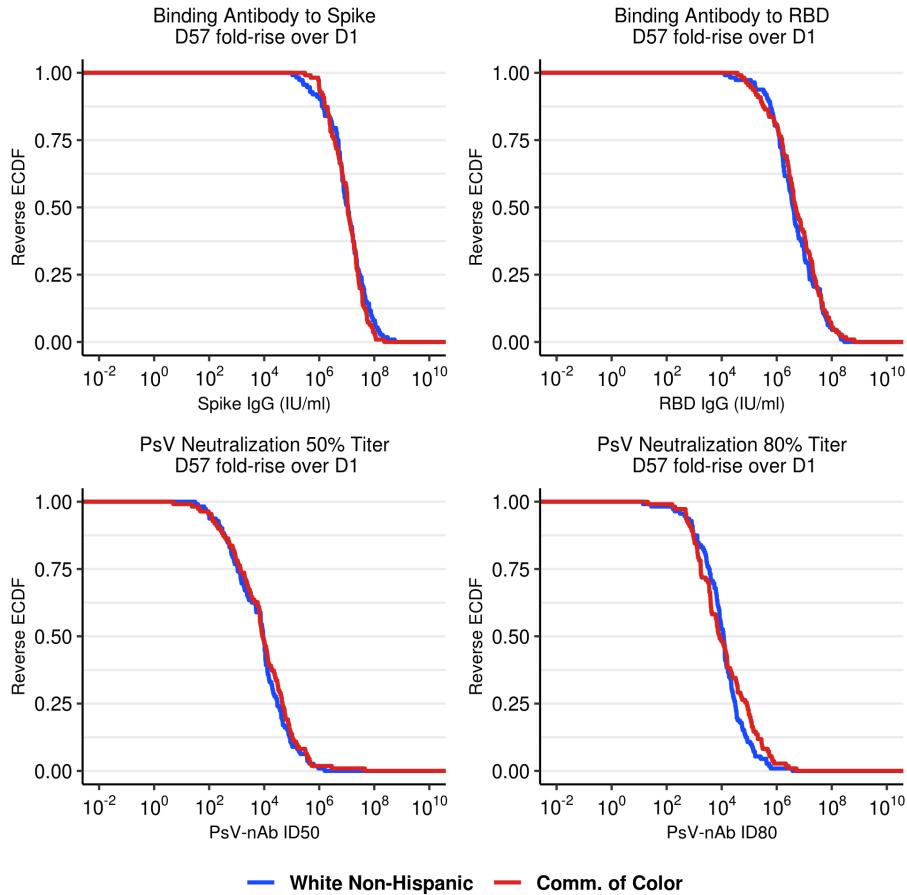


Figure 1.118: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group.

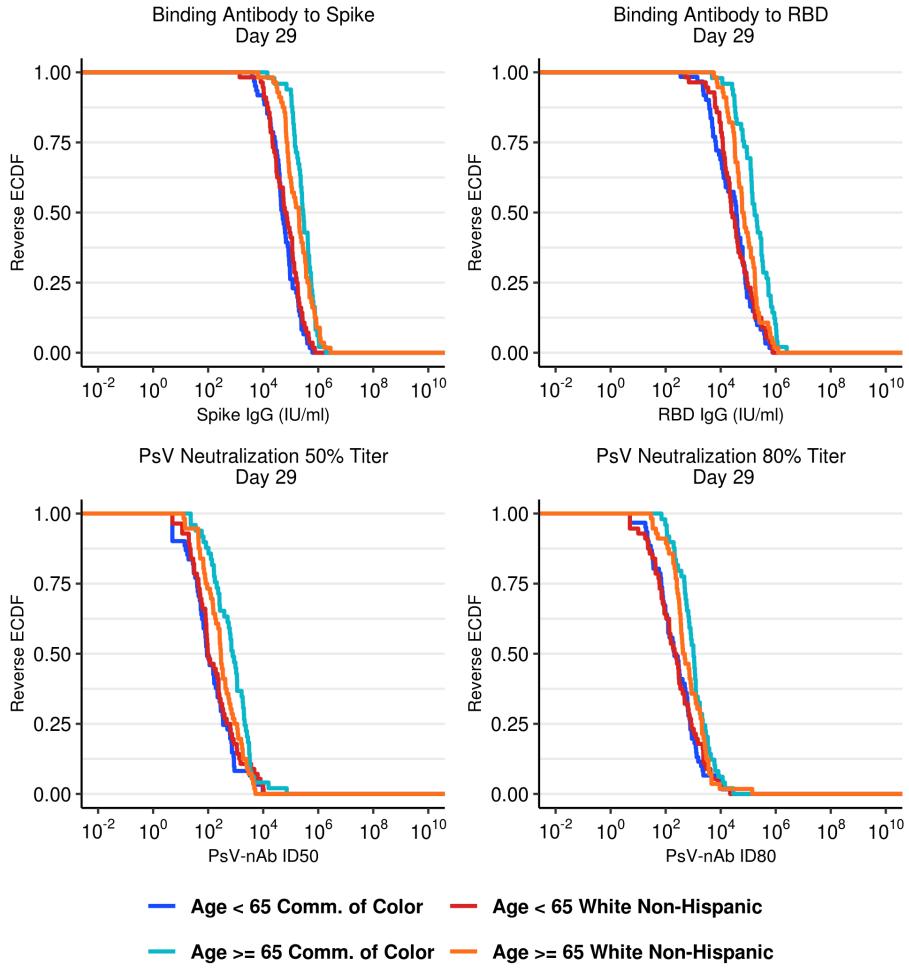


Figure 1.119: (Mock data) RCDF plots for D29 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT133

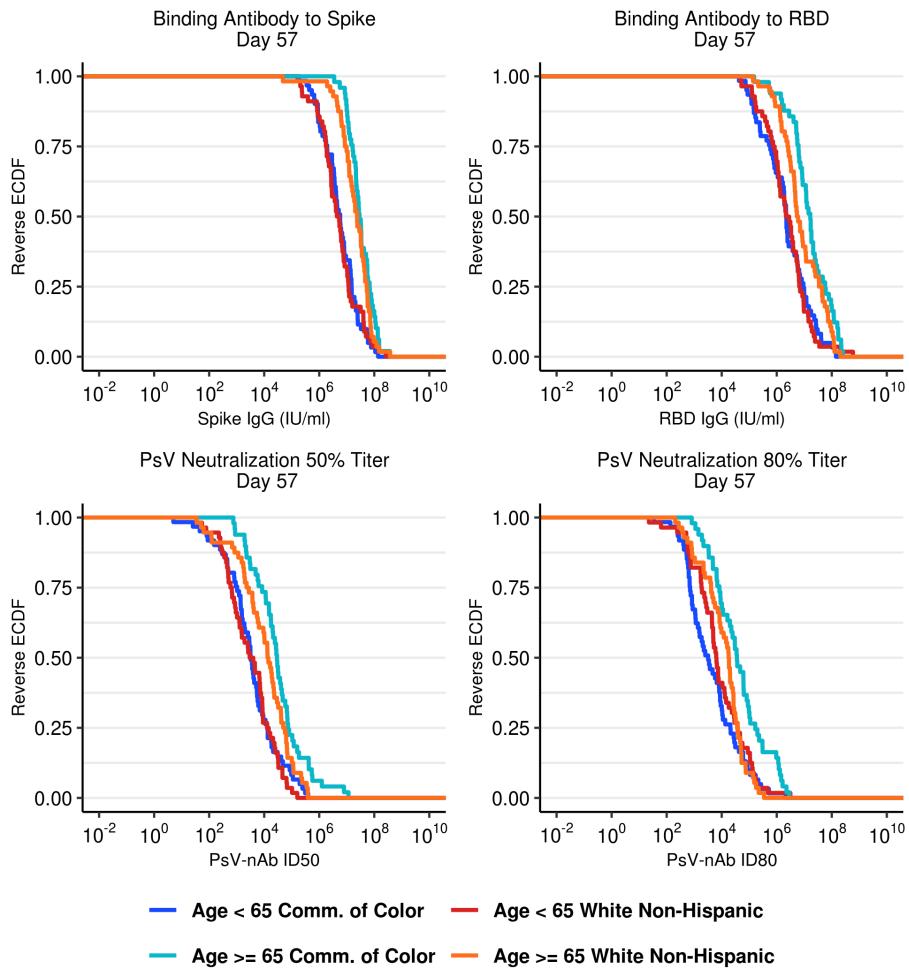


Figure 1.120: (Mock data) RCDF plots for D57 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group.

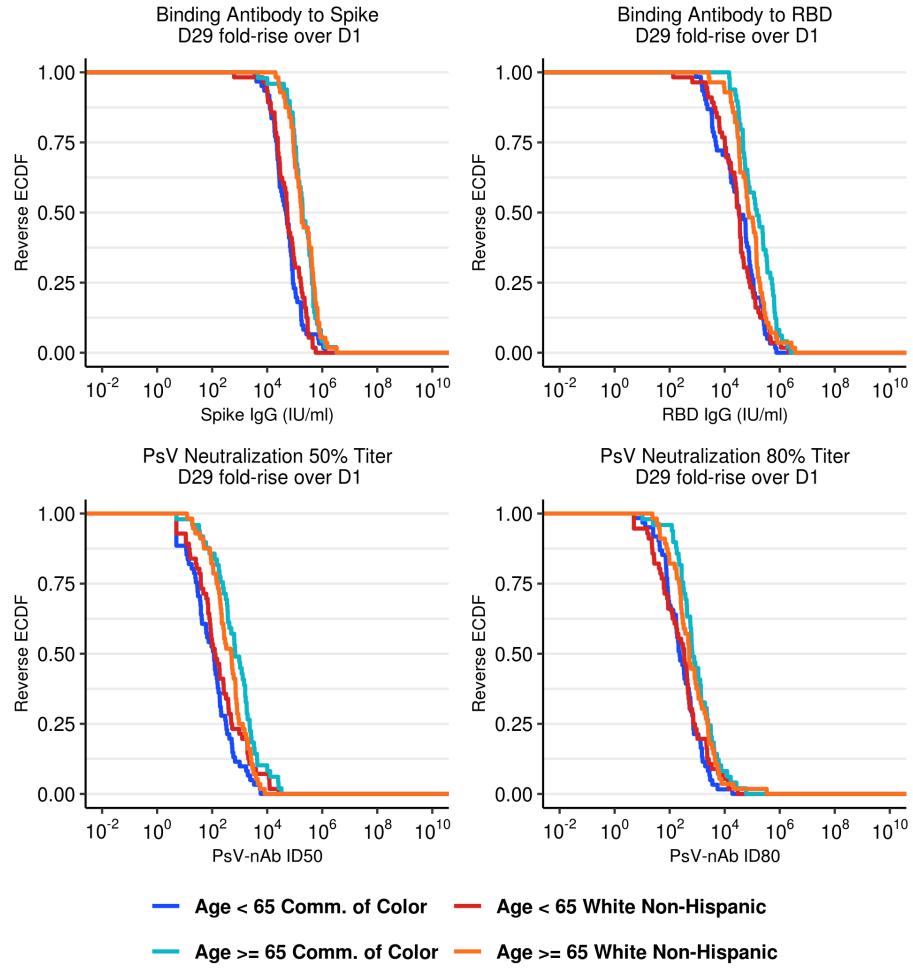


Figure 1.121: (Mock data) RCDF plots for D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT135

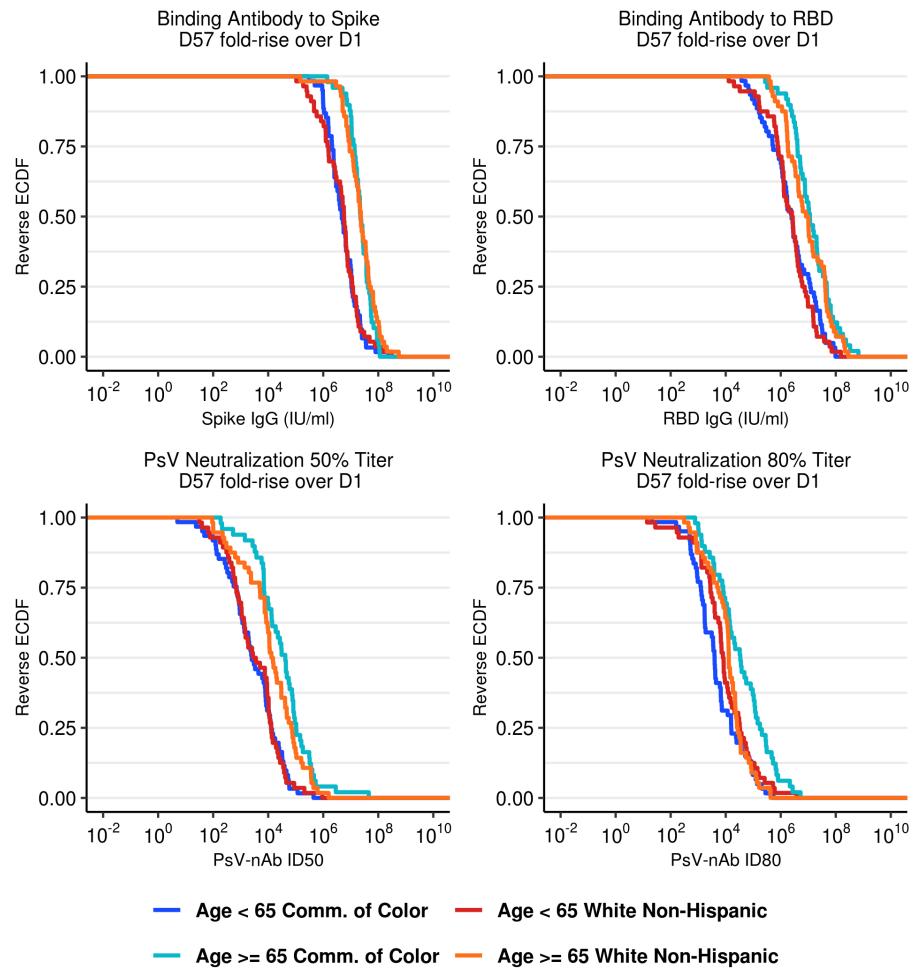


Figure 1.122: (Mock data) RCDF plots for D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group.

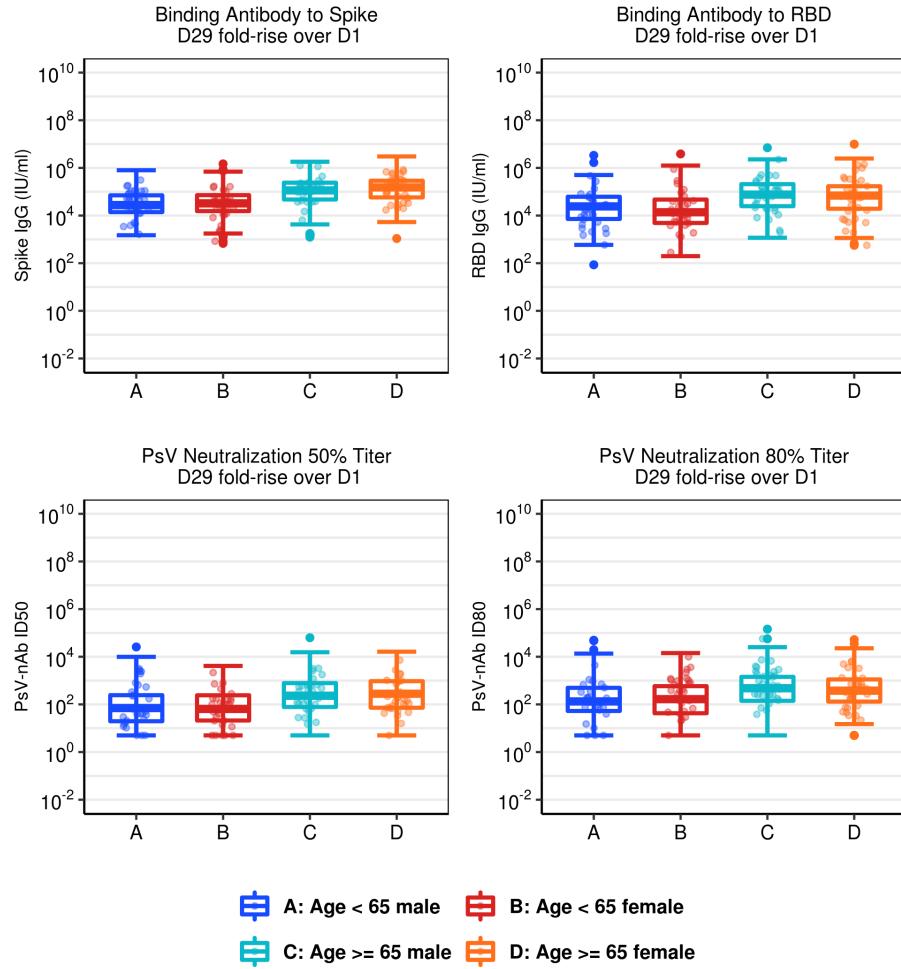


Figure 1.123: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by age and sex assigned at birth.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT137

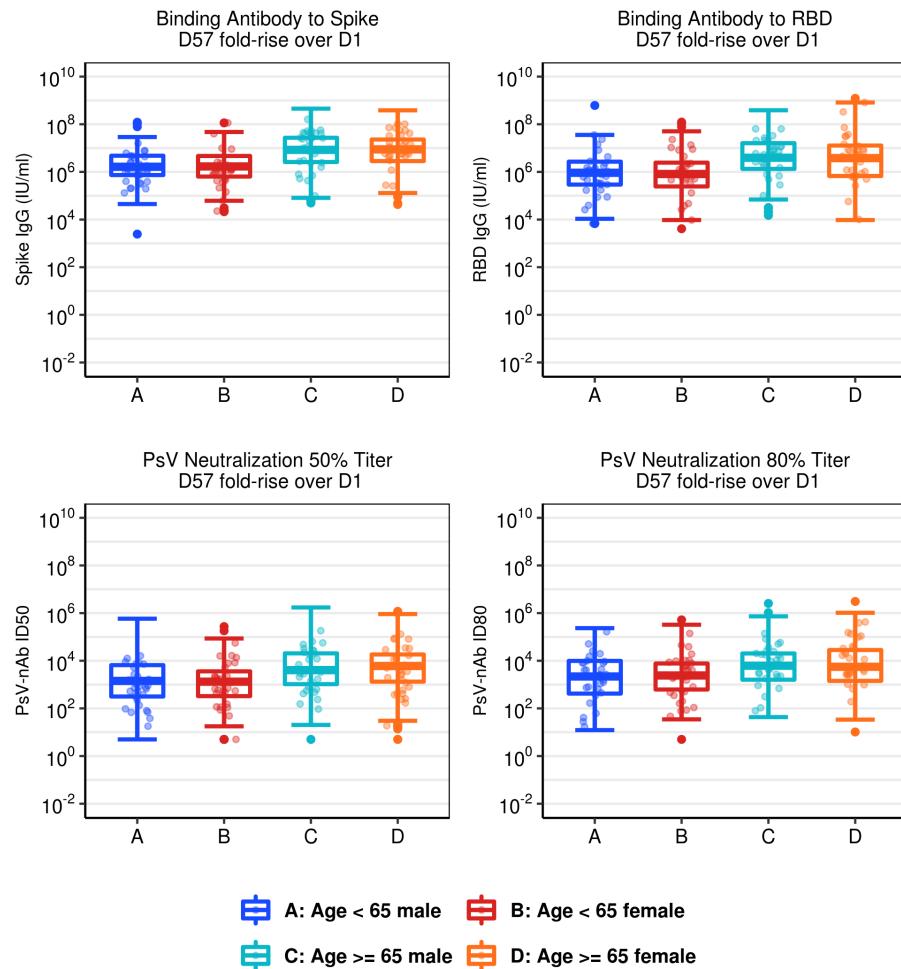


Figure 1.124: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: Baseline negative vaccine arm by age and sex assigned at birth.

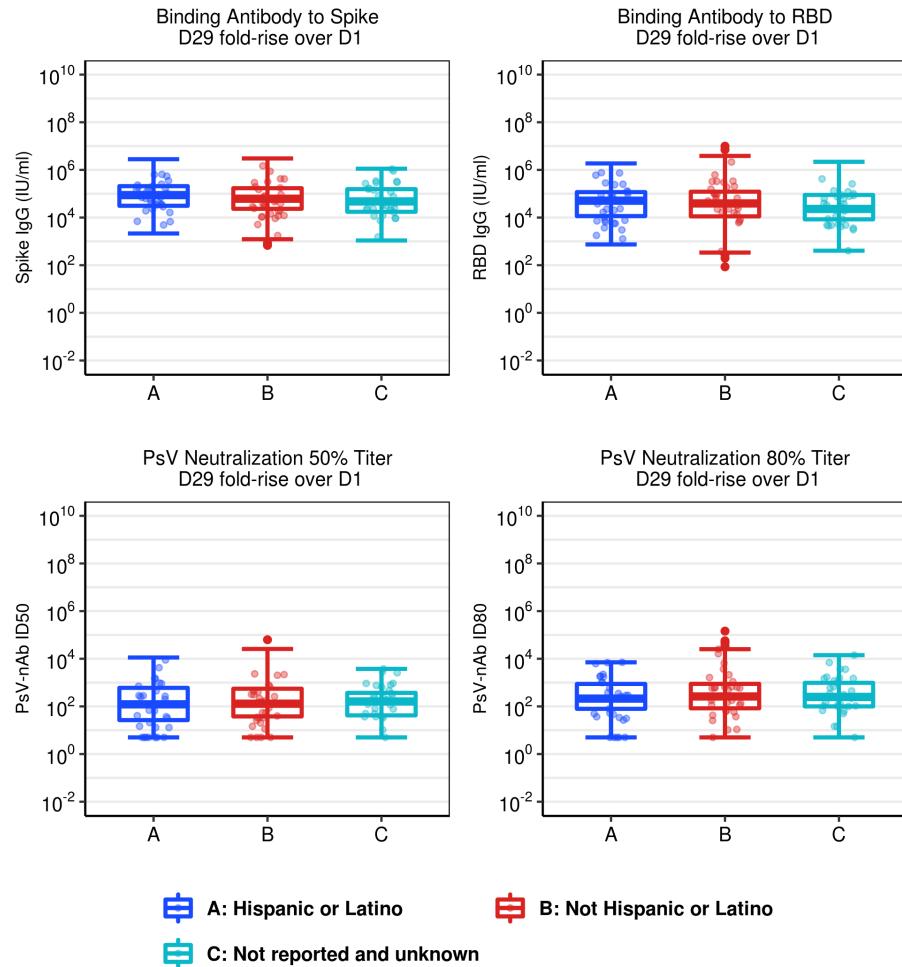


Figure 1.125: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by ethnicity.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT139

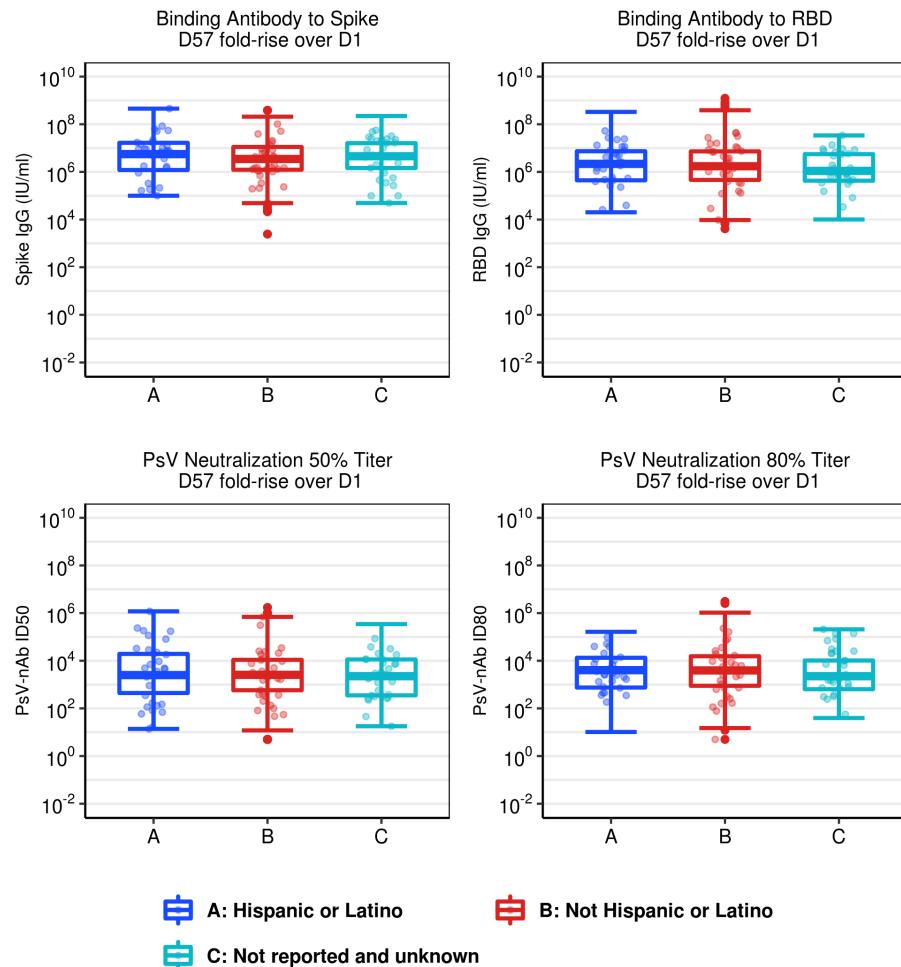


Figure 1.126: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: Baseline negative vaccine arm by ethnicity.

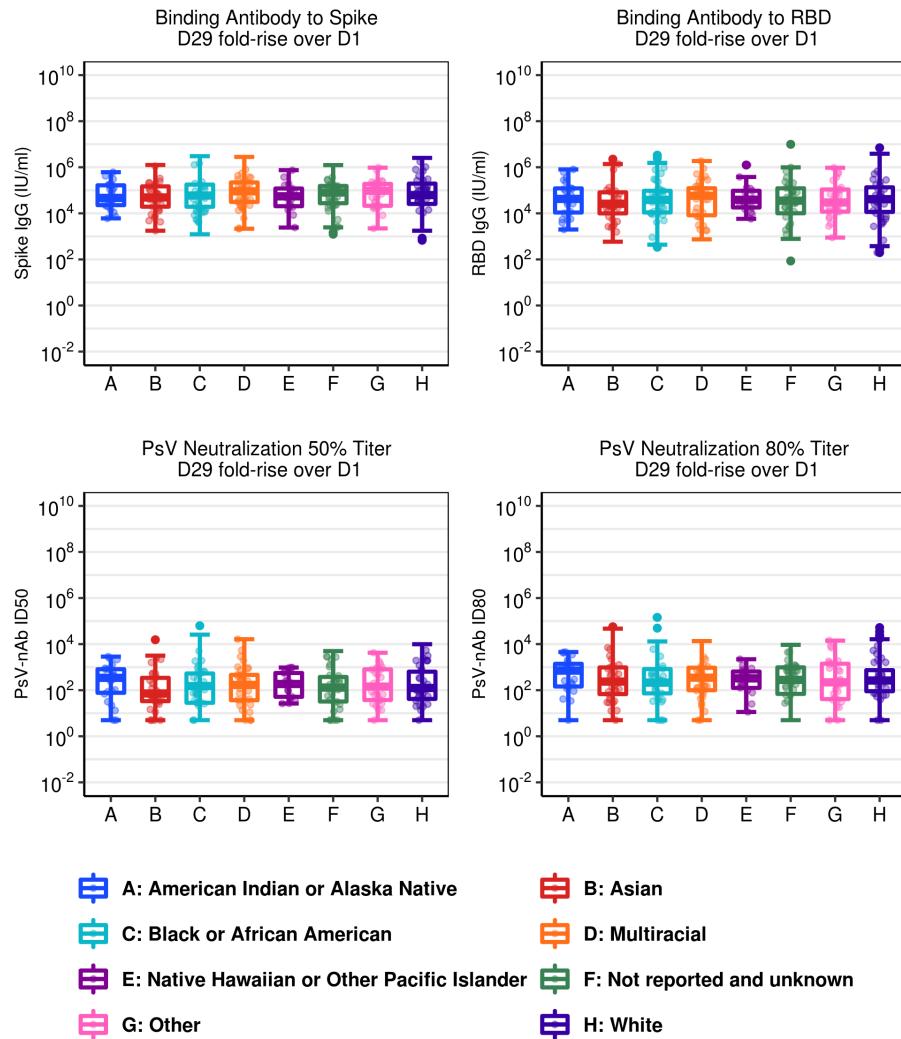


Figure 1.127: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by race.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT141

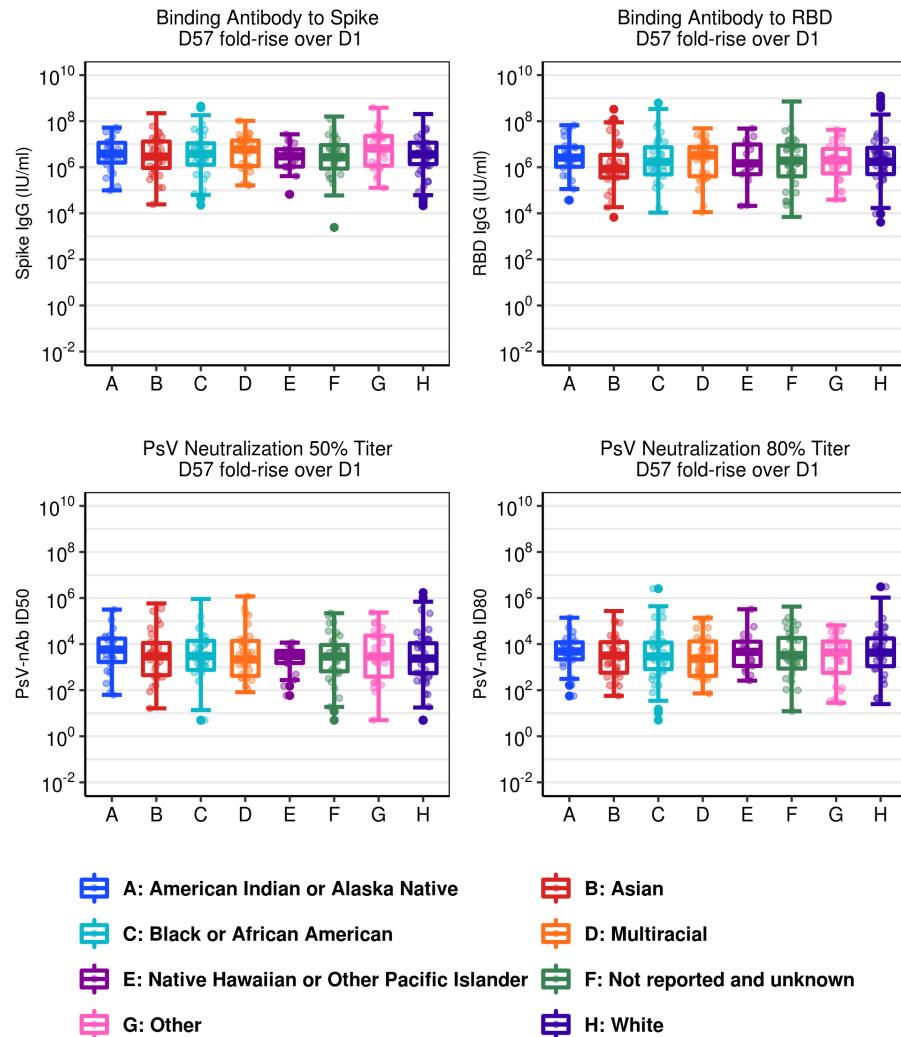


Figure 1.128: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: Baseline negative vaccine arm by race.

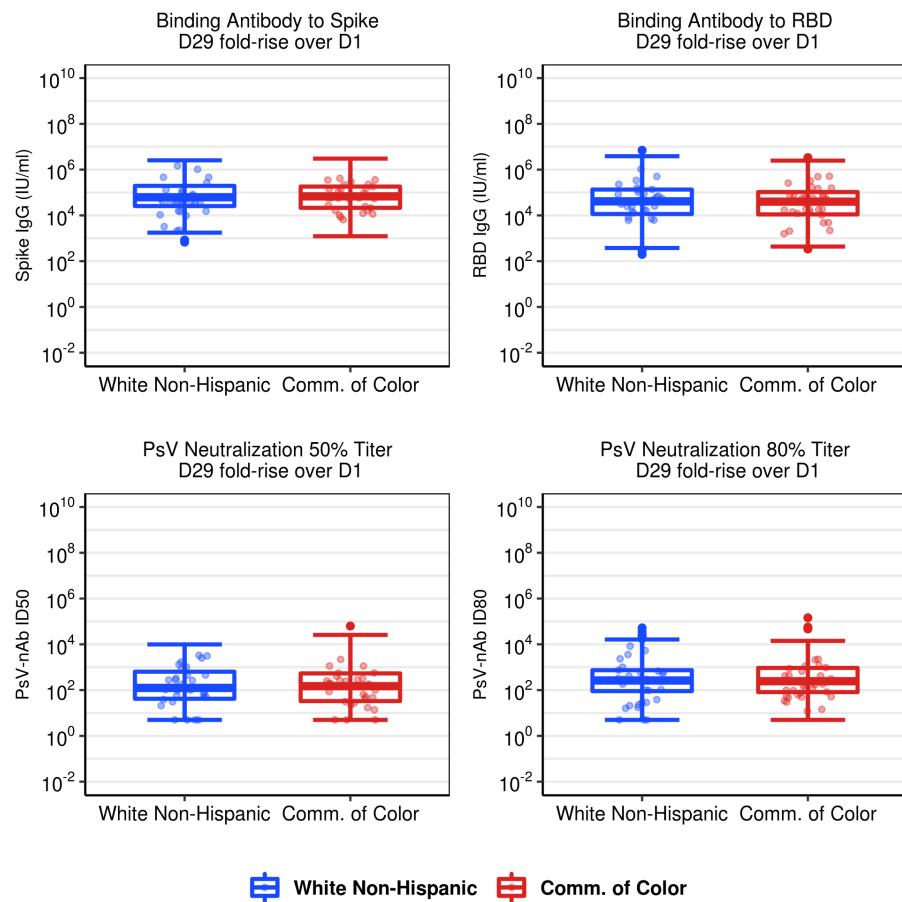


Figure 1.129: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT143

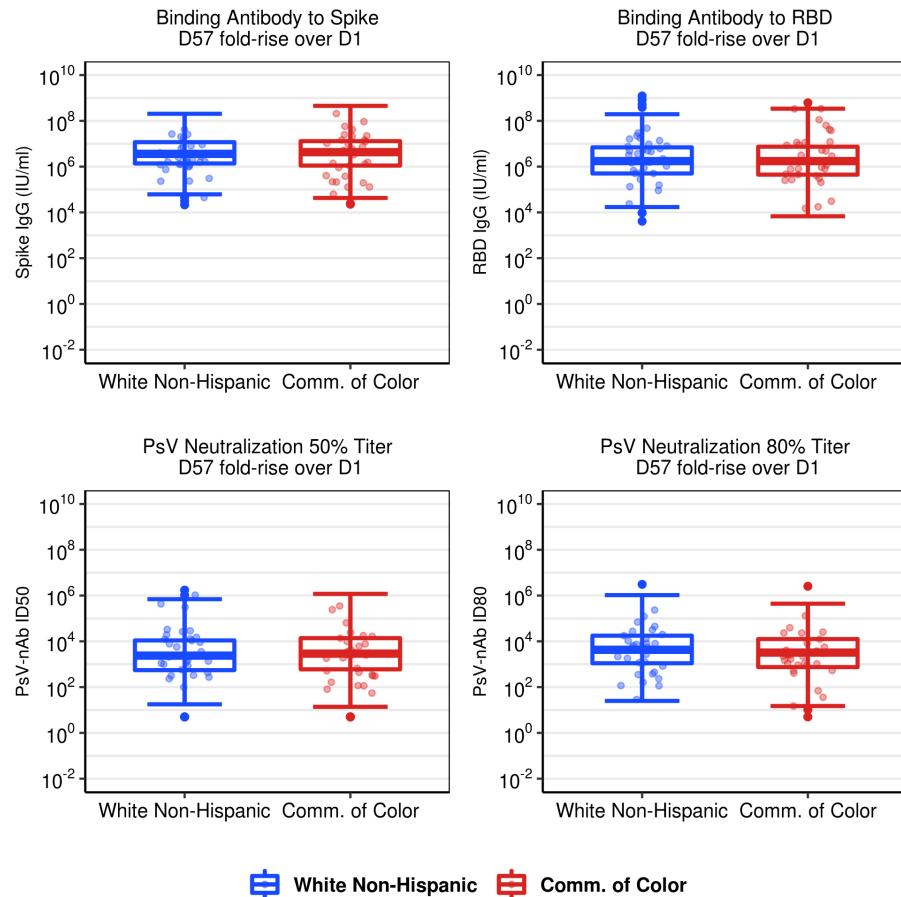


Figure 1.130: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: Baseline negative vaccine arm by dichotomous classification of race and ethnic group.

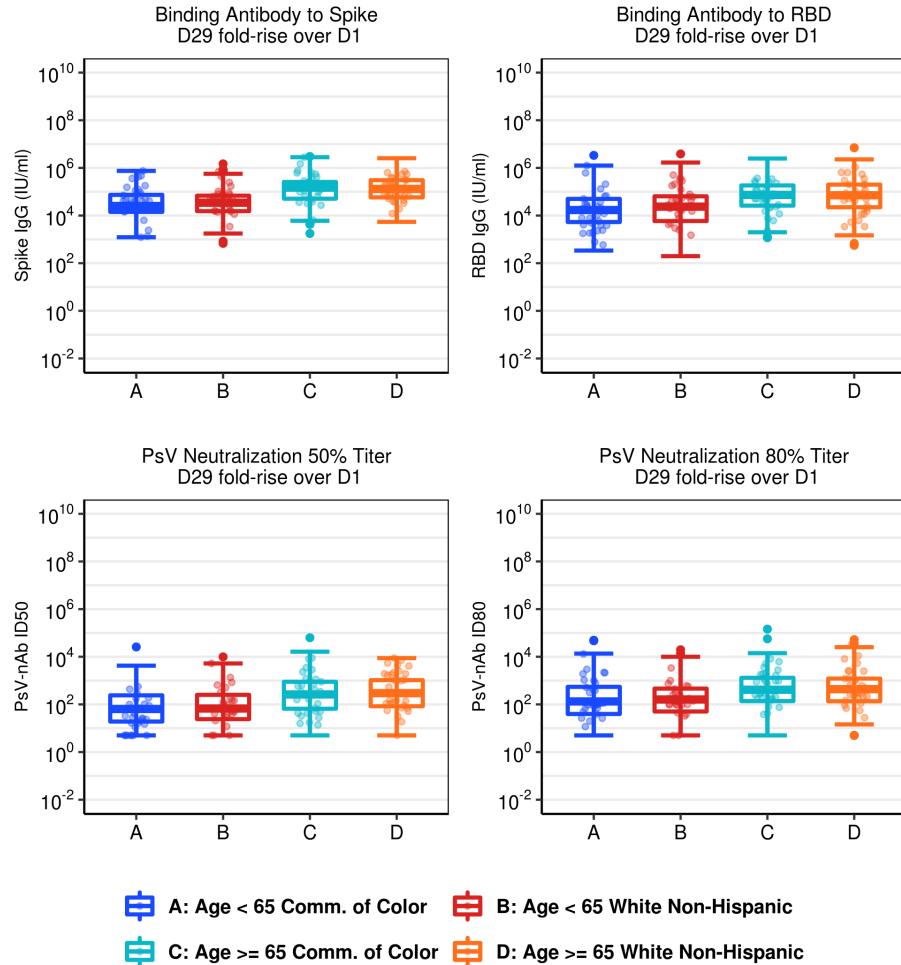


Figure 1.131: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: Baseline negative vaccine arm by age and dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT145

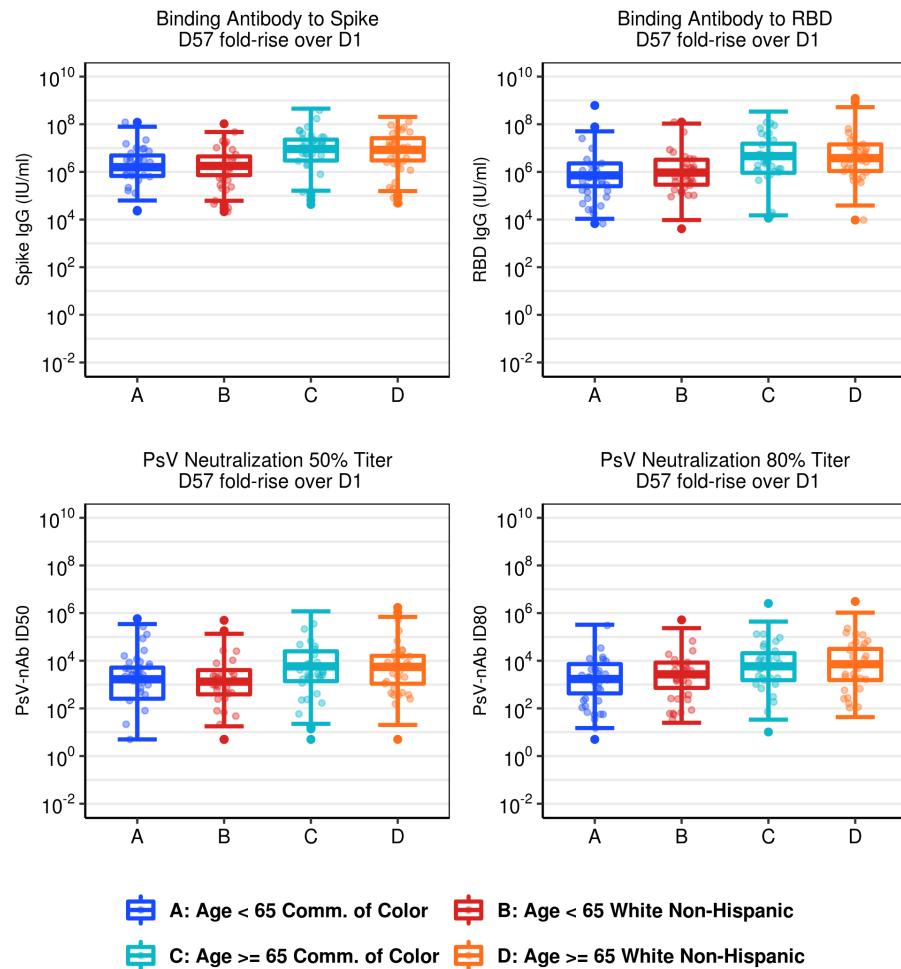


Figure 1.132: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: Baseline negative vaccine arm by age and dichotomous classification of race and ethnic group.

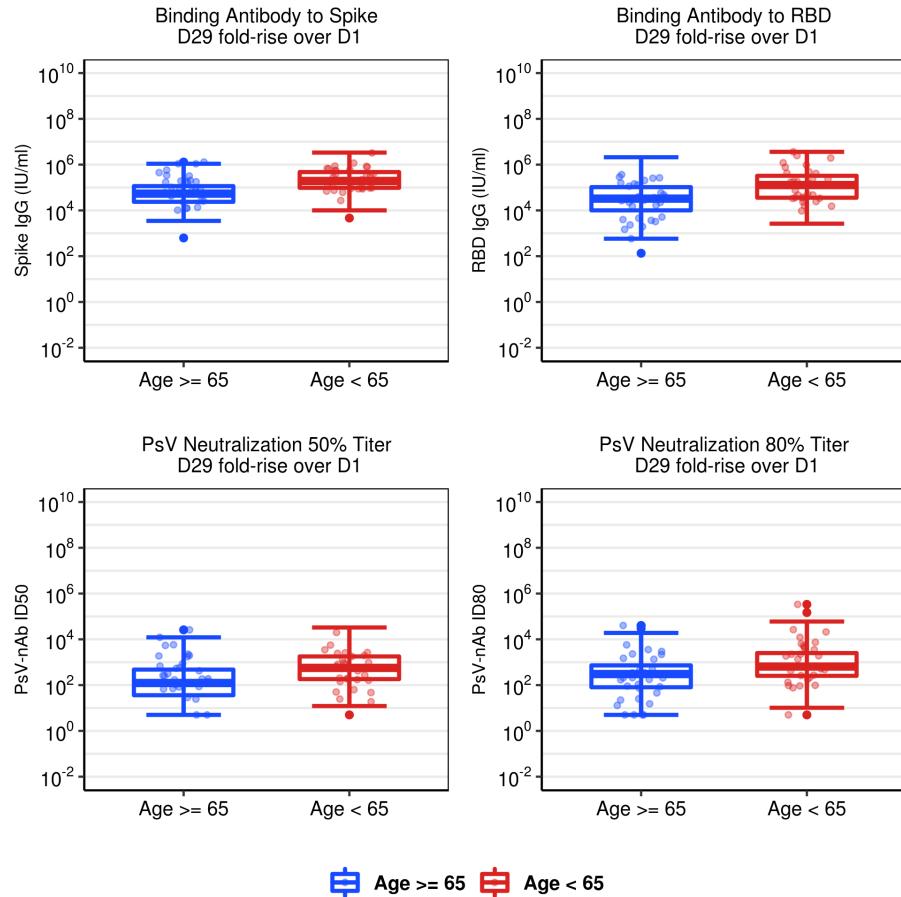


Figure 1.133: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT147

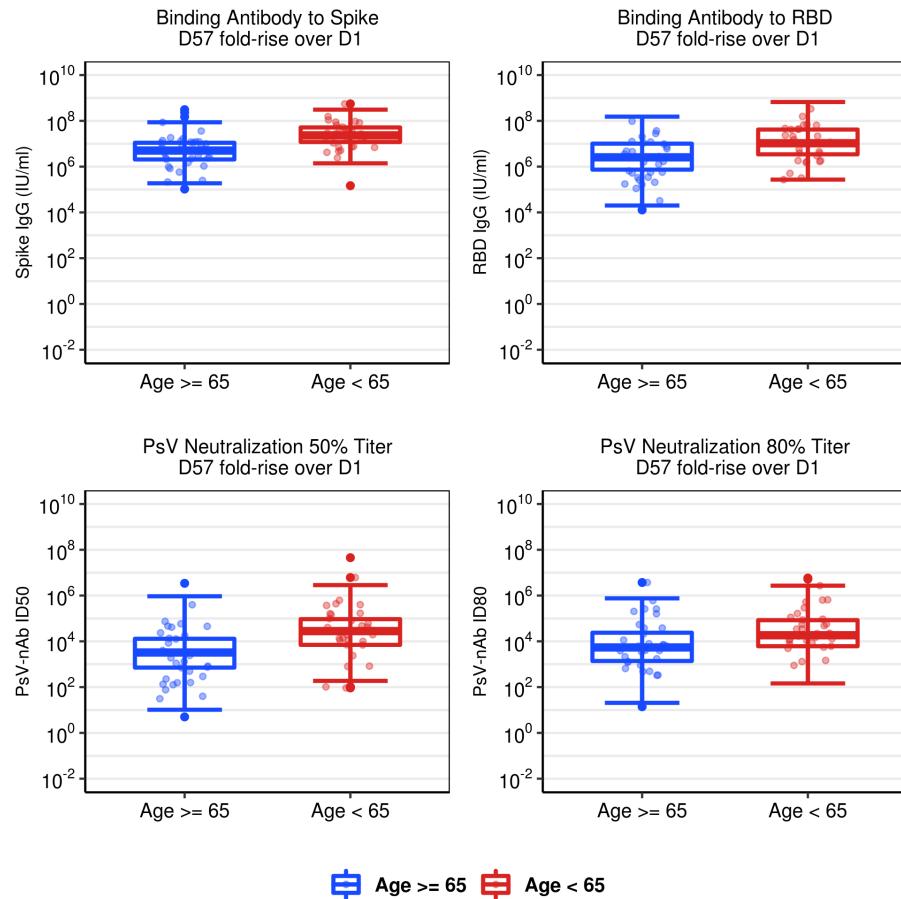


Figure 1.134: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by age group.

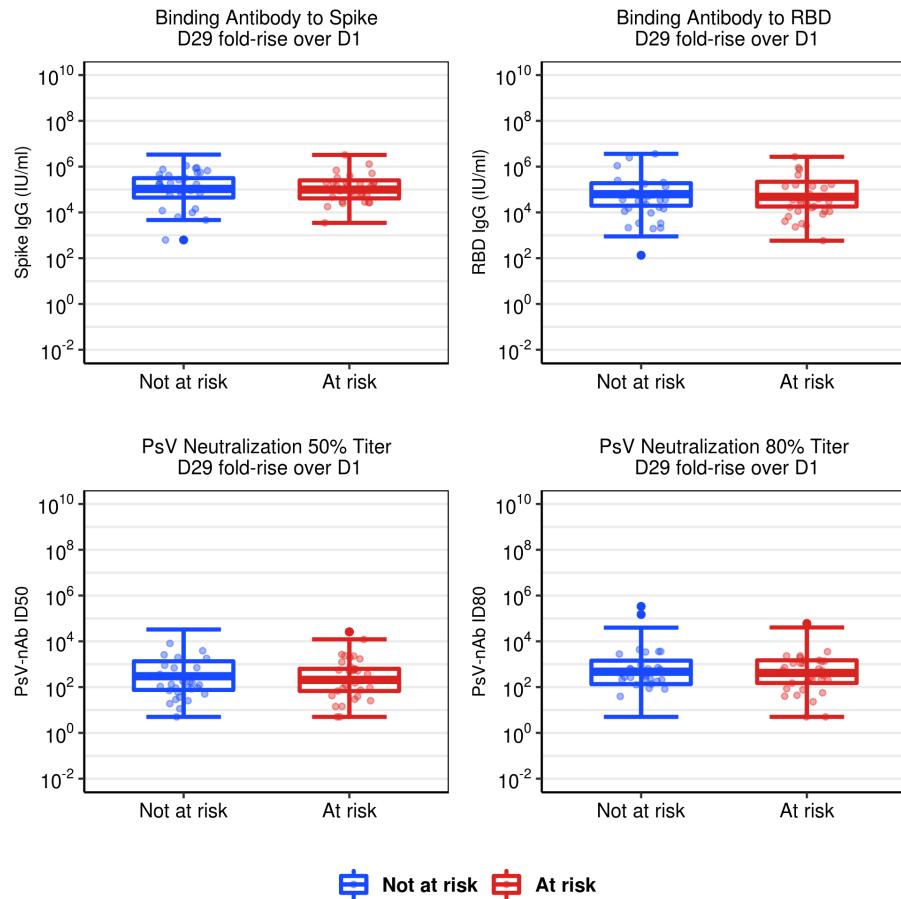


Figure 1.135: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by high-risk condition.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT149

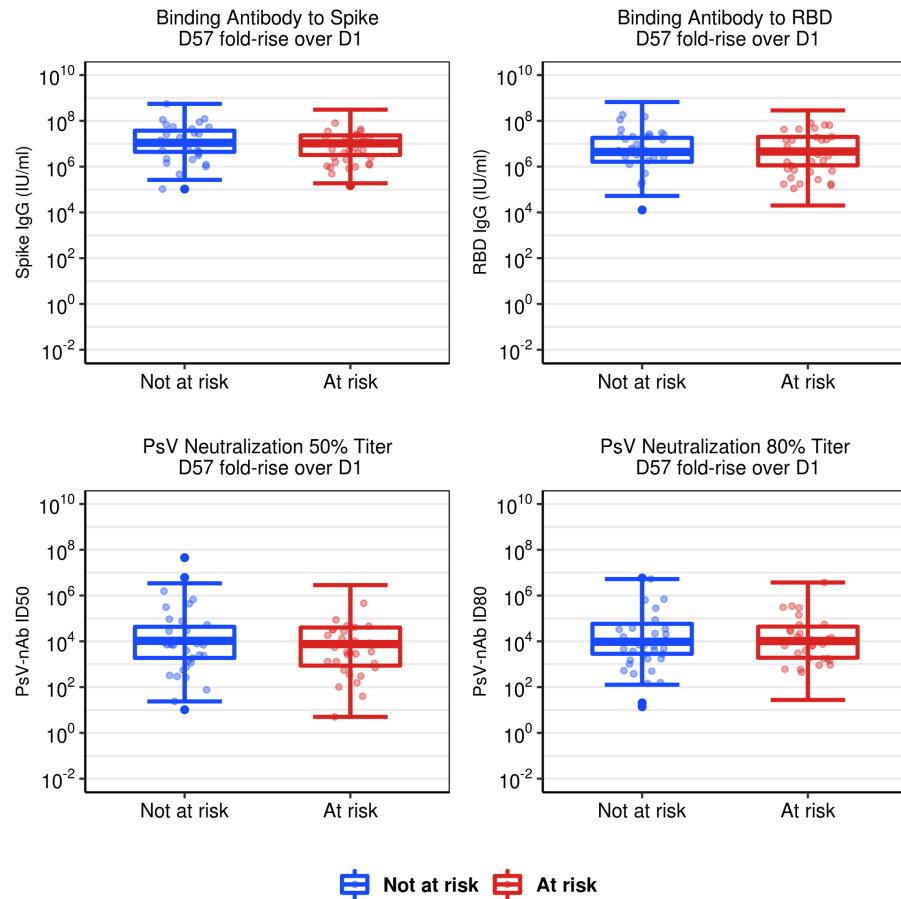


Figure 1.136: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by high-risk condition.

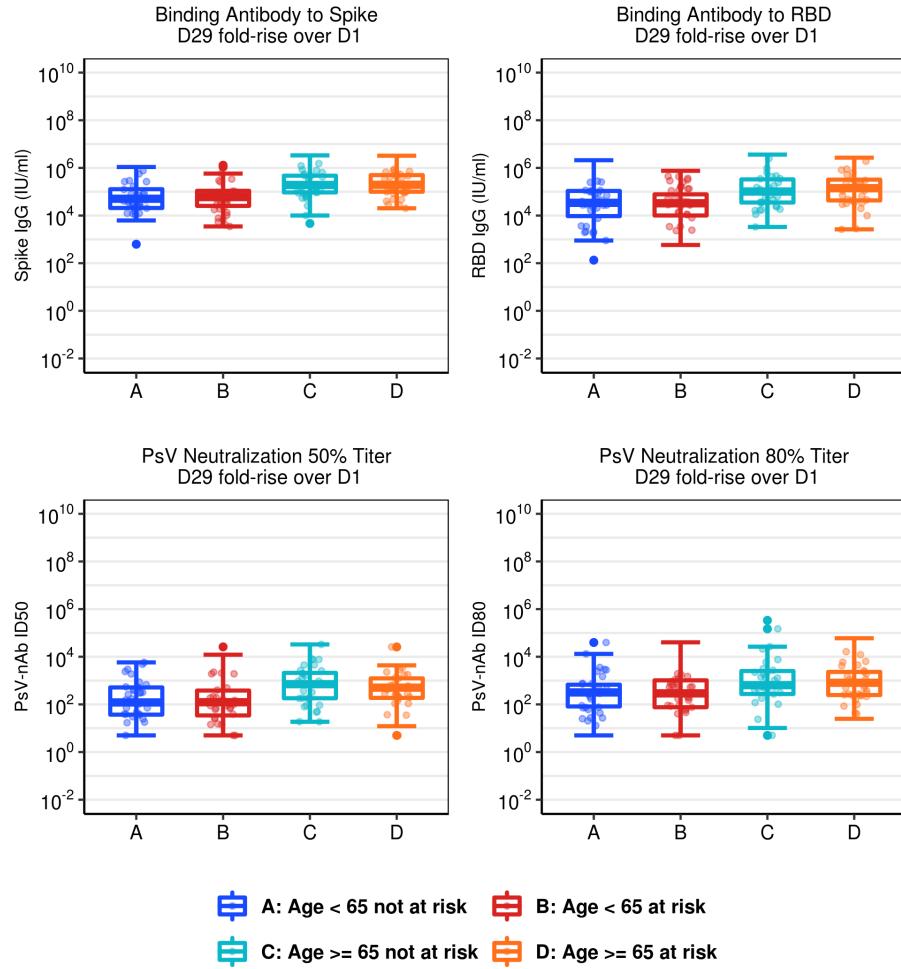


Figure 1.137: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and high-risk condition.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT151

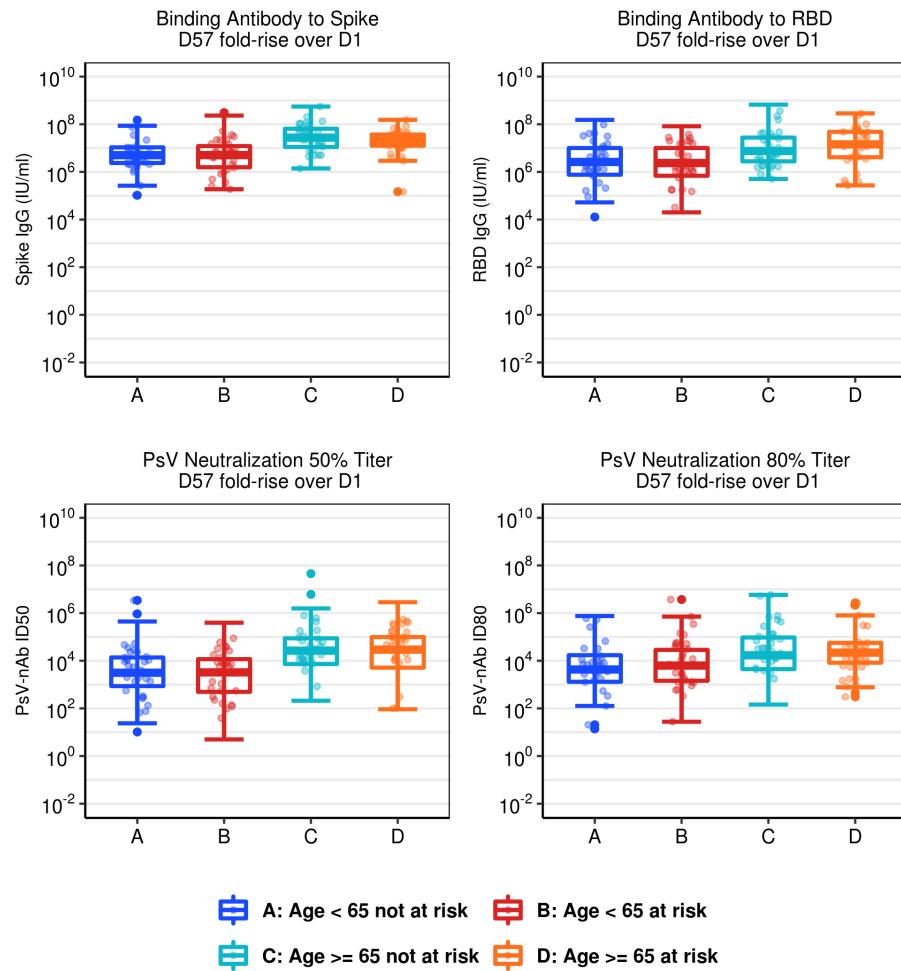


Figure 1.138: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and high-risk condition.

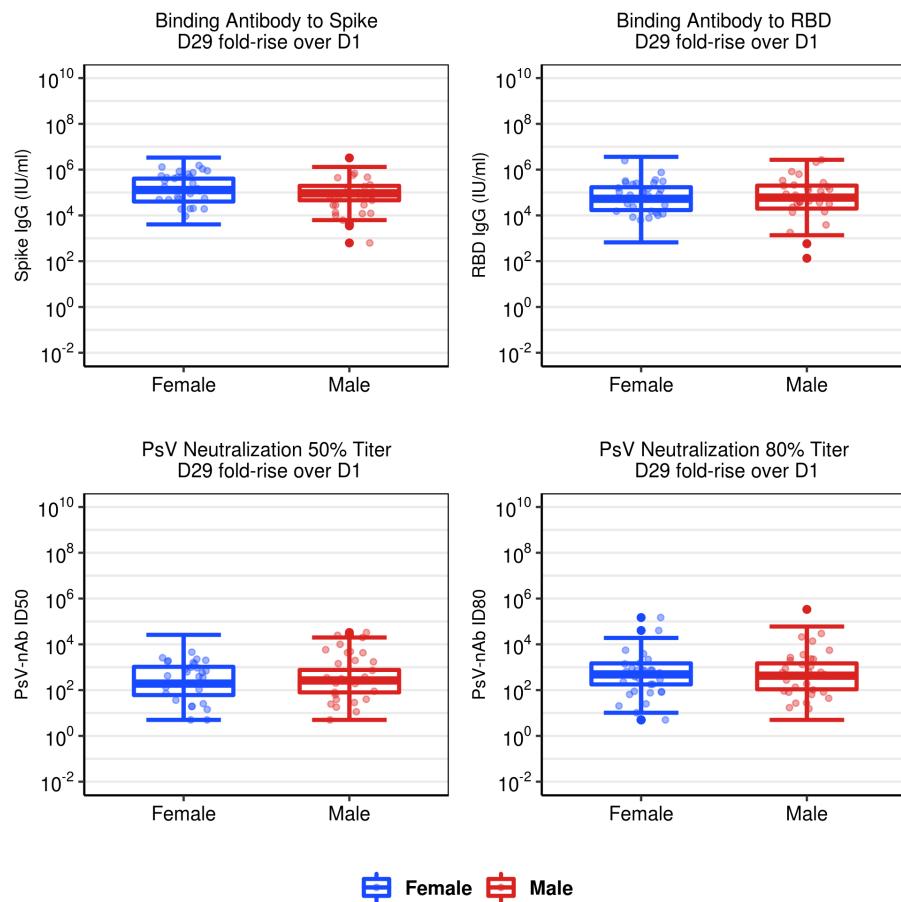


Figure 1.139: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by sex assigned at birth.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT153

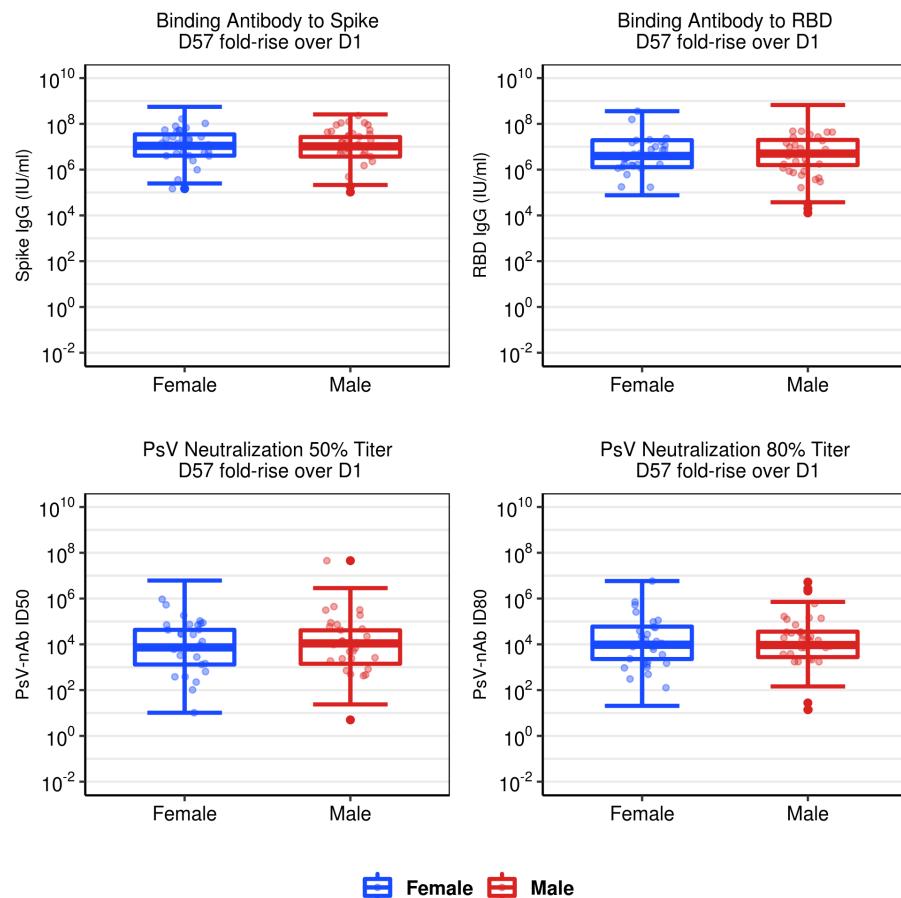


Figure 1.140: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by sex assigned at birth.

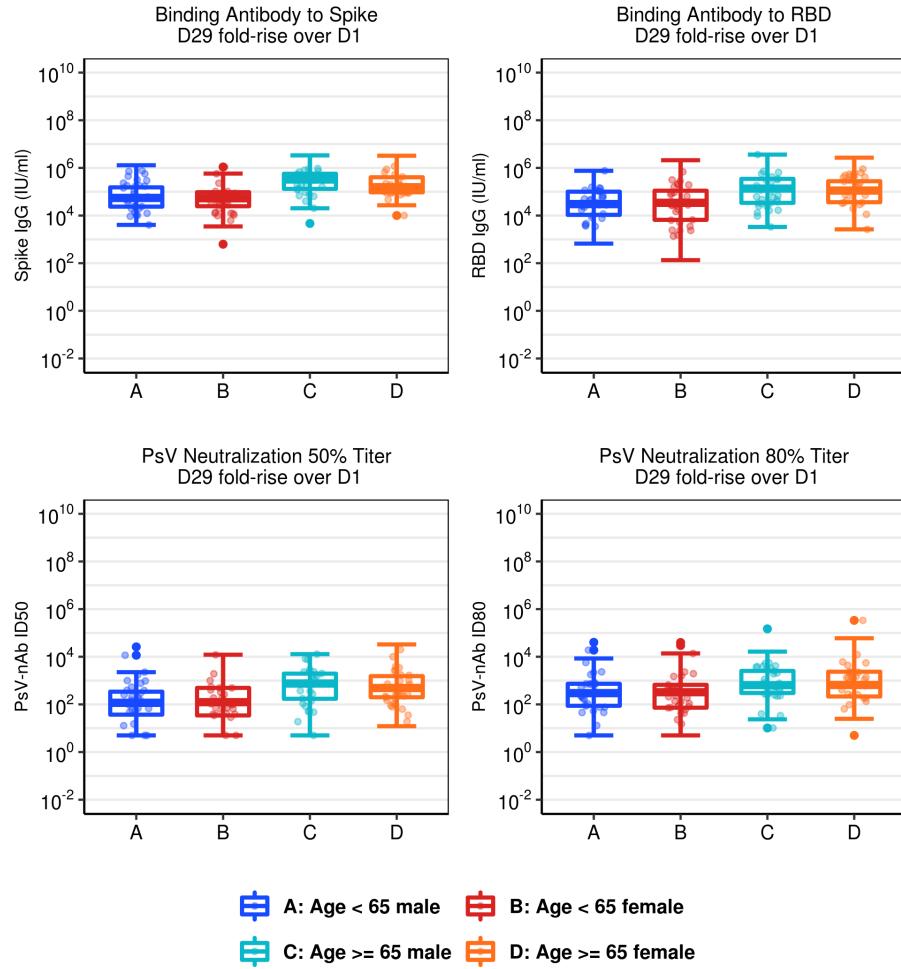


Figure 1.141: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT155

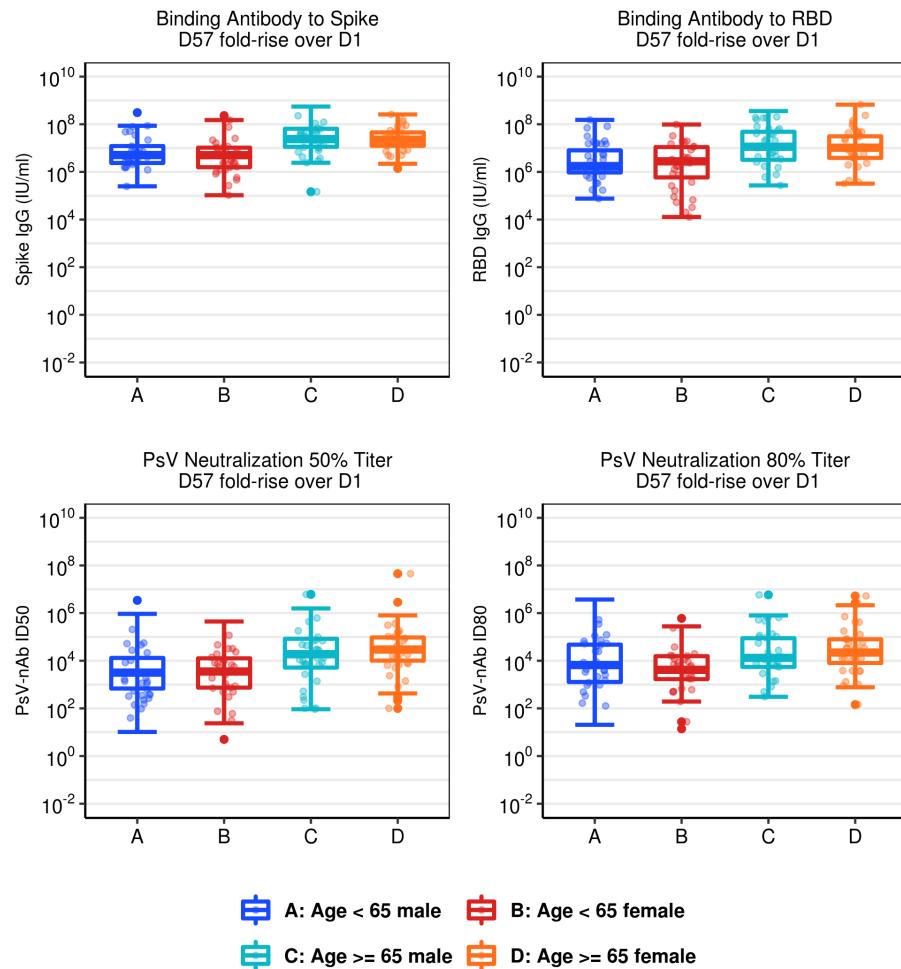


Figure 1.142: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and sex assigned at birth.

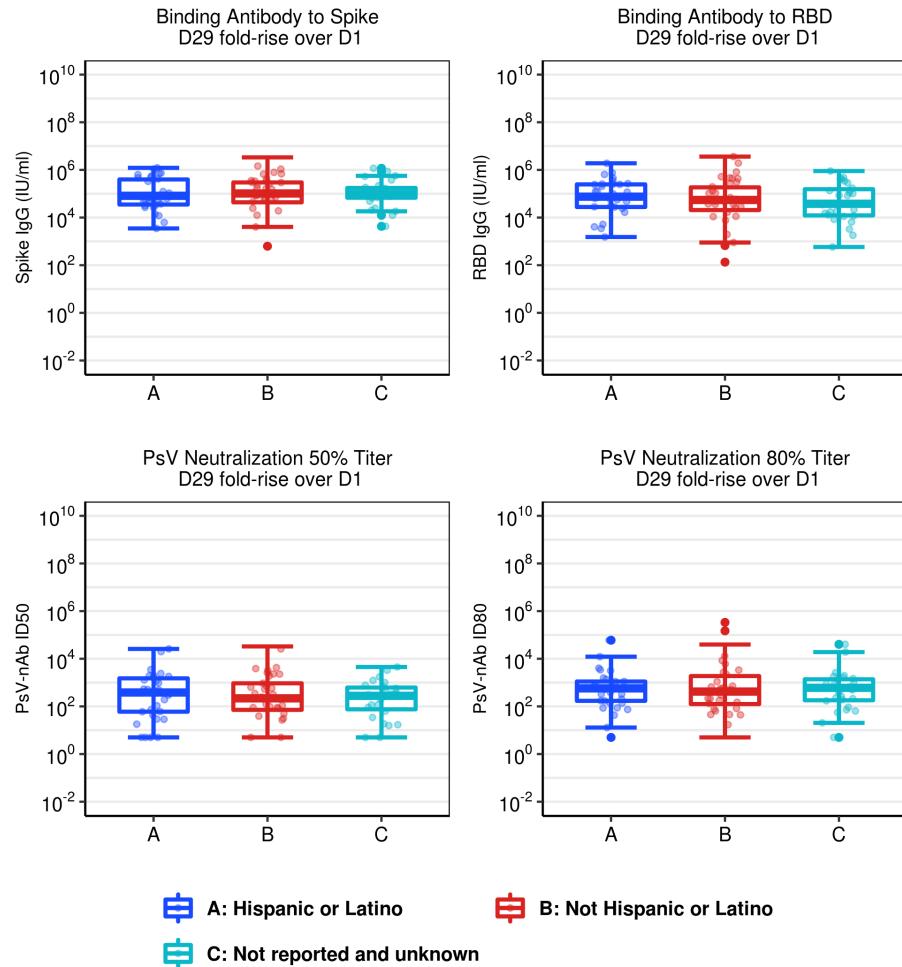


Figure 1.143: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by ethnicity.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT157

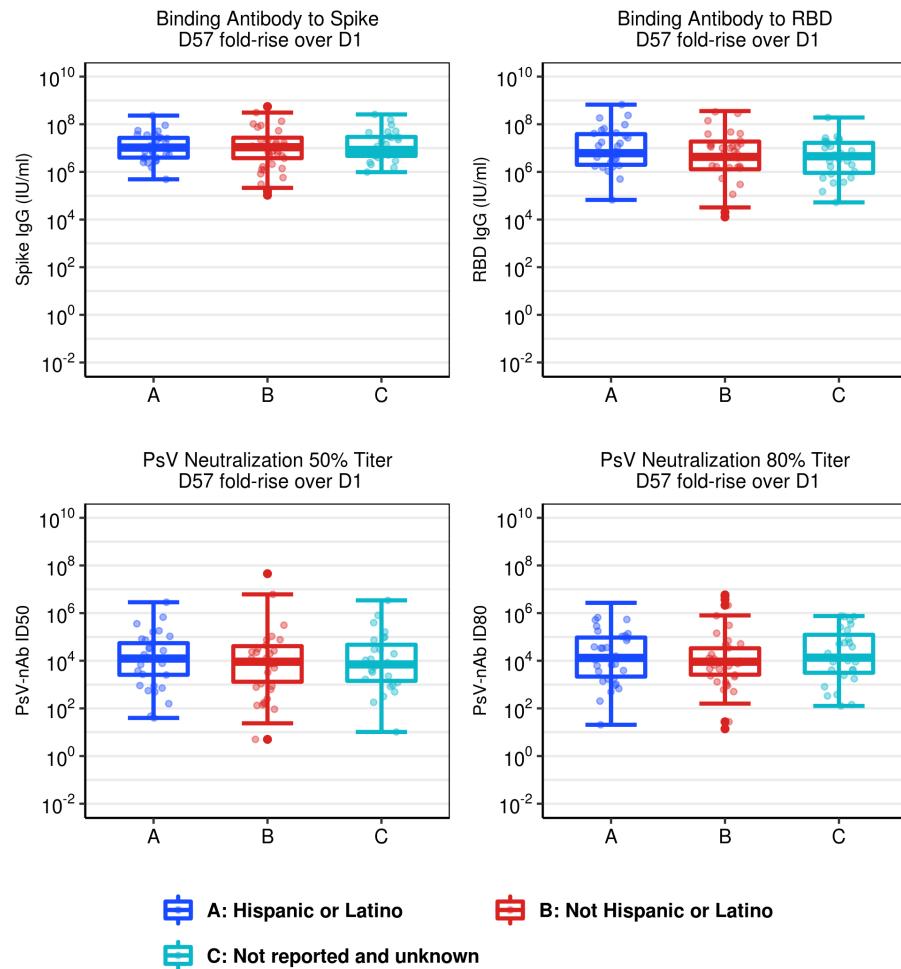


Figure 1.144: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by ethnicity.

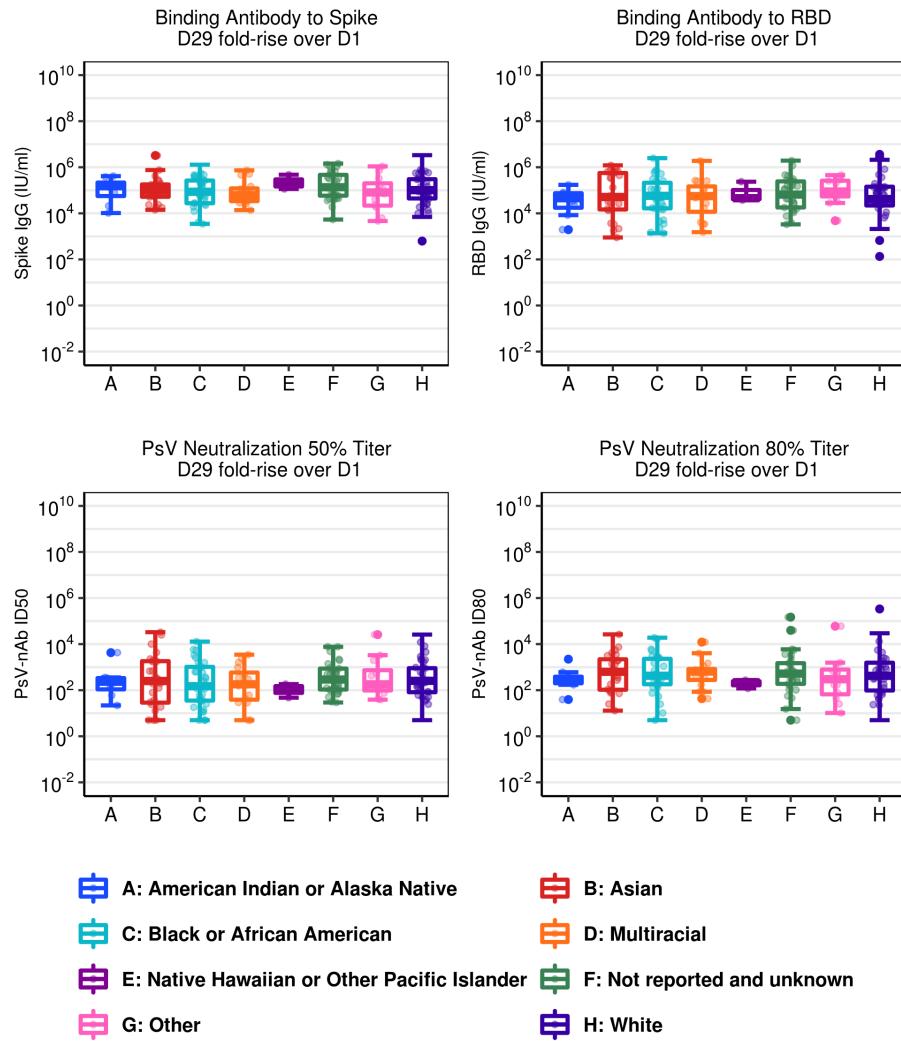


Figure 1.145: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by race.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT159

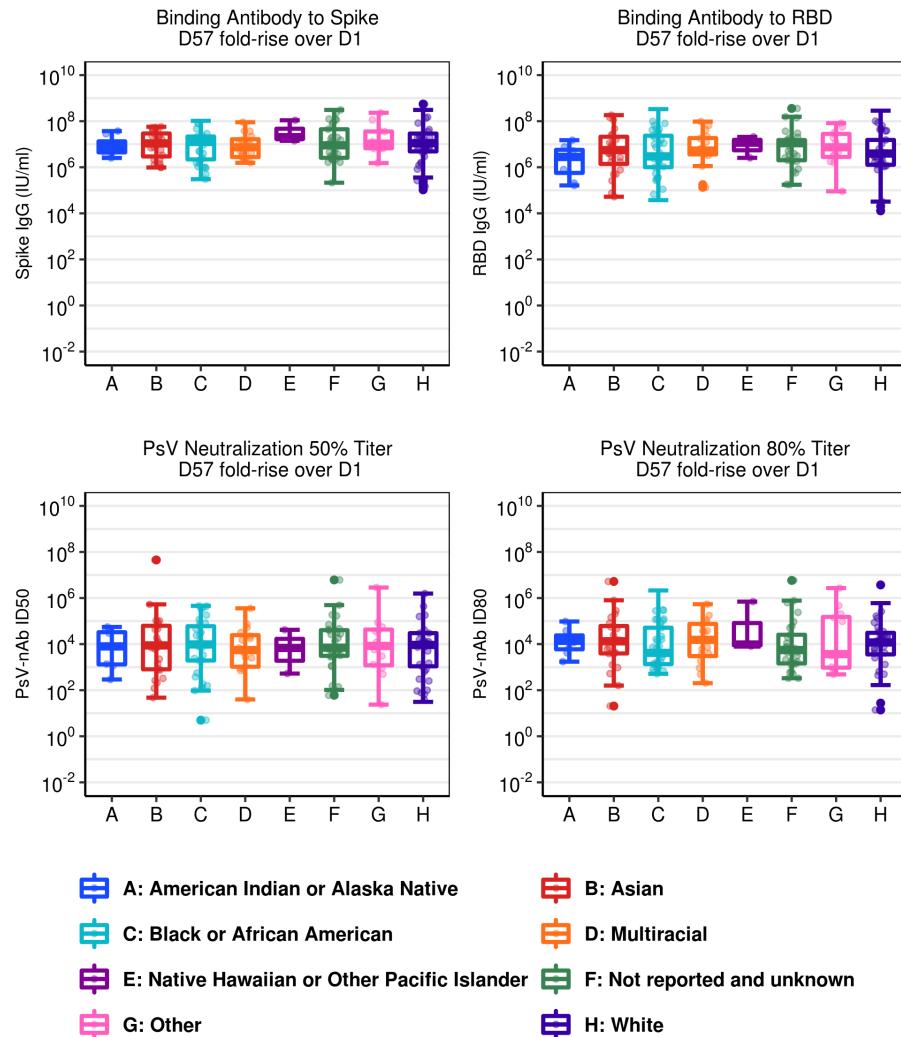


Figure 1.146: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by race.

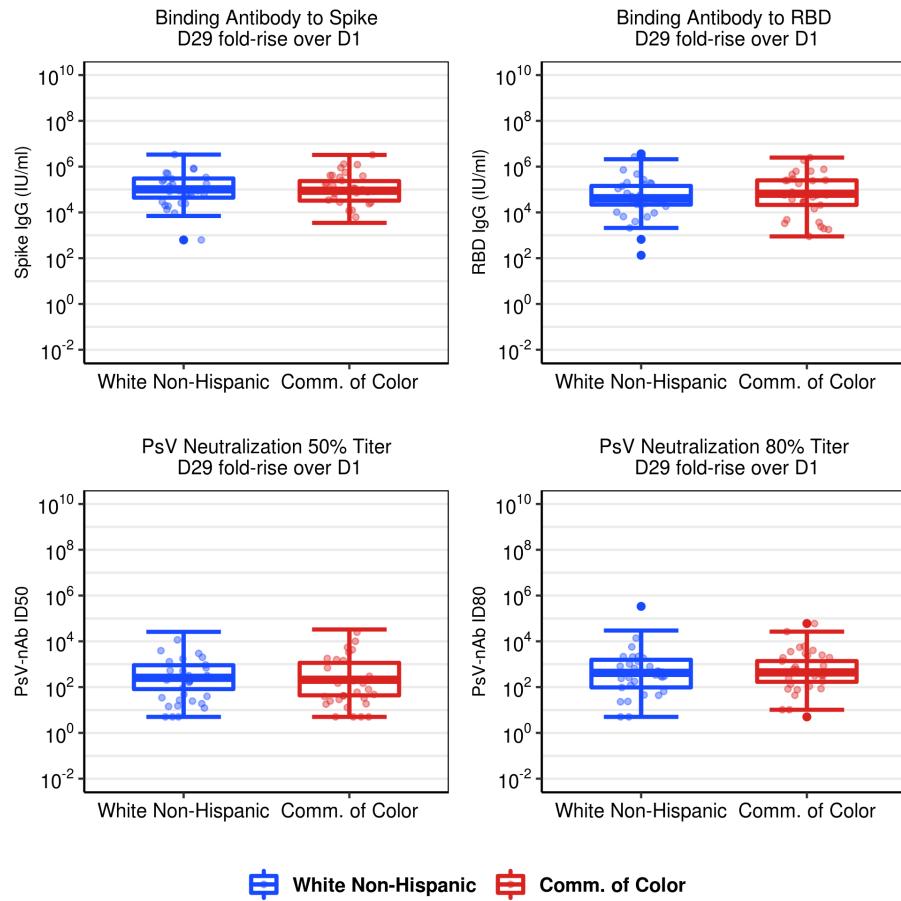


Figure 1.147: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT161

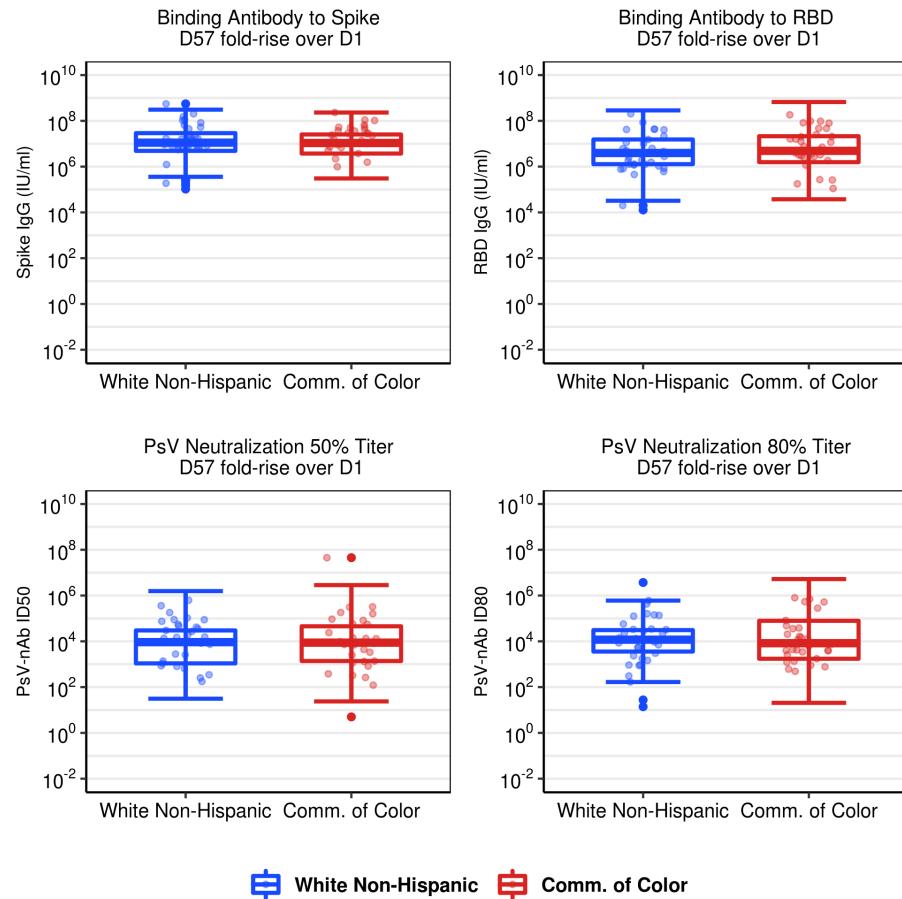


Figure 1.148: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by dichotomous classification of race and ethnic group.

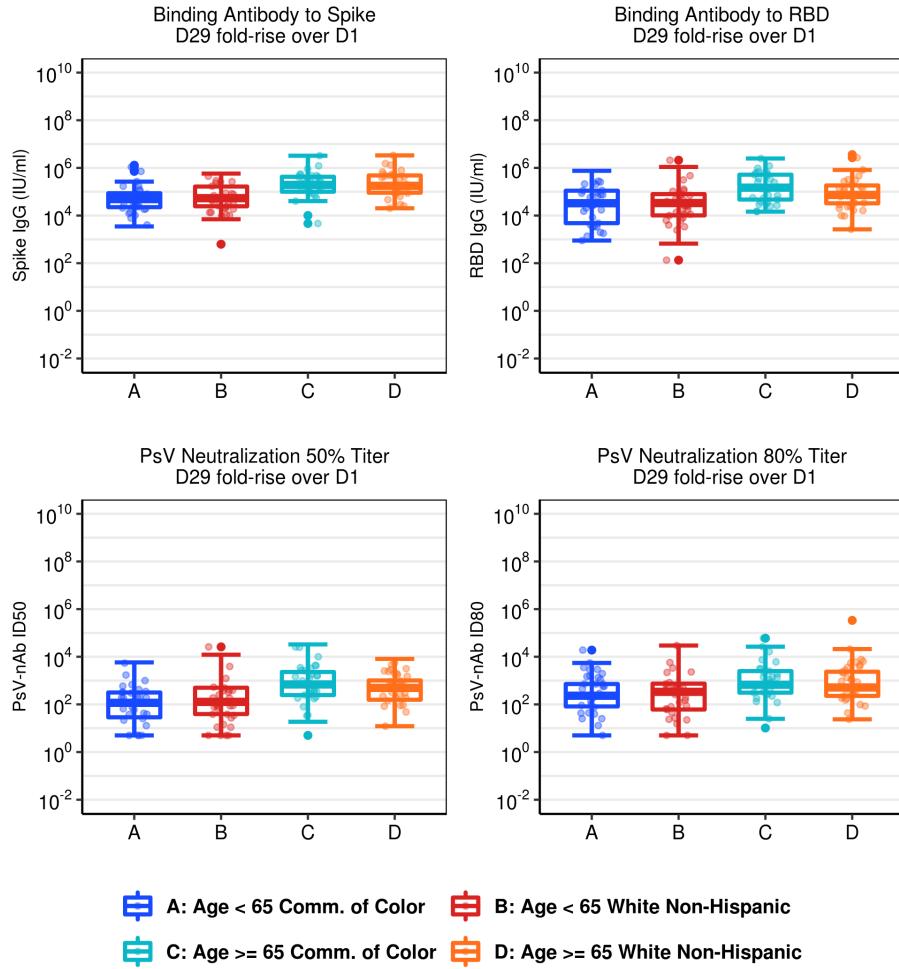


Figure 1.149: (Mock data) Boxplots of D29 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group.

1.7. BOXPLOTS OF ANTIBODY MARKERS BY DEMOGRAPHICS FOR PER-PROTOCOL COHORT163

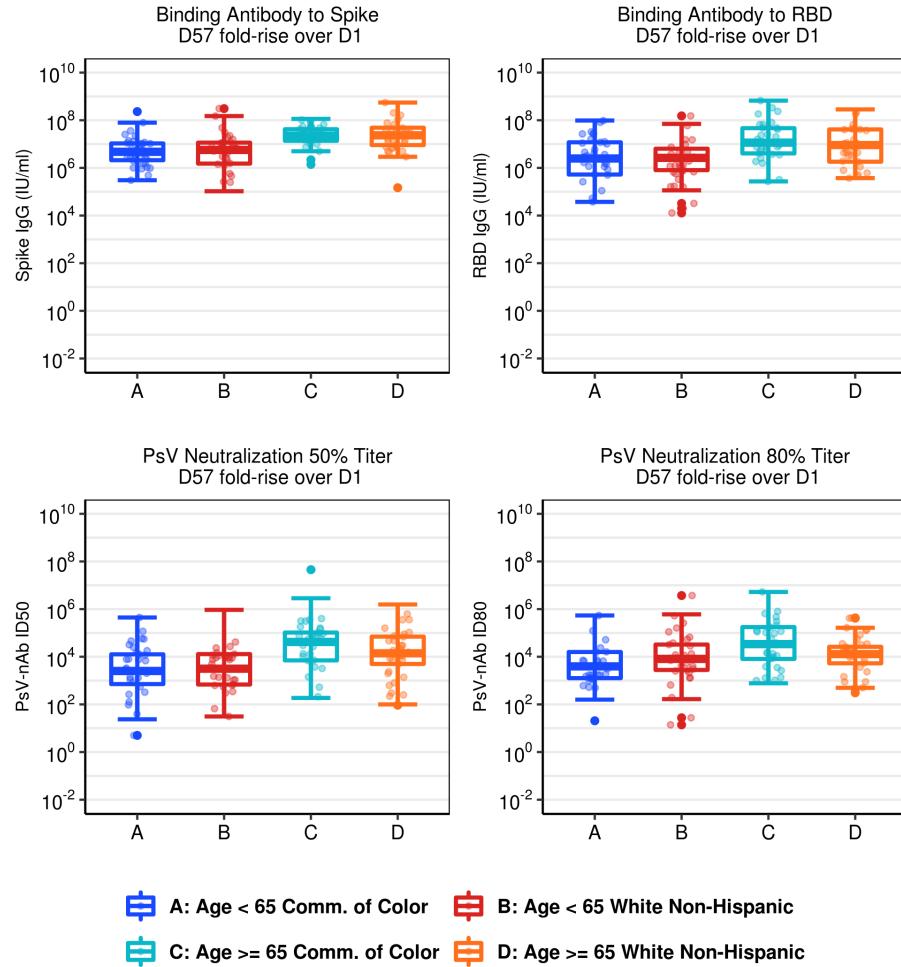


Figure 1.150: (Mock data) Boxplots of D57 fold-rise over D1 Ab markers: baseline positive vaccine arm by age and dichotomous classification of race and ethnic group.

Chapter 2

Tabular Description of Immunogenicity Data

2.0.1 Table 1. Demographic

Table 2.1: Table 1. Demographic

Characteristics	Placebo (N = 425)	Vaccine (N = 1180)	Total (N = 1605)
Age			
Age \leq 65	228 (53.6)	579 (49.1)	807 (50.3)
Age > 65	197 (46.4)	601 (50.9)	798 (49.7)
Mean (range)	56.6 (18, 85)	58.2 (18, 85)	57.8 (18, 85)
BMI			
Mean +/- SD	29.8 +/- 7.5	29.9 +/- 7.1	29.9 +/- 7.2
Sex			
Female	234 (55.1)	661 (56.0)	895 (55.8)
Male	191 (44.9)	519 (44.0)	710 (44.2)
Hispanic or Latino ethnicity			
Hispanic or Latino	62 (14.6)	140 (11.9)	202 (12.6)
Not Hispanic or Latino	317 (74.6)	933 (79.1)	1250 (77.9)
Not reported and unknown	46 (10.8)	107 (9.1)	153 (9.5)
Race			
American Indian or Alaska Native	13 (3.2)	31 (2.7)	44 (2.8)
Asian	33 (8.0)	97 (8.5)	130 (8.3)
Black or African American	84 (20.4)	223 (19.5)	307 (19.7)
Multiracial	24 (5.8)	66 (5.8)	90 (5.8)
Native Hawaiian or Other Pacific Islander	7 (1.7)	20 (1.7)	27 (1.7)
Not reported and unknown	35 (8.5)	111 (9.7)	146 (9.4)

Table 2.1: Table 1. Demographic (continued)

Characteristics	Placebo (N = 425)	Vaccine (N = 1180)	Total (N = 1605)
Other	14 (3.4)	38 (3.3)	52 (3.3)
White	24 (5.8)	57 (5.0)	81 (5.2)
White Non-Hispanic	178 (43.2)	502 (43.8)	680 (43.7)
Risk for Severe Covid-19			
At-risk	198 (46.6)	589 (49.9)	787 (49.0)
Not at-risk	227 (53.4)	591 (50.1)	818 (51.0)

This table summarises the case-cohort, which measures antibody markers at (Day 1, Day 29, and Day 57).

2.0.2 Table 2. Responder rates

Table 2.2: Table 2a. Responder rates by All participants

Group	Baseline	Visit	N	Endpoint	Responder
All participants					
All participants	Negative	Day 29	1062	Binding Antibody to RBD	51.4% (50.9%, 51.9%)
				Binding Antibody to Spike	51.4% (50.9%, 51.9%)
				PsV Neutralization 50% Titer	34.2% (30.3%, 38.1%)
				PsV Neutralization 80% Titer	41.1% (39.0%, 43.2%)
		Day 57	1062	Binding Antibody to RBD	51.4% (50.9%, 51.9%)
				Binding Antibody to Spike	51.4% (50.9%, 51.9%)
				PsV Neutralization 50% Titer	49.2% (47.8%, 50.5%)
				PsV Neutralization 80% Titer	50.2% (49.3%, 51.0%)
Positive	Positive	Day 29	543	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	64.0% (55.7%, 72.4%)
				PsV Neutralization 80% Titer	82.4%

Table 2.2: Table 2a. Responder rates by All participants (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
					(79.4%, 85.3%)	(79.4%)
	Day 57	543		Binding Antibody to RBD	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
				Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	90.3%	90.3%
					(86.9%, 93.7%)	(86.9%)
				PsV Neutralization 80% Titer	97.9%	97.9%
					(97.2%, 98.7%)	(97.2%)

Neutralization Responders are defined as participants who had baseline values below the lower limit of quantification (LLOQ) or as participants with baseline values above the LLOQ with a 4-fold increase in neutralization titer above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

Binding Antibody Responders are defined as participants who had baseline values below the LLOQ with detectable antibody concentration or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strategy.

Table 2.3: Table 2b. Responder rates by Age

Group	Baseline	Visit	N	Endpoint	Responder
Age					
Age \leq 65					
	Negative	Day 29	513	Binding Antibody to RBD	51.6% (51.3%, 51.9%)
				Binding Antibody to Spike	51.6% (51.3%, 51.9%)
				PsV Neutralization 50% Titer	32.0% (28.4%, 35.6%)
				PsV Neutralization 80% Titer	39.7% (38.5%, 40.9%)
		Day 57	513	Binding Antibody to RBD	51.6% (51.3%, 51.9%)
				Binding Antibody to Spike	51.6% (51.3%, 51.9%)
				PsV Neutralization 50% Titer	49.3% (47.7%, 50.9%)
				PsV Neutralization 80% Titer	50.2% (49.1%, 51.2%)
	Positive	Day 29	294	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	59.4% (57.1%, 61.6%)
				PsV Neutralization 80% Titer	80.6% (77.8%, 83.4%)
		Day 57	294	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	88.6% (86.9%, 90.3%)
				PsV Neutralization 80% Titer	97.8% (97.1%, 98.4%)
Age $>=$ 65					
	Negative	Day 29	549	Binding Antibody to RBD	50.5% (50.1%, 50.9%)
				Binding Antibody to Spike	50.5% (50.1%, 50.9%)
				PsV Neutralization 50% Titer	42.3% (41.3%, 43.3%)
				PsV Neutralization 80% Titer	46.2% (45.9%, 46.4%)
		Day 57	549	Binding Antibody to RBD	50.5%

Table 2.3: Table 2b. Responder rates by Age (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
Positive	Day 29	249	249	Binding Antibody to Spike	(50.1%, 50.9%)	(50.1%)
				PsV Neutralization 50% Titer	50.5%	50.5%
				PsV Neutralization 80% Titer	(50.1%, 50.9%)	(50.1%)
				Binding Antibody to RBD	48.8%	48.8%
				Binding Antibody to Spike	(48.7%, 48.9%)	(48.7%)
	Day 57	249	249	PsV Neutralization 80% Titer	50.1%	50.1%
				Binding Antibody to RBD	(49.0%, 51.3%)	(49.0%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 80% Titer	83.0%	83.0%
				Binding Antibody to Spike	(82.5%, 83.5%)	(82.5%)
				PsV Neutralization 80% Titer	89.4%	89.4%
				Binding Antibody to RBD	(82.9%, 95.9%)	(82.9%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 80% Titer	97.2%	97.2%
				Binding Antibody to Spike	(95.9%, 98.6%)	(95.9%)
				PsV Neutralization 80% Titer	98.7%	98.7%
				Binding Antibody to RBD	(97.5%, 99.9%)	(97.5%)

Neutralization Responders are defined as participants who had baseline values below the lower limit of quantification (LLOQ) or as participants with baseline values above the LLOQ with a 4-fold increase in neutralization titer above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

Binding Antibody Responders are defined as participants who had baseline values below the LLOQ with detectable antibody concentration or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.4: Table 2c. Responder rates by Risk for Severe Covid-19

Group	Baseline	Visit	N	Endpoint	Responder
Risk for Severe Covid-19					
At-risk	Negative	Day 29	541	Binding Antibody to RBD	52.0% (50.8%, 53.2%)
				Binding Antibody to Spike	52.0% (50.8%, 53.2%)
				PsV Neutralization 50% Titer	34.0% (26.4%, 41.5%)
				PsV Neutralization 80% Titer	41.1% (36.4%, 45.7%)
		Day 57	541	Binding Antibody to RBD	52.0% (50.8%, 53.2%)
				Binding Antibody to Spike	52.0% (50.8%, 53.2%)
				PsV Neutralization 50% Titer	48.7% (47.0%, 50.3%)
				PsV Neutralization 80% Titer	50.8% (48.6%, 52.9%)
Positive	Negative	Day 29	246	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	69.1% (59.3%, 78.8%)
				PsV Neutralization 80% Titer	78.7% (72.5%, 84.9%)
		Day 57	246	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	92.5% (89.8%, 95.2%)
				PsV Neutralization 80% Titer	97.7% (96.8%, 98.6%)
Not at-risk	Negative	Day 29	521	Binding Antibody to RBD	51.2% (50.1%, 52.2%)
				Binding Antibody to Spike	51.2% (50.1%, 52.2%)
				PsV Neutralization 50% Titer	34.3% (30.7%, 37.9%)
				PsV Neutralization 80% Titer	41.1% (39.5%, 42.8%)
		Day 57	521	Binding Antibody to RBD	51.2%

Table 2.4: Table 2c. Responder rates by Risk for Severe Covid-19 (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
Positive	Day 29	297		Binding Antibody to Spike	(50.1%, 52.2%)	(50.1%)
				PsV Neutralization 50% Titer	51.2%	51.2%
				PsV Neutralization 80% Titer	(50.1%, 52.2%)	(50.1%)
				Binding Antibody to RBD	49.4%	49.4%
				Binding Antibody to Spike	(47.8%, 51.0%)	(47.8%)
	Day 57	297		PsV Neutralization 80% Titer	50.0%	50.0%
				Binding Antibody to RBD	(48.6%, 51.3%)	(48.6%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 80% Titer	62.4%	62.4%
				PsV Neutralization 80% Titer	(54.9%, 70.0%)	(54.9%)
				Binding Antibody to RBD	83.5%	83.5%
				Binding Antibody to Spike	(80.5%, 86.6%)	(80.5%)
				PsV Neutralization 50% Titer	100.0%	100.0%
				PsV Neutralization 80% Titer	(100.0%, 100.0%)	(100.0%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 80% Titer	89.6%	89.6%
				Binding Antibody to RBD	(86.3%, 92.9%)	(86.3%)
				Binding Antibody to Spike	98.0%	98.0%

Neutralization Responders are defined as participants who had baseline values below the lower limit of quantification (LLOQ) or as participants with baseline values above the LLOQ with a 4-fold increase in neutralization titer above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

Binding Antibody Responders are defined as participants who had baseline values below the LLOQ with detectable antibody concentration or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.5: Table 2d. Responder rates by Age, Risk for Severe Covid-19

Group	Baseline	Visit	N	Endpoint	Responder
Age, Risk for Severe Covid-19					
Age \geq 65 At-risk	Negative	Day 29	257	Binding Antibody to RBD	51.4% (50.1%, 52.8%)
				Binding Antibody to Spike	51.4% (50.1%, 52.8%)
				PsV Neutralization 50% Titer	28.6% (28.3%, 29.0%)
				PsV Neutralization 80% Titer	37.7% (34.3%, 41.1%)
		Day 57	257	Binding Antibody to RBD	51.4% (50.1%, 52.8%)
				Binding Antibody to Spike	51.4% (50.1%, 52.8%)
				PsV Neutralization 50% Titer	47.5% (46.3%, 48.7%)
				PsV Neutralization 80% Titer	49.3% (47.4%, 51.3%)
Positive	Day 29	148		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	62.8% (57.8%, 67.7%)
				PsV Neutralization 80% Titer	75.7% (67.6%, 83.7%)
		Day 57	148	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	91.4% (87.6%, 95.2%)
				PsV Neutralization 80% Titer	98.0% (97.5%, 98.5%)
Age \geq 65 Not at-risk	Negative	Day 29	256	Binding Antibody to RBD	51.7% (51.6%, 51.8%)
				Binding Antibody to Spike	51.7% (51.6%, 51.8%)
				PsV Neutralization 50% Titer	32.9% (29.3%, 36.5%)
				PsV Neutralization 80% Titer	40.3% (39.8%, 40.7%)
		Day 57	256	Binding Antibody to RBD	51.7%

Table 2.5: Table 2d. Responder rates by Age, Risk for Severe Covid-19 (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
Positive	Day 29	146		Binding Antibody to Spike	(51.6%, 51.8%)	(51.6%)
				PsV Neutralization 50% Titer	51.7%	51.7%
				PsV Neutralization 80% Titer	(51.6%, 51.8%)	(51.6%)
				Binding Antibody to RBD	49.8%	49.8%
				Binding Antibody to Spike	(48.3%, 51.3%)	(48.3%)
	Day 57	146		PsV Neutralization 80% Titer	50.4%	50.4%
				Binding Antibody to RBD	(49.4%, 51.5%)	(49.4%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 80% Titer	58.5%	58.5%
Age ≥ 65 At-risk	Day 29	284		Binding Antibody to Spike	(57.7%, 59.4%)	(57.7%)
				PsV Neutralization 50% Titer	81.9%	81.9%
				PsV Neutralization 80% Titer	(80.7%, 83.0%)	(80.7%)
				Binding Antibody to RBD	100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
	Day 57	284		PsV Neutralization 50% Titer	87.9%	87.9%
				PsV Neutralization 80% Titer	(87.8%, 88.0%)	(87.8%)
				Binding Antibody to RBD	97.7%	97.7%
				Binding Antibody to Spike	(96.9%, 98.5%)	(96.9%)
				PsV Neutralization 50% Titer	53.0%	53.0%
Positive	Day 29	98		Binding Antibody to Spike	(51.8%, 54.2%)	(51.8%)
				PsV Neutralization 50% Titer	53.0%	53.0%
				PsV Neutralization 80% Titer	(51.8%, 54.2%)	(51.8%)
				Binding Antibody to RBD	42.5%	42.5%
				Binding Antibody to Spike	(40.6%, 44.3%)	(40.6%)
	Day 57	284		PsV Neutralization 80% Titer	46.4%	46.4%
				Binding Antibody to RBD	(45.9%, 47.0%)	(45.9%)
				Binding Antibody to Spike	53.0%	53.0%
				PsV Neutralization 50% Titer	(51.8%, 54.2%)	(51.8%)
				PsV Neutralization 80% Titer	50.5%	50.5%
Negative	Day 29	284		Binding Antibody to Spike	(50.4%, 50.6%)	(50.4%)
				PsV Neutralization 50% Titer	53.0%	53.0%
				PsV Neutralization 80% Titer	(51.8%, 54.2%)	(51.8%)
				Binding Antibody to RBD	100.0%	100.0%
Positive	Day 29	98		Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
				Binding Antibody to RBD	100.0%	100.0%
Negative	Day 57	284		Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)

Table 2.5: Table 2d. Responder rates by Age, Risk for Severe Covid-19 (contin)

Group	Baseline	Visit	N	Endpoint	Responder	
Age ≥ 65 Not at-risk	Negative	Day 29	265	PsV Neutralization 50% Titer	82.1% (80.9%, 83.3%)	
				PsV Neutralization 80% Titer	85.0% (79.6%, 90.3%)	
		Day 57		Binding Antibody to RBD	100.0% (100.0%, 100.0%)	
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	
				PsV Neutralization 50% Titer	94.7% (92.6%, 96.7%)	
	Positive	Day 29	151	PsV Neutralization 80% Titer	97.2% (94.5%, 99.8%)	
				Binding Antibody to RBD	48.2% (48.2%, 48.2%)	
		Day 57		Binding Antibody to Spike	48.2% (48.2%, 48.2%)	
				PsV Neutralization 50% Titer	42.1% (41.9%, 42.4%)	
				PsV Neutralization 80% Titer	45.9% (45.8%, 46.0%)	
		Day 57	151	Binding Antibody to RBD	48.2% (48.2%, 48.2%)	
				Binding Antibody to Spike	48.2% (48.2%, 48.2%)	
				PsV Neutralization 50% Titer	47.2% (46.8%, 47.7%)	
				PsV Neutralization 80% Titer	47.5% (45.9%, 49.0%)	
				Binding Antibody to RBD	100.0% (100.0%, 100.0%)	
		Day 29	151	Binding Antibody to Spike	100.0% (100.0%, 100.0%)	
				PsV Neutralization 50% Titer	83.6% (82.2%, 84.9%)	
				PsV Neutralization 80% Titer	92.4% (86.1%, 98.7%)	
		Day 57		Binding Antibody to RBD	100.0% (100.0%, 100.0%)	
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	
		Day 29	151	PsV Neutralization 50% Titer	98.9% (98.6%, 99.3%)	
				PsV Neutralization 80% Titer	99.7%	

Table 2.5: Table 2d. Responder rates by Age, Risk for Severe Covid-19 (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
					(99.1%, 100.3%)	(99.1%)

Neutralization Responders are defined as participants who had baseline values below the lower limit of quantification neutralization titer above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase.

Binding Antibody Responders are defined as participants who had baseline values below the LLOQ with detectable antibody concentration above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.6: Table 2e. Responder rates by Sex

Group	Baseline	Visit	N	Endpoint	Responder
Sex					
Female					
	Negative	Day 29	597	Binding Antibody to RBD	51.0% (46.1%, 55.9%)
				Binding Antibody to Spike	51.0% (46.1%, 55.9%)
				PsV Neutralization 50% Titer	34.1% (29.7%, 38.6%)
				PsV Neutralization 80% Titer	40.3% (34.2%, 46.3%)
		Day 57	597	Binding Antibody to RBD	51.0% (46.1%, 55.9%)
				Binding Antibody to Spike	51.0% (46.1%, 55.9%)
				PsV Neutralization 50% Titer	48.7% (44.8%, 52.5%)
				PsV Neutralization 80% Titer	50.3% (45.4%, 55.2%)
	Positive	Day 29	298	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	60.4% (50.7%, 70.2%)
				PsV Neutralization 80% Titer	81.2% (75.8%, 86.7%)
		Day 57	298	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	89.6% (86.8%, 92.4%)
				PsV Neutralization 80% Titer	97.1% (95.0%, 99.3%)
Male					
	Negative	Day 29	465	Binding Antibody to RBD	51.9% (44.8%, 59.0%)
				Binding Antibody to Spike	51.9% (44.8%, 59.0%)
				PsV Neutralization 50% Titer	34.3% (29.6%, 39.0%)
				PsV Neutralization 80% Titer	42.2% (36.0%, 48.5%)
		Day 57	465	Binding Antibody to RBD	51.9%

Table 2.6: Table 2e. Responder rates by Sex (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
Positive	Day 29	245		Binding Antibody to Spike	(44.8%, 59.0%)	(44.8%)
				PsV Neutralization 50% Titer	51.9%	51.9%
				PsV Neutralization 80% Titer	(44.8%, 59.0%)	(44.8%)
				Binding Antibody to RBD	49.9%	49.9%
				Binding Antibody to Spike	(42.1%, 57.6%)	(42.1%)
	Day 57	245		PsV Neutralization 80% Titer	50.0%	50.0%
				Binding Antibody to RBD	(42.1%, 57.9%)	(42.1%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 80% Titer	68.8%	68.8%
				Binding Antibody to Spike	(60.8%, 76.8%)	(60.8%)
				PsV Neutralization 80% Titer	83.8%	83.8%
				Binding Antibody to RBD	(75.1%, 92.5%)	(75.1%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 80% Titer	91.2%	91.2%
				Binding Antibody to Spike	(86.5%, 95.9%)	(86.5%)
				PsV Neutralization 80% Titer	99.0%	99.0%
				Binding Antibody to RBD	(97.5%, 100.6%)	(97.5%)

Neutralization Responders are defined as participants who had baseline values below the lower limit of quantification (LLOQ) or as participants with baseline values above the LLOQ with a 4-fold increase in neutralization titer above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

Binding Antibody Responders are defined as participants who had baseline values below the LLOQ with detectable antibody concentration or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.7: Table 2f. Responder rates by Age, sex

Group	Baseline	Visit	N	Endpoint	Responder
Age, sex					
Age \geq 65 Female				Binding Antibody to RBD	50.3%
	Negative	Day 29	291	Binding Antibody to Spike	(44.7%, 55.9%)
				PsV Neutralization 50% Titer	50.3%
				PsV Neutralization 80% Titer	(44.7%, 55.9%)
		Day 57	291	Binding Antibody to RBD	31.5%
				Binding Antibody to Spike	(28.2%, 34.7%)
				PsV Neutralization 50% Titer	37.8%
				PsV Neutralization 80% Titer	(33.2%, 42.4%)
	Positive	Day 29	166	Binding Antibody to RBD	50.3%
				Binding Antibody to Spike	(44.7%, 55.9%)
				PsV Neutralization 50% Titer	50.3%
				PsV Neutralization 80% Titer	(44.7%, 55.9%)
		Day 57	166	Binding Antibody to RBD	47.7%
				Binding Antibody to Spike	(43.7%, 51.8%)
				PsV Neutralization 50% Titer	49.5%
				PsV Neutralization 80% Titer	(44.1%, 54.9%)
Age \geq 65 Male				Binding Antibody to RBD	100.0%
	Negative	Day 29	222	Binding Antibody to Spike	(100.0%, 100.0%)
				PsV Neutralization 50% Titer	100.0%
				PsV Neutralization 80% Titer	(100.0%, 100.0%)
		Day 57	222	Binding Antibody to RBD	79.9%
				Binding Antibody to Spike	(74.1%, 85.7%)
				PsV Neutralization 50% Titer	100.0%
				PsV Neutralization 80% Titer	(86.5%, 89.5%)
				Binding Antibody to RBD	88.0%
				Binding Antibody to Spike	(94.4%, 99.3%)
				PsV Neutralization 50% Titer	53.5%
				PsV Neutralization 80% Titer	(45.1%, 61.9%)
		Day 57	222	Binding Antibody to RBD	53.5%
				Binding Antibody to Spike	(45.1%, 61.9%)
				PsV Neutralization 50% Titer	32.7%
				PsV Neutralization 80% Titer	(27.1%, 38.3%)
				Binding Antibody to RBD	42.4%
				Binding Antibody to Spike	(34.3%, 50.5%)
				PsV Neutralization 50% Titer	53.5%
				PsV Neutralization 80% Titer	

Table 2.7: Table 2f. Responder rates by Age, sex (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
Positive	Day 29	128		Binding Antibody to Spike	(45.1%, 61.9%)	(45.1%)
				PsV Neutralization 50% Titer	53.5%	53.5%
				PsV Neutralization 80% Titer	(45.1%, 61.9%)	(45.1%)
				Binding Antibody to RBD	51.4%	51.4%
				Binding Antibody to Spike	(42.2%, 60.6%)	(42.2%)
	Day 57	128		PsV Neutralization 80% Titer	51.1%	51.1%
				Binding Antibody to RBD	(41.4%, 60.9%)	(41.4%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 80% Titer	64.3%	64.3%
Age \geq 65 Female	Day 29	306		Binding Antibody to Spike	(59.7%, 68.9%)	(59.7%)
				PsV Neutralization 50% Titer	81.5%	81.5%
				PsV Neutralization 80% Titer	(70.2%, 92.9%)	(70.2%)
				Binding Antibody to RBD	100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
	Day 57	306		PsV Neutralization 50% Titer	100.0%	100.0%
				PsV Neutralization 80% Titer	(100.0%, 100.0%)	(100.0%)
				Binding Antibody to RBD	89.4%	89.4%
				Binding Antibody to Spike	(85.6%, 93.2%)	(85.6%)
				PsV Neutralization 80% Titer	99.1%	99.1%
Negative	Day 29	306		PsV Neutralization 80% Titer	(97.2%, 100.9%)	(97.2%)
				Binding Antibody to RBD	54.0%	54.0%
				Binding Antibody to Spike	(52.7%, 55.2%)	(52.7%)
				PsV Neutralization 50% Titer	54.0%	54.0%
				PsV Neutralization 80% Titer	(52.7%, 55.2%)	(52.7%)
	Day 57	306		Binding Antibody to RBD	44.9%	44.9%
				Binding Antibody to Spike	(41.8%, 48.0%)	(41.8%)
				PsV Neutralization 50% Titer	50.3%	50.3%
				PsV Neutralization 80% Titer	(49.0%, 51.6%)	(49.0%)
				Binding Antibody to RBD	54.0%	54.0%
Positive	Day 29	132		Binding Antibody to Spike	(52.7%, 55.2%)	(52.7%)
				PsV Neutralization 50% Titer	54.0%	54.0%
	Day 57	132		PsV Neutralization 80% Titer	(52.7%, 55.2%)	(52.7%)
				Binding Antibody to RBD	52.3%	52.3%
Positive	Day 29	132		Binding Antibody to Spike	(51.0%, 53.6%)	(51.0%)
				PsV Neutralization 50% Titer	53.5%	53.5%
	Day 57	132		PsV Neutralization 80% Titer	(51.4%, 55.7%)	(51.4%)
				Binding Antibody to RBD	100.0%	100.0%
Positive	Day 29	132		Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	100.0%	100.0%
Positive	Day 57	132		PsV Neutralization 80% Titer	(100.0%, 100.0%)	(100.0%)

Table 2.7: Table 2f. Responder rates by Age, sex (continued)

Group	Baseline	Visit	N	Endpoint	Responder	
Age \geq 65 Male	Negative	Day 29	243	PsV Neutralization 50% Titer	81.1% (74.4%, 87.8%)	
				PsV Neutralization 80% Titer	87.0% (78.8%, 95.1%)	
		Day 57	132	Binding Antibody to RBD	100.0% (100.0%, 100.0%)	
		Day 29		Binding Antibody to Spike	100.0% (100.0%, 100.0%)	
				PsV Neutralization 50% Titer	96.8% (95.3%, 98.3%)	
	Positive	Day 57	243	PsV Neutralization 80% Titer	98.5% (98.2%, 98.8%)	
				Binding Antibody to RBD	46.8% (46.7%, 46.8%)	
		Day 29		Binding Antibody to Spike	46.8% (46.7%, 46.8%)	
				PsV Neutralization 50% Titer	39.4% (38.7%, 40.2%)	
		Day 57		PsV Neutralization 80% Titer	41.7% (40.5%, 42.8%)	
				Binding Antibody to RBD	46.8% (46.7%, 46.8%)	
		Day 29	117	Binding Antibody to Spike	46.8% (46.7%, 46.8%)	
				PsV Neutralization 50% Titer	45.0% (44.5%, 45.6%)	
	Positive	Day 57	117	PsV Neutralization 80% Titer	46.4% (45.7%, 47.2%)	
				Binding Antibody to RBD	100.0% (100.0%, 100.0%)	
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	
				PsV Neutralization 50% Titer	85.1% (78.6%, 91.6%)	
				PsV Neutralization 80% Titer	92.2% (87.5%, 96.9%)	
	Day 29	Day 57	117	Binding Antibody to RBD	100.0% (100.0%, 100.0%)	
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	
		Day 29		PsV Neutralization 50% Titer	97.7% (96.5%, 98.9%)	
				PsV Neutralization 80% Titer	98.9%	

Table 2.7: Table 2f. Responder rates by Age, sex (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
					(96.7%, 101.1%)	(96.7%)

Neutralization Responders are defined as participants who had baseline values below the lower limit of quantification neutralization titer above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase.

Binding Antibody Responders are defined as participants who had baseline values below the LLOQ with detectable antibody concentration above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.8: Table 2g. Responder rates by Hispanic or Latino ethnicity

Group	Baseline	Visit	N	Endpoint	Responder
Hispanic or Latino ethnicity					
Hispanic or Latino					
Negative	Day 29	125		Binding Antibody to RBD	45.9% (38.7%, 53.1%)
				Binding Antibody to Spike	45.9% (38.7%, 53.1%)
				PsV Neutralization 50% Titer	25.5% (13.1%, 37.9%)
				PsV Neutralization 80% Titer	36.7% (29.2%, 44.2%)
	Day 57	125		Binding Antibody to RBD	45.9% (38.7%, 53.1%)
				Binding Antibody to Spike	45.9% (38.7%, 53.1%)
				PsV Neutralization 50% Titer	44.9% (39.1%, 50.7%)
				PsV Neutralization 80% Titer	42.2% (33.8%, 50.6%)
Positive	Day 29	77		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	62.1% (54.8%, 69.4%)
				PsV Neutralization 80% Titer	81.4% (74.5%, 88.4%)
	Day 57	77		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	89.5% (86.7%, 92.2%)
				PsV Neutralization 80% Titer	96.2% (94.3%, 98.1%)
Not Hispanic or Latino	Negative	Day 29	844	Binding Antibody to RBD	53.0% (50.5%, 55.5%)
				Binding Antibody to Spike	53.0% (50.5%, 55.5%)
				PsV Neutralization 50% Titer	35.6% (31.4%, 39.8%)
				PsV Neutralization 80% Titer	42.5% (38.9%, 46.1%)
	Day 57	844		Binding Antibody to RBD	53.0%

Table 2.8: Table 2g. Responder rates by Hispanic or Latino ethnicity (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
Positive	Day 29	406		Binding Antibody to Spike	(50.5%, 55.5%)	(50.5%)
				PsV Neutralization 50% Titer	53.0%	53.0%
				PsV Neutralization 80% Titer	(50.5%, 55.5%)	(50.5%)
				Binding Antibody to RBD	50.6%	50.6%
				Binding Antibody to Spike	(48.0%, 53.3%)	(48.0%)
	Day 57	406		PsV Neutralization 80% Titer	51.9%	51.9%
				Binding Antibody to RBD	(49.4%, 54.4%)	(49.4%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 80% Titer	64.7%	64.7%
Not reported and unknown	Day 29	93		Binding Antibody to Spike	(55.8%, 73.6%)	(55.8%)
				PsV Neutralization 50% Titer	80.5%	80.5%
				PsV Neutralization 80% Titer	(77.3%, 83.6%)	(77.3%)
				Binding Antibody to RBD	100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
	Day 57	93		PsV Neutralization 50% Titer	91.9%	91.9%
				PsV Neutralization 80% Titer	(89.2%, 94.6%)	(89.2%)
				Binding Antibody to RBD	98.7%	98.7%
				Binding Antibody to Spike	(98.0%, 99.4%)	(98.0%)
				PsV Neutralization 80% Titer	43.0%	43.0%
Positive	Day 29	60		Binding Antibody to RBD	(33.4%, 52.6%)	(33.4%)
				Binding Antibody to Spike	43.0%	43.0%
				PsV Neutralization 50% Titer	(33.4%, 52.6%)	(33.4%)
				PsV Neutralization 80% Titer	30.1%	30.1%
				Binding Antibody to RBD	(20.0%, 40.2%)	(20.0%)
	Day 57	60		PsV Neutralization 80% Titer	34.1%	34.1%
				Binding Antibody to Spike	(21.0%, 47.2%)	(21.0%)
				PsV Neutralization 50% Titer	43.0%	43.0%
				PsV Neutralization 80% Titer	(33.4%, 52.6%)	(33.4%)
				Binding Antibody to RBD	41.3%	41.3%

Table 2.8: Table 2g. Responder rates by Hispanic or Latino ethnicity (continu

Group	Baseline	Visit	N	Endpoint	Responder
Day 57 60				PsV Neutralization 50% Titer	61.7% (50.1%, 73.4%)
				PsV Neutralization 80% Titer	95.7% (89.8%, 101.6%)
			60	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	80.6% (69.6%, 91.7%)
				PsV Neutralization 80% Titer	94.7% (89.6%, 99.9%)

Neutralization Responders are defined as participants who had baseline values below the lower limit of quantitation (LLOQ) and a 4-fold increase in antibody concentration above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

Binding Antibody Responders are defined as participants who had baseline values below the LLOQ with detectable antibody concentration above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampled.

Table 2.9: Table 2h. Responder rates by Race

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
Race						
Not reported and unknown	Negative	Day 29	98	Binding Antibody to RBD	49.6% (46.8%, 52.3%)	49.6% (46.8%)
				Binding Antibody to Spike	49.6% (46.8%, 52.3%)	49.6% (46.8%)
				PsV Neutralization 50% Titer	31.8% (26.7%, 36.8%)	31.8% (26.7%)
				PsV Neutralization 80% Titer	38.7% (32.3%, 45.2%)	38.7% (32.3%)
		Day 57	98	Binding Antibody to RBD	49.6% (46.8%, 52.3%)	49.6% (46.8%)
				Binding Antibody to Spike	49.6% (46.8%, 52.3%)	49.6% (46.8%)
				PsV Neutralization 50% Titer	48.5% (44.6%, 52.5%)	48.5% (44.6%)
				PsV Neutralization 80% Titer	49.1% (45.4%, 52.8%)	49.1% (45.4%)
	Positive	Day 29	48	Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				PsV Neutralization 50% Titer	60.6% (36.8%, 84.4%)	60.6% (36.8%)
				PsV Neutralization 80% Titer	83.9% (75.5%, 92.3%)	83.9% (75.5%)
		Day 57	48	Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				PsV Neutralization 50% Titer	97.7% (94.4%, 101.1%)	97.7% (94.4%)
				PsV Neutralization 80% Titer	100.0% (100.0%, 100.0%)	100.0% (100.0%)
American Indian or Alaska Native	Negative	Day 29	27	Binding Antibody to RBD	48.6% (37.7%, 59.5%)	48.6% (37.7%)
				Binding Antibody to Spike	48.6% (37.7%, 59.5%)	48.6% (37.7%)
				PsV Neutralization 50% Titer	30.3% (23.1%, 37.4%)	30.3% (23.1%)
				PsV Neutralization 80% Titer	36.6% (30.9%, 42.4%)	36.6% (30.9%)

Table 2.9: Table 2h. Responder rates by Race (continued)

Group	Baseline	Visit	N	Endpoint	Responder
Asian	Positive	Day 57	27	Binding Antibody to RBD	48.6% (37.7%, 59.5%)
				Binding Antibody to Spike	48.6% (37.7%, 59.5%)
				PsV Neutralization 50% Titer	47.8% (36.3%, 59.2%)
				PsV Neutralization 80% Titer	47.8% (36.3%, 59.2%)
		Day 29	17	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	79.4% (71.5%, 87.4%)
				PsV Neutralization 80% Titer	89.3% (65.0%, 113.7%)
		Day 57	17	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
	Negative			PsV Neutralization 50% Titer	96.7% (89.3%, 104.2%)
				PsV Neutralization 80% Titer	100.0% (100.0%, 100.0%)
		Day 29	84	Binding Antibody to RBD	58.3% (48.6%, 68.0%)
				Binding Antibody to Spike	58.3% (48.6%, 68.0%)
				PsV Neutralization 50% Titer	38.1% (34.4%, 41.8%)
	Positive			PsV Neutralization 80% Titer	52.0% (40.7%, 63.3%)
		Day 57	84	Binding Antibody to RBD	58.3% (48.6%, 68.0%)
				Binding Antibody to Spike	58.3% (48.6%, 68.0%)
				PsV Neutralization 50% Titer	57.4% (45.8%, 69.0%)
				PsV Neutralization 80% Titer	57.4% (47.1%, 67.7%)
	Positive	Day 29	46	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0%

Table 2.9: Table 2h. Responder rates by Race (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
Black or African American	Negative	Day 29	216	PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	57.7%	57.7%
				PsV Neutralization 80% Titer	(28.4%, 87.0%)	(28.4%)
		Day 57	46	PsV Neutralization 80% Titer	74.0%	74.0%
				Binding Antibody to RBD	(54.6%, 93.3%)	(54.6%)
				Binding Antibody to RBD	100.0%	100.0%
	Positive	Day 29	91	Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
		Day 57	216	PsV Neutralization 50% Titer	85.4%	85.4%
				PsV Neutralization 80% Titer	(73.9%, 96.9%)	(73.9%)
				PsV Neutralization 80% Titer	95.1%	95.1%
				Binding Antibody to RBD	(90.4%, 99.8%)	(90.4%)
				Binding Antibody to RBD	50.7%	50.7%
				Binding Antibody to Spike	(46.3%, 55.0%)	(46.3%)
				Binding Antibody to Spike	50.7%	50.7%
				PsV Neutralization 50% Titer	(46.3%, 55.0%)	(46.3%)
				PsV Neutralization 50% Titer	32.2%	32.2%
				PsV Neutralization 80% Titer	(27.0%, 37.5%)	(27.0%)
				PsV Neutralization 80% Titer	38.7%	38.7%
				Binding Antibody to RBD	(33.2%, 44.3%)	(33.2%)
				Binding Antibody to RBD	50.7%	50.7%
				Binding Antibody to Spike	(46.3%, 55.0%)	(46.3%)
				Binding Antibody to Spike	50.7%	50.7%
				PsV Neutralization 50% Titer	(46.3%, 55.0%)	(46.3%)
				PsV Neutralization 50% Titer	45.3%	45.3%
				PsV Neutralization 80% Titer	(40.9%, 49.7%)	(40.9%)
				PsV Neutralization 80% Titer	48.7%	48.7%
				Binding Antibody to RBD	(45.0%, 52.5%)	(45.0%)
				Binding Antibody to RBD	100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	58.6%	58.6%
				PsV Neutralization 80% Titer	(46.6%, 70.6%)	(46.6%)
				PsV Neutralization 80% Titer	81.4%	81.4%
				Binding Antibody to RBD	(69.9%, 93.0%)	(69.9%)
				Binding Antibody to RBD	100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
				Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(90.6%, 96.6%)	(90.6%)
				PsV Neutralization 50% Titer	93.6%	93.6%

Table 2.9: Table 2h. Responder rates by Race (continued)

Group	Baseline	Visit	N	Endpoint	Responder	
Multiracial	Negative	Day 29	62	PsV Neutralization 80% Titer	98.5% (96.2%, 100.8%)	
				Binding Antibody to RBD	37.2% (27.1%, 47.4%)	
		Day 57		Binding Antibody to Spike	37.2% (27.1%, 47.4%)	
				PsV Neutralization 50% Titer	17.5% (3.3%, 31.8%)	
				PsV Neutralization 80% Titer	28.6% (18.9%, 38.3%)	
	Positive	Day 29	28	Binding Antibody to RBD	37.2% (27.1%, 47.4%)	
				Binding Antibody to Spike	37.2% (27.1%, 47.4%)	
		Day 57		PsV Neutralization 50% Titer	37.2% (27.1%, 47.4%)	
				PsV Neutralization 80% Titer	37.2% (27.1%, 47.4%)	
				Binding Antibody to RBD	100.0% (100.0%, 100.0%)	
Native Hawaiian or Other Pacific Islander	Negative	Day 29	20	Binding Antibody to Spike	100.0% (100.0%, 100.0%)	
				PsV Neutralization 50% Titer	72.4% (64.0%, 80.8%)	
		Day 57		PsV Neutralization 80% Titer	89.7% (82.9%, 96.5%)	
				Binding Antibody to RBD	100.0% (100.0%, 100.0%)	
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	
	Positive	Day 29	20	PsV Neutralization 50% Titer	87.5% (77.1%, 97.9%)	
				PsV Neutralization 80% Titer	100.0% (100.0%, 100.0%)	
		Day 57		Binding Antibody to RBD	63.5% (21.5%, 105.6%)	
				Binding Antibody to Spike	63.5% (21.5%, 105.6%)	
				PsV Neutralization 50% Titer	43.7% (24.7%, 62.6%)	

Table 2.9: Table 2h. Responder rates by Race (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
Positive	Day 57	20	Binding Antibody to RBD	63.5%	63.5%	63.5%
			(21.5%, 105.6%)		(21.5%)	(21.5%)
			Binding Antibody to Spike	63.5%	63.5%	63.5%
			(21.5%, 105.6%)		(21.5%)	(21.5%)
			PsV Neutralization 50% Titer	63.5%	63.5%	63.5%
	Day 29	7	PsV Neutralization 80% Titer	63.5%	63.5%	63.5%
			(21.5%, 105.6%)		(21.5%)	(21.5%)
			Binding Antibody to RBD	100.0%	100.0%	100.0%
			(100.0%, 100.0%)		(100.0%)	(100.0%)
			Binding Antibody to Spike	100.0%	100.0%	100.0%
Other	Day 57	7	(100.0%, 100.0%)		(100.0%)	(100.0%)
			PsV Neutralization 50% Titer	90.4%	90.4%	90.4%
			(76.9%, 104.0%)		(76.9%)	(76.9%)
			PsV Neutralization 80% Titer	100.0%	100.0%	100.0%
			(100.0%, 100.0%)		(100.0%)	(100.0%)
	Day 29	28	Binding Antibody to RBD	100.0%	100.0%	100.0%
			(100.0%, 100.0%)		(100.0%)	(100.0%)
			Binding Antibody to Spike	100.0%	100.0%	100.0%
			(100.0%, 100.0%)		(100.0%)	(100.0%)
			PsV Neutralization 50% Titer	88.4%	88.4%	88.4%
Positive	Day 57	28	(61.5%, 115.4%)		(61.5%)	(61.5%)
			PsV Neutralization 80% Titer	100.0%	100.0%	100.0%
			(100.0%, 100.0%)		(100.0%)	(100.0%)
			Binding Antibody to RBD	80.7%	80.7%	80.7%
			(50.1%, 111.2%)		(50.1%)	(50.1%)
	Day 29	24	Binding Antibody to Spike	80.7%	80.7%	80.7%
			(50.1%, 111.2%)		(50.1%)	(50.1%)
			PsV Neutralization 50% Titer	59.7%	59.7%	59.7%
			(41.7%, 77.7%)		(41.7%)	(41.7%)
			PsV Neutralization 80% Titer	53.8%	53.8%	53.8%
Positive	Day 57	28	(45.1%, 62.5%)		(45.1%)	(45.1%)
			Binding Antibody to RBD	80.7%	80.7%	80.7%
			(50.1%, 111.2%)		(50.1%)	(50.1%)
			Binding Antibody to Spike	80.7%	80.7%	80.7%
			(50.1%, 111.2%)		(50.1%)	(50.1%)
	Day 29	24	PsV Neutralization 50% Titer	78.0%	78.0%	78.0%
			(48.7%, 107.3%)		(48.7%)	(48.7%)
			PsV Neutralization 80% Titer	68.0%	68.0%	68.0%
			(51.7%, 84.2%)		(51.7%)	(51.7%)
			Binding Antibody to RBD	100.0%	100.0%	100.0%
			(100.0%, 100.0%)		(100.0%)	(100.0%)
			Binding Antibody to Spike	100.0%	100.0%	100.0%

Table 2.9: Table 2h. Responder rates by Race (continued)

Group	Baseline	Visit	N	Endpoint	Responder
White	Negative	Day 29	43	PsV Neutralization 50% Titer	(100.0%, 100.0%)
				PsV Neutralization 80% Titer	58.0% (46.7%, 69.4%)
		Day 57	24	Binding Antibody to RBD	83.5% (76.5%, 90.4%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	100.0% (100.0%, 100.0%)
	Positive	Day 29	38	PsV Neutralization 80% Titer	90.2% (87.3%, 93.2%)
				Binding Antibody to RBD	100.0% (100.0%, 100.0%)
		Day 57	43	Binding Antibody to Spike	46.3% (32.8%, 59.7%)
				PsV Neutralization 50% Titer	46.3% (32.8%, 59.7%)
				PsV Neutralization 80% Titer	34.6% (25.7%, 43.5%)
		Day 57	38	Binding Antibody to RBD	38.2% (22.1%, 54.3%)
				Binding Antibody to Spike	46.3% (32.8%, 59.7%)
				PsV Neutralization 50% Titer	46.3% (27.9%, 57.5%)
				PsV Neutralization 80% Titer	42.7% (32.8%, 59.7%)
				Binding Antibody to RBD	46.3% (32.8%, 59.7%)
		Day 29	38	Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	100.0% (100.0%, 100.0%)
		Day 57	38	PsV Neutralization 80% Titer	67.3% (54.2%, 80.3%)
				Binding Antibody to RBD	96.6% (90.4%, 102.7%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	100.0% (100.0%, 100.0%)

Table 2.9: Table 2h. Responder rates by Race (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
White Non-Hispanic	Negative	Day 29	456	PsV Neutralization 80% Titer	93.2% (87.3%, 99.1%)	93.2% (87.3%)
				Binding Antibody to RBD	52.6% (51.9%, 53.2%)	52.6% (51.9%)
		Day 57	456	Binding Antibody to Spike	52.6% (51.9%, 53.2%)	52.6% (51.9%)
				PsV Neutralization 50% Titer	36.3% (31.2%, 41.4%)	36.3% (31.2%)
				PsV Neutralization 80% Titer	42.5% (39.7%, 45.2%)	42.5% (39.7%)
	Positive	Day 29	224	Binding Antibody to RBD	52.6% (51.9%, 53.2%)	52.6% (51.9%)
				Binding Antibody to Spike	52.6% (51.9%, 53.2%)	52.6% (51.9%)
		Day 57	224	PsV Neutralization 50% Titer	50.7% (48.7%, 52.8%)	50.7% (48.7%)
				PsV Neutralization 80% Titer	51.6% (50.8%, 52.4%)	51.6% (50.8%)
				Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				PsV Neutralization 50% Titer	64.4% (55.4%, 73.5%)	64.4% (55.4%)
				PsV Neutralization 80% Titer	79.6% (76.6%, 82.5%)	79.6% (76.6%)
				Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				PsV Neutralization 50% Titer	91.4% (87.3%, 95.4%)	91.4% (87.3%)
				PsV Neutralization 80% Titer	98.1% (97.5%, 98.7%)	98.1% (97.5%)

Neutralization Responders are defined as participants who had baseline values below the lower limit of quantification (LLOQ) or as participants with baseline values above the LLOQ with a 4-fold increase in neutralization titer above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase in neutralization titer above the assay LLOQ.

Binding Antibody Responders are defined as participants who had baseline values below the LLOQ with detectable antibody concentration or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.10: Table 2i. Responder rates by Race and ethnic group

Group	Baseline	Visit	N	Endpoint	Responder
Race and ethnic group					
White Non-Hispanic					
	Negative	Day 29	456	Binding Antibody to RBD	52.6% (51.9%, 53.2%)
				Binding Antibody to Spike	52.6% (51.9%, 53.2%)
				PsV Neutralization 50% Titer	36.3% (31.2%, 41.4%)
				PsV Neutralization 80% Titer	42.5% (39.7%, 45.2%)
		Day 57	456	Binding Antibody to RBD	52.6% (51.9%, 53.2%)
				Binding Antibody to Spike	52.6% (51.9%, 53.2%)
				PsV Neutralization 50% Titer	50.7% (48.7%, 52.8%)
				PsV Neutralization 80% Titer	51.6% (50.8%, 52.4%)
	Positive	Day 29	224	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	64.4% (55.4%, 73.5%)
				PsV Neutralization 80% Titer	79.6% (76.6%, 82.5%)
		Day 57	224	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	91.4% (87.3%, 95.4%)
				PsV Neutralization 80% Titer	98.1% (97.5%, 98.7%)
Communities of Color	Negative	Day 29	535	Binding Antibody to RBD	50.6% (48.7%, 52.5%)
				Binding Antibody to Spike	50.6% (48.7%, 52.5%)
				PsV Neutralization 50% Titer	31.8% (27.8%, 35.9%)
				PsV Neutralization 80% Titer	39.9% (36.6%, 43.3%)
		Day 57	535	Binding Antibody to RBD	50.6%

Table 2.10: Table 2i. Responder rates by Race and ethnic group (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
				Binding Antibody to Spike	(48.7%, 52.5%)	(48.7%)
				PsV Neutralization 50% Titer	50.6%	50.6%
				PsV Neutralization 80% Titer	(48.7%, 52.5%)	(48.7%)
				Binding Antibody to RBD	48.1%	48.1%
				Binding Antibody to Spike	(46.5%, 49.7%)	(46.5%)
				PsV Neutralization 50% Titer	49.3%	49.3%
				PsV Neutralization 80% Titer	(47.6%, 51.0%)	(47.6%)
Positive	Day 29	261		Binding Antibody to RBD	100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	62.2%	62.2%
				PsV Neutralization 80% Titer	(51.6%, 72.9%)	(51.6%)
	Day 57	261		Binding Antibody to RBD	82.7%	82.7%
				Binding Antibody to Spike	(75.9%, 89.5%)	(75.9%)
				PsV Neutralization 50% Titer	100.0%	100.0%
				PsV Neutralization 80% Titer	(100.0%, 100.0%)	(100.0%)
				Binding Antibody to RBD	100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	92.3%	92.3%
				PsV Neutralization 80% Titer	(86.8%, 97.8%)	(86.8%)
				Binding Antibody to RBD	98.7%	98.7%
				Binding Antibody to Spike	(98.1%, 99.3%)	(98.1%)

Neutralization Responders are defined as participants who had baseline values below the lower limit of quantification (LLOQ) or as participants with baseline values above the LLOQ with a 4-fold increase in neutralization titer above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

Binding Antibody Responders are defined as participants who had baseline values below the LLOQ with detectable antibody concentration or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.11: Table 2j. Responder rates by Age, Race and ethnic group

Group	Baseline	Visit	N	Endpoint	Responder
Age, Race and ethnic group					
Age ≥ 65 Communities of Color	Negative	Day 29	253	Binding Antibody to RBD	50.8%
				Binding Antibody to Spike	(48.5%, 53.1%)
				PsV Neutralization 50% Titer	50.8%
				PsV Neutralization 80% Titer	(48.5%, 53.1%)
		Day 57	253	Binding Antibody to RBD	29.4%
				Binding Antibody to Spike	(28.4%, 30.4%)
				PsV Neutralization 50% Titer	38.0%
				PsV Neutralization 80% Titer	(34.4%, 41.7%)
Positive	Day 29	148		Binding Antibody to RBD	50.8%
				Binding Antibody to Spike	(48.5%, 53.1%)
				PsV Neutralization 50% Titer	50.8%
				PsV Neutralization 80% Titer	(46.0%, 50.0%)
		Day 57	148	Binding Antibody to RBD	49.3%
				Binding Antibody to Spike	(47.1%, 51.5%)
				PsV Neutralization 50% Titer	100.0%
				PsV Neutralization 80% Titer	(100.0%, 100.0%)
Age ≥ 65 White Non-Hispanic	Negative	Day 29	227	Binding Antibody to RBD	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)
				PsV Neutralization 50% Titer	100.0%
				PsV Neutralization 80% Titer	(100.0%, 100.0%)
		Day 57	148	Binding Antibody to RBD	90.8%
				Binding Antibody to Spike	(86.0%, 95.6%)
				PsV Neutralization 50% Titer	98.7%
				PsV Neutralization 80% Titer	(98.0%, 99.5%)
				Binding Antibody to RBD	52.6%
				Binding Antibody to Spike	(51.9%, 53.4%)
				PsV Neutralization 50% Titer	34.0%
				PsV Neutralization 80% Titer	(29.5%, 38.4%)
				Binding Antibody to RBD	41.2%
				Binding Antibody to Spike	(38.8%, 43.6%)

Table 2.11: Table 2j. Responder rates by Age, Race and ethnic group (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
		Day 57	227	Binding Antibody to RBD	52.6% (51.9%, 53.4%)	52.6% (51.9%)
				Binding Antibody to Spike	52.6% (51.9%, 53.4%)	52.6% (51.9%)
				PsV Neutralization 50% Titer	50.8% (48.3%, 53.3%)	50.8% (48.3%)
				PsV Neutralization 80% Titer	51.4% (50.3%, 52.5%)	51.4% (50.3%)
Positive	Day 29	117		Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				PsV Neutralization 50% Titer	60.6% (59.1%, 62.2%)	60.6% (59.1%)
				PsV Neutralization 80% Titer	78.3% (78.0%, 78.7%)	78.3% (78.0%)
Age $i = 65$ Communities of Color	Negative	Day 29	282	Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	100.0% (100.0%)
				PsV Neutralization 50% Titer	90.0% (87.8%, 92.2%)	90.0% (87.8%)
				PsV Neutralization 80% Titer	97.9% (97.2%, 98.6%)	97.9% (97.2%)
		Day 57	117	Binding Antibody to RBD	50.1% (50.0%, 50.2%)	50.1% (50.0%)
				Binding Antibody to Spike	50.1% (50.0%, 50.2%)	50.1% (50.0%)
				PsV Neutralization 50% Titer	40.8% (40.3%, 41.3%)	40.8% (40.3%)
				PsV Neutralization 80% Titer	46.8% (45.1%, 48.6%)	46.8% (45.1%)
		Day 57	282	Binding Antibody to RBD	50.1% (50.0%, 50.2%)	50.1% (50.0%)
				Binding Antibody to Spike	50.1% (50.0%, 50.2%)	50.1% (50.0%)
				PsV Neutralization 50% Titer	48.5% (47.9%, 49.1%)	48.5% (47.9%)
				PsV Neutralization 80% Titer	49.2% (48.3%, 50.1%)	49.2% (48.3%)
Positive	Day 29	113		Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%)

Table 2.11: Table 2j. Responder rates by Age, Race and ethnic group (contin)

Group	Baseline	Visit	N	Endpoint	Responder
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	87.3% (79.6%, 95.0%)
				PsV Neutralization 80% Titer	94.8% (91.1%, 98.4%)
	Day 57	113		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
Age \geq 65 White Non-Hispanic	Negative	Day 29	229	Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	98.5% (96.1%, 100.8%)
				PsV Neutralization 80% Titer	98.7% (97.9%, 99.5%)
				Binding Antibody to RBD	52.4%
				Binding Antibody to Spike	(52.4%, 52.4%)
				PsV Neutralization 50% Titer	52.4% (52.4%, 52.4%)
				PsV Neutralization 80% Titer	44.9% (44.9%, 44.9%)
	Day 57	229		Binding Antibody to RBD	47.0% (47.0%, 47.0%)
				Binding Antibody to Spike	52.4% (52.4%, 52.4%)
				PsV Neutralization 50% Titer	52.4% (50.5%, 50.5%)
				PsV Neutralization 80% Titer	50.5% (50.5%, 50.5%)
	Positive	Day 29	107	Binding Antibody to RBD	52.4% (52.4%, 52.4%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	100.0% (100.0%, 100.0%)
				PsV Neutralization 80% Titer	80.2% (80.2%, 80.2%)
	Day 57	107		Binding Antibody to RBD	84.8% (84.8%, 84.8%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)

Table 2.11: Table 2j. Responder rates by Age, Race and ethnic group (continued)

Group	Baseline	Visit	N	Endpoint	Responder	2-Fold
				PsV Neutralization 50% Titer	97.2% (97.2%, 97.2%)	97.2%
				PsV Neutralization 80% Titer	99.0% (99.0%, 99.0%)	99.0%

Neutralization Responders are defined as participants who had baseline values below the lower limit of quantification, neutralization titer above the assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase.

Binding Antibody Responders are defined as participants who had baseline values below the LLOQ with detectable antibody concentration, assay LLOQ, or as participants with baseline values above the LLOQ with a 4-fold increase in antibody concentration.

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

2.0.3 Table 3. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs)

Table 2.12: Table 3a. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by All participants

Group		Baseline	Visit	N	Endpoint	GMT/GMC	95
All participants							
All participants	Negative	Day 1	1062		Binding Antibody to RBD	17	(1)
					Binding Antibody to Spike	17	(1)
					PsV Neutralization 50% Titer	24	(2)
					PsV Neutralization 80% Titer	22	(2)
		Day 29	1062		Binding Antibody to RBD	720	(5)
					Binding Antibody to Spike	993	(8)
					PsV Neutralization 50% Titer	57	(4)
					PsV Neutralization 80% Titer	72	(6)
		Day 57	1062		Binding Antibody to RBD	5007	(4)
					Binding Antibody to Spike	7492	(6)
					PsV Neutralization 50% Titer	225	(1)
					PsV Neutralization 80% Titer	268	(2)
	Positive	Day 1	543		Binding Antibody to RBD	17	(1)
					Binding Antibody to Spike	17	(1)
					PsV Neutralization 50% Titer	24	(2)
					PsV Neutralization 80% Titer	22	(2)
		Day 29	543		Binding Antibody to RBD	22071	(1)
					Binding Antibody to Spike	38478	(2)
					PsV Neutralization 50% Titer	113	(7)
					PsV Neutralization 80% Titer	235	(1)
		Day 57	543		Binding Antibody to RBD	1129209	(7)
					Binding Antibody to Spike	2077625	(1)
					PsV Neutralization 50% Titer	1658	(9)
					PsV Neutralization 80% Titer	3725	(2)

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.13: Table 3b. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Age

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
Age						
Age $j \leq 65$				Binding Antibody to RBD	17	(17, 17)
	Negative	Day 1	513	Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
		Day 29	513	Binding Antibody to RBD	632	(549, 727)
				Binding Antibody to Spike	877	(774, 994)
				PsV Neutralization 50% Titer	51	(48, 54)
				PsV Neutralization 80% Titer	65	(60, 71)
		Day 57	513	Binding Antibody to RBD	4441	(3864, 5104)
				Binding Antibody to Spike	6756	(6110, 7471)
				PsV Neutralization 50% Titer	197	(186, 208)
				PsV Neutralization 80% Titer	243	(203, 290)
	Positive	Day 1	294	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
		Day 29	294	Binding Antibody to RBD	16835	(14449, 1963)
				Binding Antibody to Spike	29610	(25278, 3468)
				PsV Neutralization 50% Titer	92	(81, 105)
				PsV Neutralization 80% Titer	198	(174, 225)
		Day 57	294	Binding Antibody to RBD	860112	(784201, 942)
				Binding Antibody to Spike	1596154	(1374788, 186)
				PsV Neutralization 50% Titer	1175	(1075, 1285)
				PsV Neutralization 80% Titer	2990	(2812, 3179)
Age $j = 65$				Binding Antibody to RBD	17	(17, 17)
	Negative	Day 1	549	Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	21	(21, 22)
		Day 29	549	Binding Antibody to RBD	1159	(1154, 1164)
				Binding Antibody to Spike	1556	(1499, 1616)
				PsV Neutralization 50% Titer	86	(83, 88)
				PsV Neutralization 80% Titer	101	(97, 105)
		Day 57	549	Binding Antibody to RBD	7736	(7464, 8017)
				Binding Antibody to Spike	10902	(10154, 1170)
				PsV Neutralization 50% Titer	366	(345, 387)
				PsV Neutralization 80% Titer	381	(372, 392)
	Positive	Day 1	249	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)

Table 2.13: Table 3b. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Age (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95%
	Day 29	249	Binding Antibody to RBD	66329	(57)	
			Binding Antibody to Spike	111546	(11)	
			PsV Neutralization 50% Titer	261	(22)	
			PsV Neutralization 80% Titer	475	(39)	
	Day 57	249	Binding Antibody to RBD	3412559	(29)	
			Binding Antibody to Spike	6063604	(60)	
			PsV Neutralization 50% Titer	6702	(53)	
			PsV Neutralization 80% Titer	9099	(68)	

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.14: Table 3c. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Risk for Severe Covid-19

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
Risk for Severe Covid-19						
At-risk	Negative	Day 1	541	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
		Day 29	541	PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
	Positive	Day 1	541	Binding Antibody to RBD	770	(509, 1163)
				Binding Antibody to Spike	1068	(694, 1643)
		Day 29	541	PsV Neutralization 50% Titer	58	(44, 78)
				PsV Neutralization 80% Titer	71	(54, 93)
	Positive	Day 1	246	Binding Antibody to RBD	5569	(3654, 8487)
				Binding Antibody to Spike	8053	(5326, 12176)
		Day 29	246	PsV Neutralization 50% Titer	231	(163, 326)
				PsV Neutralization 80% Titer	274	(188, 398)
Not at-risk	Negative	Day 1	246	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
		Day 29	246	PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
	Positive	Day 1	246	Binding Antibody to RBD	25496	(14340, 45332)
				Binding Antibody to Spike	47841	(27704, 82641)
		Day 29	246	PsV Neutralization 50% Titer	140	(102, 192)
				PsV Neutralization 80% Titer	256	(177, 371)
	Positive	Day 1	246	Binding Antibody to RBD	1404388	(754704, 261388)
				Binding Antibody to Spike	2515120	(1459140, 42160)
		Day 29	246	PsV Neutralization 50% Titer	2099	(1045, 4216)
				PsV Neutralization 80% Titer	4110	(2578, 6554)

Table 2.14: Table 3c. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Risk for Severe Covid-19 (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95%
	Day 29	297	Binding Antibody to RBD	21079	(129)	
			Binding Antibody to Spike	35896	(221)	
			PsV Neutralization 50% Titer	106	(73)	
			PsV Neutralization 80% Titer	229	(173)	
	Day 57	297	Binding Antibody to RBD	1053348	(69)	
			Binding Antibody to Spike	1954799	(121)	
			PsV Neutralization 50% Titer	1538	(86)	
			PsV Neutralization 80% Titer	3610	(25)	

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.15: Table 3d. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Age, Risk for Severe Covid-19

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
Age, Risk for Severe Covid-19						
Age \geq 65 At-risk				Binding Antibody to RBD	17	(17, 17)
	Negative	Day 1	257	Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
		Day 29	257	Binding Antibody to RBD	569	(537, 603)
				Binding Antibody to Spike	784	(719, 854)
				PsV Neutralization 50% Titer	47	(47, 48)
				PsV Neutralization 80% Titer	58	(54, 62)
		Day 57	257	Binding Antibody to RBD	4105	(3329, 5062)
				Binding Antibody to Spike	6000	(5205, 6915)
				PsV Neutralization 50% Titer	179	(175, 182)
				PsV Neutralization 80% Titer	208	(189, 229)
	Positive	Day 1	148	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
		Day 29	148	Binding Antibody to RBD	17208	(12564, 2356)
				Binding Antibody to Spike	33754	(23247, 4900)
				PsV Neutralization 50% Titer	113	(91, 140)
				PsV Neutralization 80% Titer	201	(148, 272)
		Day 57	148	Binding Antibody to RBD	925168	(640776, 1335)
				Binding Antibody to Spike	1750488	(1291871, 2250)
				PsV Neutralization 50% Titer	1304	(1181, 1439)
				PsV Neutralization 80% Titer	2995	(2218, 4044)
Age $<$ 65 Not at-risk	Negative	Day 1	256	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
		Day 29	256	Binding Antibody to RBD	650	(558, 756)
				Binding Antibody to Spike	904	(796, 1028)
				PsV Neutralization 50% Titer	52	(49, 54)
				PsV Neutralization 80% Titer	68	(63, 72)
		Day 57	256	Binding Antibody to RBD	4536	(3893, 5285)
				Binding Antibody to Spike	6975	(6387, 7618)
				PsV Neutralization 50% Titer	202	(196, 207)
				PsV Neutralization 80% Titer	253	(210, 304)
	Positive	Day 1	146	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)

Table 2.15: Table 3d. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Age, Risk for Severe Covid-19 (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95%
Age $i = 65$ At-risk	Negative	Day 29	146	Binding Antibody to RBD	16741	(14)
				Binding Antibody to Spike	28639	(25)
				PsV Neutralization 50% Titer	87	(83)
				PsV Neutralization 80% Titer	197	(17)
		Day 57	146	Binding Antibody to RBD	844303	(82)
				Binding Antibody to Spike	1559107	(13)
	Positive	Day 1	284	PsV Neutralization 50% Titer	1145	(10)
				PsV Neutralization 80% Titer	2989	(29)
		Day 29	284	Binding Antibody to RBD	17	(17)
				Binding Antibody to Spike	17	(17)
		Day 57	284	PsV Neutralization 50% Titer	24	(24)
				PsV Neutralization 80% Titer	22	(22)
Age $i = 65$ Not at-risk	Negative	Day 1	98	Binding Antibody to RBD	1248	(12)
				Binding Antibody to Spike	1753	(15)
		Day 29	98	PsV Neutralization 50% Titer	82	(81)
				PsV Neutralization 80% Titer	98	(88)
		Day 57	98	Binding Antibody to RBD	9070	(83)
				Binding Antibody to Spike	12898	(11)
	Positive	Day 1	98	PsV Neutralization 50% Titer	348	(30)
				PsV Neutralization 80% Titer	425	(41)
		Day 29	98	Binding Antibody to RBD	17	(17)
				Binding Antibody to Spike	17	(17)
		Day 57	98	PsV Neutralization 50% Titer	24	(24)
				PsV Neutralization 80% Titer	22	(22)
Age $i = 65$ Not at-risk	Negative	Day 1	265	Binding Antibody to RBD	57304	(39)
				Binding Antibody to Spike	98135	(94)
		Day 29	265	PsV Neutralization 50% Titer	217	(15)
				PsV Neutralization 80% Titer	422	(30)
		Day 57	265	Binding Antibody to RBD	3317915	(26)
				Binding Antibody to Spike	5306103	(48)
	Positive	Day 1	265	PsV Neutralization 50% Titer	5600	(33)
				PsV Neutralization 80% Titer	7889	(53)
		Day 29	265	Binding Antibody to RBD	17	(17)
				Binding Antibody to Spike	17	(17)
		Day 57	265	PsV Neutralization 50% Titer	24	(24)
				PsV Neutralization 80% Titer	22	(22)

Table 2.15: Table 3d. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Age, Risk for Severe Covid-19 (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
Positive	Day 1	151	PsV Neutralization 50% Titer	383	(383, 383)	
			PsV Neutralization 80% Titer	345	(330, 362)	
			Binding Antibody to RBD	17	(17, 17)	
			Binding Antibody to Spike	17	(17, 17)	
			PsV Neutralization 50% Titer	24	(24, 24)	
			PsV Neutralization 80% Titer	22	(22, 22)	
	Day 29	151	Binding Antibody to RBD	73123	(71028, 7528)	
			Binding Antibody to Spike	121494	(120060, 1229)	
			PsV Neutralization 50% Titer	295	(289, 302)	
	Day 57	151	PsV Neutralization 80% Titer	513	(494, 533)	
			Binding Antibody to RBD	3477166	(3221120, 3732)	
			Binding Antibody to Spike	6627920	(6052649, 7177)	
			PsV Neutralization 50% Titer	7554	(7506, 7603)	
			PsV Neutralization 80% Titer	10006	(8365, 11976)	

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.16: Table 3e. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Sex

Group		Baseline	Visit	N	Endpoint	GMT/GMC	95%		
Sex									
Female	Negative	Day 1	597	Binding Antibody to RBD	17	(17)			
				Binding Antibody to Spike	17	(17)			
				PsV Neutralization 50% Titer	24	(24)			
		Day 29	597	PsV Neutralization 80% Titer	22	(22)			
				Binding Antibody to RBD	678	(44)			
				Binding Antibody to Spike	986	(64)			
	Positive	Day 57	597	PsV Neutralization 50% Titer	56	(46)			
				PsV Neutralization 80% Titer	70	(58)			
				Binding Antibody to RBD	4959	(27)			
		Day 29	298	Binding Antibody to Spike	7234	(37)			
				PsV Neutralization 50% Titer	214	(15)			
				PsV Neutralization 80% Titer	263	(20)			
Male	Negative	Day 1	465	Binding Antibody to RBD	17	(17)			
				Binding Antibody to Spike	17	(17)			
				PsV Neutralization 50% Titer	24	(24)			
		Day 29	465	PsV Neutralization 80% Titer	22	(22)			
	Positive			Binding Antibody to RBD	20378	(12)			
				Binding Antibody to Spike	34215	(20)			
				PsV Neutralization 50% Titer	110	(77)			
	Day 57	465	PsV Neutralization 80% Titer	228	(18)				
			Binding Antibody to RBD	1036755	(60)				
			Binding Antibody to Spike	1930552	(10)				
			PsV Neutralization 50% Titer	1576	(88)				
			PsV Neutralization 80% Titer	3541	(24)				
			Binding Antibody to RBD	17	(17)				
			Binding Antibody to Spike	17	(17)				
			PsV Neutralization 50% Titer	24	(24)				
			PsV Neutralization 80% Titer	21	(21)				
	Day 29	465	Binding Antibody to RBD	778	(46)				
			Binding Antibody to Spike	1002	(61)				
			PsV Neutralization 50% Titer	57	(49)				
	Day 57	465	PsV Neutralization 80% Titer	74	(62)				
			Binding Antibody to RBD	5070	(24)				
			Binding Antibody to Spike	7841	(35)				
	Positive	Day 1	245	PsV Neutralization 50% Titer	239	(19)			
				PsV Neutralization 80% Titer	273	(17)			
				Binding Antibody to RBD	17	(17)			
				Binding Antibody to Spike	17	(17)			
				PsV Neutralization 50% Titer	24	(24)			
				PsV Neutralization 80% Titer	22	(22)			

Table 2.16: Table 3e. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Sex (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
		Day 29	245	Binding Antibody to RBD	24529	(15468, 38832)
				Binding Antibody to Spike	44946	(28682, 70428)
				PsV Neutralization 50% Titer	118	(72, 193)
				PsV Neutralization 80% Titer	245	(152, 393)
		Day 57	245	Binding Antibody to RBD	1264347	(764324, 209859)
				Binding Antibody to Spike	2289609	(1437222, 314882)
				PsV Neutralization 50% Titer	1772	(934, 3362)
				PsV Neutralization 80% Titer	3983	(2505, 6335)

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling stratification.

Table 2.17: Table 3f. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Age, sex

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95%
Age, sex						
Age ≥ 65 Female						
	Negative	Day 1	291	Binding Antibody to RBD	17	(17)
				Binding Antibody to Spike	17	(17)
				PsV Neutralization 50% Titer	24	(24)
				PsV Neutralization 80% Titer	22	(22)
		Day 29	291	Binding Antibody to RBD	551	(429)
				Binding Antibody to Spike	809	(611)
				PsV Neutralization 50% Titer	50	(46)
				PsV Neutralization 80% Titer	63	(59)
		Day 57	291	Binding Antibody to RBD	3980	(242)
				Binding Antibody to Spike	5809	(321)
				PsV Neutralization 50% Titer	177	(161)
				PsV Neutralization 80% Titer	229	(193)
	Positive	Day 1	166	Binding Antibody to RBD	17	(17)
				Binding Antibody to Spike	17	(17)
				PsV Neutralization 50% Titer	24	(24)
				PsV Neutralization 80% Titer	22	(22)
		Day 29	166	Binding Antibody to RBD	15706	(120)
				Binding Antibody to Spike	26579	(20)
				PsV Neutralization 50% Titer	93	(74)
				PsV Neutralization 80% Titer	204	(19)
		Day 57	166	Binding Antibody to RBD	788961	(59)
				Binding Antibody to Spike	1485703	(99)
				PsV Neutralization 50% Titer	1124	(92)
				PsV Neutralization 80% Titer	2862	(23)
Age < 65 Male				Binding Antibody to RBD	17	(17)
	Negative	Day 1	222	Binding Antibody to Spike	17	(17)
				PsV Neutralization 50% Titer	24	(24)
				PsV Neutralization 80% Titer	22	(22)
		Day 29	222	Binding Antibody to RBD	761	(38)
				Binding Antibody to Spike	980	(51)
				PsV Neutralization 50% Titer	52	(50)
				PsV Neutralization 80% Titer	69	(55)
		Day 57	222	Binding Antibody to RBD	5157	(19)
				Binding Antibody to Spike	8302	(29)
				PsV Neutralization 50% Titer	226	(17)
				PsV Neutralization 80% Titer	263	(14)
	Positive	Day 1	128	Binding Antibody to RBD	17	(17)
				Binding Antibody to Spike	17	(17)
				PsV Neutralization 50% Titer	24	(24)
				PsV Neutralization 80% Titer	22	(22)

Table 2.17: Table 3f. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Age, sex (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
Age $i = 65$ Female	Negative	Day 29	128	Binding Antibody to RBD	18521	(16876, 20326)
				Binding Antibody to Spike	34353	(30594, 38532)
		Day 57	128	PsV Neutralization 50% Titer	91	(68, 123)
				PsV Neutralization 80% Titer	190	(131, 275)
		Day 29	306	Binding Antibody to RBD	968620	(669439, 140320)
				Binding Antibody to Spike	1761678	(1335626, 2335626)
	Positive	Day 1	306	PsV Neutralization 50% Titer	1250	(955, 1635)
				PsV Neutralization 80% Titer	3175	(2325, 4336)
		Day 29	306	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
		Day 57	306	PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
Age $i = 65$ Male	Negative	Day 1	306	Binding Antibody to RBD	1568	(1457, 1689)
				Binding Antibody to Spike	2189	(1966, 2439)
		Day 29	306	PsV Neutralization 50% Titer	93	(81, 108)
				PsV Neutralization 80% Titer	110	(104, 116)
		Day 57	306	Binding Antibody to RBD	12017	(9830, 14691)
				Binding Antibody to Spike	17494	(13859, 22089)
	Positive	Day 1	132	PsV Neutralization 50% Titer	458	(407, 517)
				PsV Neutralization 80% Titer	465	(428, 505)
		Day 29	132	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
		Day 57	132	PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	21	(21, 22)
Age $i = 65$ Male	Negative	Day 1	243	Binding Antibody to RBD	64643	(47865, 87306)
				Binding Antibody to Spike	104806	(104034, 105618)
		Day 29	243	PsV Neutralization 50% Titer	230	(165, 321)
				PsV Neutralization 80% Titer	376	(261, 541)
		Day 57	243	Binding Antibody to RBD	3479175	(2586649, 4000000)
				Binding Antibody to Spike	6164381	(5752818, 6000000)
	Positive	Day 1	243	PsV Neutralization 50% Titer	7051	(4533, 10967)
				PsV Neutralization 80% Titer	9097	(5684, 14555)
		Day 29	243	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
		Day 57	243	PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	21	(21, 22)

Table 2.17: Table 3f. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Age, sex (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95%
Positive	Day 1	117	PsV Neutralization 50% Titer	286	(23)	
			PsV Neutralization 80% Titer	308	(30)	
			Binding Antibody to RBD	17	(17)	
			Binding Antibody to Spike	17	(17)	
			PsV Neutralization 50% Titer	24	(24)	
			PsV Neutralization 80% Titer	21	(21)	
	Day 29	117	Binding Antibody to RBD	68289	(66)	
			Binding Antibody to Spike	119696	(11)	
			PsV Neutralization 50% Titer	301	(28)	
	Day 57	117	PsV Neutralization 80% Titer	618	(59)	
			Binding Antibody to RBD	3338731	(32)	
			Binding Antibody to Spike	5951577	(55)	
			PsV Neutralization 50% Titer	6328	(63)	
			PsV Neutralization 80% Titer	9100	(85)	

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.18: Table 3g. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Hispanic or Latino ethnicity

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
Hispanic or Latino ethnicity						
Hispanic or Latino	Negative	Day 1	125	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
	Day 29	125	125	Binding Antibody to RBD	455	(182, 1140)
				Binding Antibody to Spike	624	(261, 1494)
				PsV Neutralization 50% Titer	48	(31, 74)
				PsV Neutralization 80% Titer	59	(41, 85)
	Day 57	125	125	Binding Antibody to RBD	2546	(858, 7553)
				Binding Antibody to Spike	3755	(1277, 11033)
				PsV Neutralization 50% Titer	177	(93, 338)
				PsV Neutralization 80% Titer	158	(71, 349)
Not Hispanic or Latino	Positive	Day 1	77	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
	Day 29	77	77	Binding Antibody to RBD	26200	(16032, 428)
				Binding Antibody to Spike	42270	(27246, 6558)
				PsV Neutralization 50% Titer	121	(77, 189)
				PsV Neutralization 80% Titer	204	(132, 313)
	Day 57	77	77	Binding Antibody to RBD	1485285	(930106, 237)
				Binding Antibody to Spike	2383924	(1729106, 337)
				PsV Neutralization 50% Titer	1986	(912, 4322)
				PsV Neutralization 80% Titer	3436	(2116, 5578)
Not Hispanic or Latino	Negative	Day 1	844	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
	Day 29	844	844	Binding Antibody to RBD	823	(636, 1065)
				Binding Antibody to Spike	1137	(866, 1494)
				PsV Neutralization 50% Titer	58	(47, 72)
				PsV Neutralization 80% Titer	74	(62, 88)
	Day 57	844	844	Binding Antibody to RBD	6060	(4436, 8278)
				Binding Antibody to Spike	8961	(6359, 12620)
				PsV Neutralization 50% Titer	244	(194, 306)
				PsV Neutralization 80% Titer	303	(249, 369)
Positive	Day 1	406	406	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	25	(24, 25)
				PsV Neutralization 80% Titer	22	(22, 22)

Table 2.18: Table 3g. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Hispanic or Latino ethnicity (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95%
Not reported and unknown	Negative	Day 29	406	Binding Antibody to RBD	22043	(13)
				Binding Antibody to Spike	39675	(24)
		Day 57	406	PsV Neutralization 50% Titer	116	(78)
				PsV Neutralization 80% Titer	238	(18)
	Positive	Day 1	93	Binding Antibody to RBD	1150371	(73)
				Binding Antibody to Spike	1986406	(11)
		Day 29	93	PsV Neutralization 50% Titer	1715	(95)
				PsV Neutralization 80% Titer	4100	(30)
		Day 57	93	Binding Antibody to RBD	17	(17)
				Binding Antibody to Spike	17	(17)
				PsV Neutralization 50% Titer	24	(24)
				PsV Neutralization 80% Titer	22	(22)
		Day 1	60	Binding Antibody to RBD	366	(18)
				Binding Antibody to Spike	498	(23)
				PsV Neutralization 50% Titer	53	(39)
				PsV Neutralization 80% Titer	66	(44)
		Day 29	60	Binding Antibody to RBD	1929	(61)
				Binding Antibody to Spike	3200	(10)
				PsV Neutralization 50% Titer	144	(91)
				PsV Neutralization 80% Titer	154	(94)
		Day 57	60	Binding Antibody to RBD	17	(17)
				Binding Antibody to Spike	17	(17)
				PsV Neutralization 50% Titer	24	(24)
				PsV Neutralization 80% Titer	22	(22)
		Day 1	60	Binding Antibody to RBD	18662	(98)
				Binding Antibody to Spike	28554	(14)
				PsV Neutralization 50% Titer	91	(57)
				PsV Neutralization 80% Titer	253	(18)
		Day 29	60	Binding Antibody to RBD	754132	(31)
				Binding Antibody to Spike	2424781	(13)
				PsV Neutralization 50% Titer	1102	(47)
				PsV Neutralization 80% Titer	2152	(79)

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.19: Table 3h. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Race

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
Race						
Not reported and unknown	Negative	Day 1	98	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
		Day 29	98	Binding Antibody to RBD	604	(442, 824)
				Binding Antibody to Spike	910	(639, 1296)
				PsV Neutralization 50% Titer	53	(44, 66)
				PsV Neutralization 80% Titer	73	(63, 86)
		Day 57	98	Binding Antibody to RBD	4272	(2867, 6367)
				Binding Antibody to Spike	5515	(3574, 8510)
				PsV Neutralization 50% Titer	234	(178, 308)
				PsV Neutralization 80% Titer	288	(194, 426)
	Positive	Day 1	48	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
		Day 29	48	Binding Antibody to RBD	25004	(14037, 4452)
				Binding Antibody to Spike	46609	(23049, 9429)
				PsV Neutralization 50% Titer	127	(65, 246)
				PsV Neutralization 80% Titer	293	(178, 485)
		Day 57	48	Binding Antibody to RBD	1350001	(717098, 2540)
				Binding Antibody to Spike	2053067	(1061757, 3842)
				PsV Neutralization 50% Titer	2932	(1281, 6710)
				PsV Neutralization 80% Titer	2749	(900, 8398)
American Indian or Alaska Native	Negative	Day 1	27	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
		Day 29	27	Binding Antibody to RBD	456	(254, 816)
				Binding Antibody to Spike	779	(363, 1671)
				PsV Neutralization 50% Titer	54	(40, 74)
				PsV Neutralization 80% Titer	57	(38, 85)
		Day 57	27	Binding Antibody to RBD	3310	(1416, 7738)
				Binding Antibody to Spike	4742	(1640, 13708)
				PsV Neutralization 50% Titer	260	(175, 385)
				PsV Neutralization 80% Titer	235	(179, 311)
	Positive	Day 1	17	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)

Table 2.19: Table 3h. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Race (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95%
Asian	Negative	Day 29	17	PsV Neutralization 80% Titer	22	(22)
				Binding Antibody to RBD	54109	(29)
				Binding Antibody to Spike	74375	(41)
		Day 57	17	PsV Neutralization 50% Titer	119	(86)
				PsV Neutralization 80% Titer	220	(100)
				Binding Antibody to RBD	1502685	(72)
	Positive	Day 1	84	Binding Antibody to Spike	5841254	(32)
				PsV Neutralization 50% Titer	3136	(12)
				PsV Neutralization 80% Titer	5818	(26)
		Day 29	84	Binding Antibody to RBD	17	(17)
				Binding Antibody to Spike	17	(17)
				PsV Neutralization 50% Titer	24	(24)
Black or African American	Negative	Day 1	46	PsV Neutralization 80% Titer	22	(22)
				Binding Antibody to RBD	1125	(76)
				Binding Antibody to Spike	1563	(100)
		Day 57	84	PsV Neutralization 50% Titer	63	(56)
				PsV Neutralization 80% Titer	91	(81)
				Binding Antibody to RBD	7786	(45)
	Positive	Day 1	216	Binding Antibody to Spike	16130	(69)
				PsV Neutralization 50% Titer	408	(28)
				PsV Neutralization 80% Titer	372	(26)
		Day 29	46	Binding Antibody to RBD	17	(17)
				Binding Antibody to Spike	17	(17)
				PsV Neutralization 50% Titer	24	(24)
	Black or African American	Day 1	216	PsV Neutralization 80% Titer	22	(22)
				Binding Antibody to RBD	13088	(23)
				Binding Antibody to Spike	39928	(13)
		Day 57	46	PsV Neutralization 50% Titer	96	(26)
				PsV Neutralization 80% Titer	160	(55)
				Binding Antibody to RBD	594550	(11)
White	Negative	Day 1	216	Binding Antibody to Spike	1909265	(73)
				PsV Neutralization 50% Titer	1480	(29)
				PsV Neutralization 80% Titer	2394	(48)
		Day 29	216	Binding Antibody to RBD	17	(17)
				Binding Antibody to Spike	17	(17)
				PsV Neutralization 50% Titer	24	(24)
	Positive	Day 1	216	PsV Neutralization 80% Titer	21	(21)
				Binding Antibody to RBD	632	(39)
				Binding Antibody to Spike	841	(52)
		Day 57	216	PsV Neutralization 50% Titer	55	(44)
				PsV Neutralization 80% Titer	64	(51)
				Binding Antibody to RBD	4425	(25)

Table 2.19: Table 3h. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Race (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
Positive	Day 1	91	Binding Antibody to Spike	6399	(3539, 1157)	
			PsV Neutralization 50% Titer	199	(127, 311)	
			PsV Neutralization 80% Titer	231	(164, 325)	
			Binding Antibody to RBD	17	(17, 17)	
	Day 29	91	Binding Antibody to Spike	17	(17, 17)	
			PsV Neutralization 50% Titer	24	(24, 24)	
			PsV Neutralization 80% Titer	22	(22, 22)	
			Binding Antibody to RBD	22808	(13014, 399)	
	Day 57	91	Binding Antibody to Spike	28758	(16837, 491)	
			PsV Neutralization 50% Titer	111	(73, 168)	
			PsV Neutralization 80% Titer	236	(151, 370)	
			Binding Antibody to RBD	996663	(508149, 198)	
Multiracial	Negative	Day 1	Binding Antibody to Spike	1542229	(801233, 290)	
			PsV Neutralization 50% Titer	1724	(979, 3035)	
			PsV Neutralization 80% Titer	3287	(2272, 4755)	
			Binding Antibody to RBD	17	(17, 17)	
	Day 29	62	Binding Antibody to Spike	17	(17, 17)	
			PsV Neutralization 50% Titer	25	(24, 25)	
			PsV Neutralization 80% Titer	22	(22, 22)	
			Binding Antibody to RBD	219	(71, 677)	
	Day 57	62	Binding Antibody to Spike	293	(93, 928)	
			PsV Neutralization 50% Titer	38	(23, 63)	
			PsV Neutralization 80% Titer	53	(36, 77)	
			Binding Antibody to RBD	943	(231, 3848)	
Native Hawaiian or Other Pacific Islander	Positive	Day 1	Binding Antibody to Spike	1339	(322, 5563)	
			PsV Neutralization 50% Titer	113	(55, 230)	
			PsV Neutralization 80% Titer	99	(41, 239)	
			Binding Antibody to RBD	17	(17, 17)	
	Day 29	28	Binding Antibody to Spike	17	(17, 17)	
			PsV Neutralization 50% Titer	24	(24, 24)	
			PsV Neutralization 80% Titer	22	(22, 22)	
			Binding Antibody to RBD	38528	(23266, 6380)	
	Day 57	28	Binding Antibody to Spike	49830	(35068, 7080)	
			PsV Neutralization 50% Titer	153	(124, 188)	
			PsV Neutralization 80% Titer	344	(233, 508)	
			Binding Antibody to RBD	2456407	(1772529, 340)	
Native Hawaiian or Other Pacific Islander	Negative	Day 1	Binding Antibody to Spike	3165770	(2175669, 400)	
			PsV Neutralization 50% Titer	2087	(871, 5001)	
Native Hawaiian or Other Pacific Islander	Negative	Day 1	PsV Neutralization 80% Titer	8477	(5773, 1244)	
			Binding Antibody to RBD	17	(17, 17)	
			Binding Antibody to Spike	17	(17, 17)	

Table 2.19: Table 3h. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Race (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95%
White	Day 29	20	PsV Neutralization 50% Titer	25	(24)	
				22	(22)	
			Binding Antibody to RBD	2304	(13)	
			Binding Antibody to Spike	3171	(11)	
			PsV Neutralization 50% Titer	76	(48)	
	Day 57	20	PsV Neutralization 80% Titer	167	(30)	
			Binding Antibody to RBD	20156	(25)	
			Binding Antibody to Spike	38681	(21)	
			PsV Neutralization 50% Titer	451	(59)	
			PsV Neutralization 80% Titer	821	(86)	
Black	Positive	Day 1	Binding Antibody to RBD	17	(17)	
				17	(17)	
			Binding Antibody to Spike	24	(24)	
			PsV Neutralization 50% Titer	22	(22)	
			PsV Neutralization 80% Titer	35553	(18)	
	Day 29	7	Binding Antibody to Spike	69982	(20)	
			PsV Neutralization 50% Titer	106	(53)	
			PsV Neutralization 80% Titer	392	(21)	
			Binding Antibody to RBD	2011540	(53)	
			Binding Antibody to Spike	2260305	(47)	
Other	Negative	Day 1	PsV Neutralization 50% Titer	983	(57)	
				24405	(83)	
			Binding Antibody to RBD	17	(17)	
			Binding Antibody to Spike	17	(17)	
			PsV Neutralization 50% Titer	24	(24)	
	Day 29	28	PsV Neutralization 80% Titer	21	(21)	
			Binding Antibody to RBD	6538	(13)	
			Binding Antibody to Spike	8714	(16)	
			PsV Neutralization 50% Titer	103	(90)	
			PsV Neutralization 80% Titer	100	(53)	
Asian	Day 57	28	Binding Antibody to RBD	111429	(11)	
			Binding Antibody to Spike	238901	(12)	
			PsV Neutralization 50% Titer	868	(52)	
			PsV Neutralization 80% Titer	624	(45)	
			Binding Antibody to RBD	17	(17)	
	Positive	Day 1	Binding Antibody to Spike	17	(17)	
			PsV Neutralization 50% Titer	24	(24)	
			PsV Neutralization 80% Titer	22	(22)	
			Binding Antibody to RBD	18451	(11)	
			Binding Antibody to Spike	46012	(40)	
American Indian/Alaskan Native	Day 29	24	PsV Neutralization 50% Titer	110	(56)	
			PsV Neutralization 80% Titer	153	(87)	

Table 2.19: Table 3h. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Race (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI		
White	Negative	Day 57	24	Binding Antibody to RBD	867512	(608033, 128962)		
				Binding Antibody to Spike	2431262	(2070334, 2839)		
				PsV Neutralization 50% Titer	2065	(956, 4462)		
				PsV Neutralization 80% Titer	3006	(1228, 7359)		
		Day 1	43	Binding Antibody to RBD	17	(17, 17)		
				Binding Antibody to Spike	17	(17, 17)		
	Positive			PsV Neutralization 50% Titer	24	(24, 24)		
	Day 29	43	PsV Neutralization 80% Titer	22	(22, 22)			
			Binding Antibody to RBD	445	(175, 1132)			
			Binding Antibody to Spike	649	(239, 1767)			
	Day 57	43	PsV Neutralization 50% Titer	62	(55, 69)			
			PsV Neutralization 80% Titer	76	(57, 101)			
White Non-Hispanic	Negative	Day 1	38	Binding Antibody to RBD	3013	(633, 14335)		
				Binding Antibody to Spike	5140	(1068, 24738)		
				PsV Neutralization 50% Titer	151	(73, 312)		
		Day 29	38	PsV Neutralization 80% Titer	170	(73, 400)		
	Positive			Binding Antibody to RBD	17	(17, 17)		
				Binding Antibody to Spike	17	(17, 17)		
	Day 57	38	PsV Neutralization 50% Titer	24	(24, 24)			
			PsV Neutralization 80% Titer	22	(22, 22)			
	Day 1	456	Binding Antibody to RBD	20208	(8621, 47369)			
			Binding Antibody to Spike	30207	(11979, 7617)			
			PsV Neutralization 50% Titer	108	(66, 179)			
	Positive	Day 29	456	PsV Neutralization 80% Titer	269	(175, 414)		
				Binding Antibody to RBD	824339	(298160, 22738)		
				Binding Antibody to Spike	2653867	(1279243, 5838)		
		Day 57	456	PsV Neutralization 50% Titer	1058	(316, 3541)		
				PsV Neutralization 80% Titer	2533	(814, 7883)		
				Binding Antibody to RBD	17	(17, 17)		
		Day 1	224	Binding Antibody to Spike	17	(17, 17)		
				PsV Neutralization 50% Titer	24	(24, 24)		
				PsV Neutralization 80% Titer	22	(22, 22)		
White Non-Hispanic	Negative	Day 29	456	Binding Antibody to RBD	840	(634, 1113)		
				Binding Antibody to Spike	1131	(844, 1515)		
				PsV Neutralization 50% Titer	59	(45, 77)		
		Day 57	456	PsV Neutralization 80% Titer	73	(59, 90)		
	Positive			Binding Antibody to RBD	5975	(4459, 8007)		
				Binding Antibody to Spike	8854	(6735, 11638)		
				PsV Neutralization 50% Titer	234	(174, 315)		
	Day 1	224	PsV Neutralization 80% Titer	302	(242, 377)			
			Binding Antibody to RBD	17	(17, 17)			
			Binding Antibody to Spike	17	(17, 17)			

Table 2.19: Table 3h. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Race (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95%
Day 29 224	Day 29	224	PsV Neutralization 50% Titer	24	(24)	
				22	(22)	
			Binding Antibody to RBD	20376	(113)	
			Binding Antibody to Spike	37791	(200)	
			PsV Neutralization 50% Titer	109	(69)	
	Day 57	224	PsV Neutralization 80% Titer	233	(173)	
			Binding Antibody to RBD	1141314	(67)	
			Binding Antibody to Spike	1896008	(10)	
			PsV Neutralization 50% Titer	1514	(77)	
			PsV Neutralization 80% Titer	4234	(34)	

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.20: Table 3i. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Race and ethnic group

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
Race and ethnic group						
White Non-Hispanic	Negative	Day 1	456	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
		Day 29	456	PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
	Positive	Day 1	456	Binding Antibody to RBD	840	(634, 1113)
				Binding Antibody to Spike	1131	(844, 1515)
		Day 29	456	PsV Neutralization 50% Titer	59	(45, 77)
				PsV Neutralization 80% Titer	73	(59, 90)
	Positive	Day 1	456	Binding Antibody to RBD	5975	(4459, 8007)
				Binding Antibody to Spike	8854	(6735, 11638)
		Day 29	456	PsV Neutralization 50% Titer	234	(174, 315)
				PsV Neutralization 80% Titer	302	(242, 377)
Communities of Color	Negative	Day 1	224	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
		Day 29	224	PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
	Positive	Day 1	224	Binding Antibody to RBD	20376	(11267, 36832)
				Binding Antibody to Spike	37791	(20936, 68211)
		Day 29	224	PsV Neutralization 50% Titer	109	(69, 173)
				PsV Neutralization 80% Titer	233	(178, 305)
	Positive	Day 1	224	Binding Antibody to RBD	1141314	(675273, 192811)
				Binding Antibody to Spike	1896008	(1014192, 382681)
		Day 29	224	PsV Neutralization 50% Titer	1514	(775, 2956)
				PsV Neutralization 80% Titer	4234	(3407, 5261)
	Positive	Day 1	535	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
		Day 29	535	PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
	Positive	Day 1	535	Binding Antibody to RBD	634	(495, 811)
				Binding Antibody to Spike	888	(702, 1122)
		Day 29	535	PsV Neutralization 50% Titer	54	(45, 65)
				PsV Neutralization 80% Titer	70	(59, 84)
	Positive	Day 1	535	Binding Antibody to RBD	4297	(3340, 5528)
				Binding Antibody to Spike	6414	(5028, 8182)
		Day 29	535	PsV Neutralization 50% Titer	227	(179, 288)
				PsV Neutralization 80% Titer	247	(195, 313)
	Positive	Day 1	261	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
		Day 29	261	PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)

Table 2.20: Table 3i. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Race and ethnic group (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95%
	Day 29	261	Binding Antibody to RBD	23459	(134)	
			Binding Antibody to Spike	40931	(25)	
			PsV Neutralization 50% Titer	116	(74)	
			PsV Neutralization 80% Titer	234	(14)	
	Day 57	261	Binding Antibody to RBD	1114016	(60)	
			Binding Antibody to Spike	2121827	(13)	
			PsV Neutralization 50% Titer	2041	(96)	
			PsV Neutralization 80% Titer	3531	(20)	

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.21: Table 3j. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Age, Race and ethnic group

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
Age, Race and ethnic group						
Age \geq 65 Communities of Color						
	Negative	Day 1	253	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	25	(24, 25)
				PsV Neutralization 80% Titer	22	(22, 22)
		Day 29	253	Binding Antibody to RBD	545	(485, 613)
				Binding Antibody to Spike	773	(663, 901)
				PsV Neutralization 50% Titer	49	(47, 50)
				PsV Neutralization 80% Titer	64	(58, 70)
		Day 57	253	Binding Antibody to RBD	3722	(3006, 4609)
				Binding Antibody to Spike	5705	(4236, 7685)
				PsV Neutralization 50% Titer	199	(177, 225)
				PsV Neutralization 80% Titer	224	(183, 275)
	Positive	Day 1	148	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
		Day 29	148	Binding Antibody to RBD	17376	(15141, 199)
				Binding Antibody to Spike	31249	(27670, 3528)
				PsV Neutralization 50% Titer	90	(87, 93)
				PsV Neutralization 80% Titer	183	(155, 216)
		Day 57	148	Binding Antibody to RBD	813947	(691586, 95)
				Binding Antibody to Spike	1605489	(1457674, 1)
				PsV Neutralization 50% Titer	1380	(1086, 1755)
				PsV Neutralization 80% Titer	2564	(1832, 3590)
Age \geq 65 White Non-Hispanic	Negative	Day 1	227	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
		Day 29	227	Binding Antibody to RBD	735	(609, 887)
				Binding Antibody to Spike	983	(837, 1153)
				PsV Neutralization 50% Titer	51	(48, 55)
				PsV Neutralization 80% Titer	66	(60, 73)
		Day 57	227	Binding Antibody to RBD	5190	(4439, 6068)
				Binding Antibody to Spike	7776	(6482, 9327)
				PsV Neutralization 50% Titer	203	(182, 225)
				PsV Neutralization 80% Titer	272	(231, 321)
	Positive	Day 1	117	Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)

Table 2.21: Table 3j. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Age, Race and ethnic group (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95%	
Age ≥ 65 Communities of Color	Negative	Day 29	117	PsV Neutralization 80% Titer	22	(22)	
				Binding Antibody to RBD	16022	(13)	
				Binding Antibody to Spike	29573	(26)	
		Day 57		PsV Neutralization 50% Titer	92	(75)	
				PsV Neutralization 80% Titer	208	(20)	
	Positive	Day 1	282	Binding Antibody to RBD	908025	(87)	
				Binding Antibody to Spike	1464047	(12)	
		Day 29		PsV Neutralization 50% Titer	1133	(100)	
				PsV Neutralization 80% Titer	3822	(35)	
				Binding Antibody to RBD	17	(17)	
Age ≥ 65 White Non-Hispanic	Negative	Day 1	229	Binding Antibody to Spike	17	(17)	
				PsV Neutralization 50% Titer	24	(24)	
		Day 29		PsV Neutralization 80% Titer	21	(21)	
				Binding Antibody to RBD	1098	(97)	
				Binding Antibody to Spike	1474	(14)	
	Positive	Day 57	113	PsV Neutralization 50% Titer	80	(75)	
				PsV Neutralization 80% Titer	99	(88)	
				Binding Antibody to RBD	7277	(68)	
		Day 1		Binding Antibody to Spike	9856	(95)	
				PsV Neutralization 50% Titer	365	(31)	
		Day 29		PsV Neutralization 80% Titer	353	(31)	
				Binding Antibody to RBD	17	(17)	
				Binding Antibody to Spike	17	(17)	
				PsV Neutralization 50% Titer	24	(24)	
				PsV Neutralization 80% Titer	22	(22)	
	Positive	Day 57	113	Binding Antibody to RBD	78677	(68)	
				Binding Antibody to Spike	121519	(91)	
				PsV Neutralization 50% Titer	327	(25)	
		Day 1		PsV Neutralization 80% Titer	621	(47)	
				Binding Antibody to RBD	3947865	(32)	
	Negative	Day 29	229	Binding Antibody to Spike	6530315	(54)	
				PsV Neutralization 50% Titer	9871	(65)	
				PsV Neutralization 80% Titer	12817	(99)	
		Day 1		Binding Antibody to RBD	17	(17)	
				Binding Antibody to Spike	17	(17)	
		Day 57		PsV Neutralization 50% Titer	24	(24)	
				PsV Neutralization 80% Titer	22	(22)	
				Binding Antibody to RBD	1376	(13)	
	Positive	Day 29	229	Binding Antibody to Spike	1903	(19)	
				PsV Neutralization 50% Titer	95	(95)	

Table 2.21: Table 3j. Geometric mean titers (GMTs) or geometric mean value of concentrations (GMCs) by Age, Race and ethnic group (continued)

Group	Baseline	Visit	N	Endpoint	GMT/GMC	95% CI
Positive	Day 57	229		PsV Neutralization 80% Titer	106	(106, 106)
				Binding Antibody to RBD	10064	(10064, 10064)
				Binding Antibody to Spike	14310	(14310, 14310)
				PsV Neutralization 50% Titer	398	(398, 398)
				PsV Neutralization 80% Titer	444	(444, 444)
	Day 1	107		Binding Antibody to RBD	17	(17, 17)
				Binding Antibody to Spike	17	(17, 17)
				PsV Neutralization 50% Titer	24	(24, 24)
				PsV Neutralization 80% Titer	22	(22, 22)
	Day 29	107		Binding Antibody to RBD	55283	(55283, 55283)
				Binding Antibody to Spike	104596	(104596, 104596)
				PsV Neutralization 50% Titer	220	(220, 220)
				PsV Neutralization 80% Titer	375	(375, 375)
	Day 57	107		Binding Antibody to RBD	2949117	(2949117, 2949117)
				Binding Antibody to Spike	5546348	(5546348, 5546348)
				PsV Neutralization 50% Titer	5047	(5047, 5047)
				PsV Neutralization 80% Titer	6477	(6477, 6477)

bAb LLOQ = 34; nAb ID50 LLOQ = 49; nAb ID80 LLOQ = 43

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

2.0.4 Table 4. GMTRs or GMCRs between post-vaccinations vs. pre-vaccination

Table 2.22: Table 4a. Geometric mean titer ratios (GMTRs) or geometric mean titer ratios (GMCRs) between post-vaccinations/pre-vaccination by All participants

Group	Baseline	Visit	N	Endpoint	G
All participants					
All participants					
Negative	D29 fold-rise over D1	1062	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	56 74 24 36	
D57 fold-rise over D1	1062	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	40 59 10 13		
D57 fold-rise over D29	1062	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	22 24 10 9.		
Positive	D29 fold-rise over D1	543	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	21 36 95 21	
D57 fold-rise over D1	543	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	11 22 16 35		
D57 fold-rise over D29	543	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	58 60 22 21		

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.23: Table 4b. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age

Group	Baseline	Visit	N	Endpoint	GMTR/GMCR
Age					
Age $i \leq 65$					
	Negative	D29 fold-rise over D1	513	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	496.39 659.88 21.78 33.68
		D57 fold-rise over D1	513	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	3553.70 5213.05 92.88 120.76
		D57 fold-rise over D29	513	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	21.99 23.93 10.72 9.60
	Positive	D29 fold-rise over D1	294	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	15929.62 27221.26 73.77 180.08
		D57 fold-rise over D1	294	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	868019.06 1605889.04 1113.54 2814.65
		D57 fold-rise over D29	294	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	56.11 56.91 20.09 20.88
Age $i = 65$					
	Negative	D29 fold-rise over D1	549	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	880.97 1170.93 36.89 46.94
		D57 fold-rise over D1	549	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	6466.47 9480.72 166.87 185.92
		D57 fold-rise over D29	549	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	23.73 25.65 10.92 9.84
	Positive	D29 fold-rise over D1	249	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	66088.02 116586.97 278.11 476.64

Table 2.23: Table 4b. Geometric mean titer ratios (GMTRs) or geometric mean ratios (GMCRs) between post-vaccinations/pre-vaccination by Age (continued)

Group	Baseline	Visit	N	Endpoint	GM
	D57 fold-rise over D1		249	Binding Antibody to RBD	443
				Binding Antibody to Spike	903
				PsV Neutralization 50% Titer	755
				PsV Neutralization 80% Titer	909
	D57 fold-rise over D29		249	Binding Antibody to RBD	68.
				Binding Antibody to Spike	76.
				PsV Neutralization 50% Titer	33.
				PsV Neutralization 80% Titer	23.

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.24: Table 4c. Geometric mean titer ratios (GMTRs) or geometric mean concentrations ratios (GMCRs) between post-vaccinations/pre-vaccination by Risk for Severe Covid-19

Group	Baseline	Visit	N	Endpoint	GMTR/GMCR
Risk for Severe Covid-19					
At-risk	Negative	D29 fold-rise over D1	541	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	610.17 817.57 24.17 35.16
		D57 fold-rise over D1	541	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	4505.11 6525.76 106.90 141.75
		D57 fold-rise over D29	541	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	23.25 23.94 10.55 10.53
	Positive	D29 fold-rise over D1	246	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	26867.35 43017.52 115.95 244.17
		D57 fold-rise over D1	246	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	1700342.57 2659856.11 2017.88 4116.56
		D57 fold-rise over D29	246	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	64.28 60.28 24.89 21.57
Not at-risk	Negative	D29 fold-rise over D1	521	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	545.09 722.47 24.50 36.58
		D57 fold-rise over D1	521	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	3886.78 5727.39 104.88 129.33
		D57 fold-rise over D29	521	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	22.04 24.42 10.85 9.34
	Positive	D29 fold-rise over D1	297	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	19533.57 34364.06 90.24 210.59

Table 2.24: Table 4c. Geometric mean titer ratios (GMTRs) or geometric mean concentrations (GMCRs) between post-vaccinations/pre-vaccination by Risk for Severe Covid-19 (con)

Group	Baseline	Visit	N	Endpoint	GM
	D57 fold-rise over D1	297	Binding Antibody to RBD	107	
			Binding Antibody to Spike	214	
			PsV Neutralization 50% Titer	151	
			PsV Neutralization 80% Titer	338	
	D57 fold-rise over D29	297	Binding Antibody to RBD	56.	
			Binding Antibody to Spike	60.	
			PsV Neutralization 50% Titer	21.	
			PsV Neutralization 80% Titer	21.	

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.25: Table 4d. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age, Risk for Severe Covid-19

Group	Baseline	Visit	N	Endpoint	GMTR/GMCR
Age, Risk for Severe Covid-19					
Age \geq 65 At-risk	Negative	D29 fold-rise over D1	257	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	449.02 597.17 18.60 29.17
		D57 fold-rise over D1	257	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	3271.26 4662.14 81.14 109.94
		D57 fold-rise over D29	257	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	23.03 23.30 10.47 10.28
	Positive	D29 fold-rise over D1	148	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	17209.08 27654.10 81.87 181.38
		D57 fold-rise over D1	148	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	969721.58 1577684.87 1110.55 2940.70
		D57 fold-rise over D29	148	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	56.99 55.32 20.70 20.81
Age \geq 65 Not at-risk	Negative	D29 fold-rise over D1	256	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	509.94 677.82 22.73 35.01
		D57 fold-rise over D1	256	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	3633.62 5371.79 96.32 123.84
		D57 fold-rise over D29	256	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	21.72 24.10 10.79 9.42
	Positive	D29 fold-rise over D1	146	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	15619.55 27112.21 71.85 179.76

Table 2.25: Table 4d. Geometric mean titer ratios (GMTRs) or geometric mean concentrations (GMCRs) between post-vaccinations/pre-vaccination by Age, Risk for Severe Covid-19

Group	Baseline	Visit	N	Endpoint	GM
		D57 fold-rise over D1	146	Binding Antibody to RBD	843
				Binding Antibody to Spike	161
				PsV Neutralization 50% Titer	111
				PsV Neutralization 80% Titer	278
		D57 fold-rise over D29	146	Binding Antibody to RBD	55.
				Binding Antibody to Spike	57.
				PsV Neutralization 50% Titer	19.
				PsV Neutralization 80% Titer	20.
Age $i = 65$ At-risk	Negative	D29 fold-rise over D1	284	Binding Antibody to RBD	996
				Binding Antibody to Spike	135
				PsV Neutralization 50% Titer	36.
				PsV Neutralization 80% Titer	47.
		D57 fold-rise over D1	284	Binding Antibody to RBD	751
				Binding Antibody to Spike	111
				PsV Neutralization 50% Titer	166
				PsV Neutralization 80% Titer	212
		D57 fold-rise over D29	284	Binding Antibody to RBD	23.
				Binding Antibody to Spike	24.
				PsV Neutralization 50% Titer	10.
				PsV Neutralization 80% Titer	10.
	Positive	D29 fold-rise over D1	98	Binding Antibody to RBD	672
				Binding Antibody to Spike	100
				PsV Neutralization 50% Titer	237
				PsV Neutralization 80% Titer	450
		D57 fold-rise over D1	98	Binding Antibody to RBD	540
				Binding Antibody to Spike	780
				PsV Neutralization 50% Titer	690
				PsV Neutralization 80% Titer	823
		D57 fold-rise over D29	98	Binding Antibody to RBD	82.
				Binding Antibody to Spike	71.
				PsV Neutralization 50% Titer	36.
				PsV Neutralization 80% Titer	23.
Age $i = 65$ Not at-risk	Negative	D29 fold-rise over D1	265	Binding Antibody to RBD	786
				Binding Antibody to Spike	102
				PsV Neutralization 50% Titer	36.
				PsV Neutralization 80% Titer	46.
		D57 fold-rise over D1	265	Binding Antibody to RBD	562
				Binding Antibody to Spike	814
				PsV Neutralization 50% Titer	167
				PsV Neutralization 80% Titer	164
		D57 fold-rise over D29	265	Binding Antibody to RBD	23.
				Binding Antibody to Spike	26.

Table 2.25: Table 4d. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age, Risk for Severe Covid-19 (contin)

Group	Baseline	Visit	N	Endpoint	GMTR/GMCR
Positive	D29 fold-rise over D1	151	PsV Neutralization 50% Titer	11.13	
			PsV Neutralization 80% Titer	8.92	
			Binding Antibody to RBD	65320.06	
			Binding Antibody to Spike	123544.67	
			PsV Neutralization 50% Titer	309.02	
			PsV Neutralization 80% Titer	494.95	
	D57 fold-rise over D1	151	Binding Antibody to RBD	3883219.86	
			Binding Antibody to Spike	9956823.71	
			PsV Neutralization 50% Titer	7994.09	
			PsV Neutralization 80% Titer	9720.97	
	D57 fold-rise over D29	151	Binding Antibody to RBD	60.38	
			Binding Antibody to Spike	79.68	
			PsV Neutralization 50% Titer	31.39	
			PsV Neutralization 80% Titer	24.10	

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.26: Table 4e. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Sex

Group		Baseline	Visit	N	Endpoint	GM
Sex						
Female						
	Negative	D29 fold-rise over D1		597	Binding Antibody to RBD	512
					Binding Antibody to Spike	746
					PsV Neutralization 50% Titer	24.
					PsV Neutralization 80% Titer	35.
		D57 fold-rise over D1		597	Binding Antibody to RBD	389
					Binding Antibody to Spike	569
					PsV Neutralization 50% Titer	102
					PsV Neutralization 80% Titer	132
		D57 fold-rise over D29		597	Binding Antibody to RBD	23.
					Binding Antibody to Spike	23.
					PsV Neutralization 50% Titer	10.
					PsV Neutralization 80% Titer	9.8
	Positive	D29 fold-rise over D1		298	Binding Antibody to RBD	202
					Binding Antibody to Spike	317
					PsV Neutralization 50% Titer	89.
					PsV Neutralization 80% Titer	205
		D57 fold-rise over D1		298	Binding Antibody to RBD	113
					Binding Antibody to Spike	200
					PsV Neutralization 50% Titer	150
					PsV Neutralization 80% Titer	320
		D57 fold-rise over D29		298	Binding Antibody to RBD	58.
					Binding Antibody to Spike	62.
					PsV Neutralization 50% Titer	22.
					PsV Neutralization 80% Titer	20.
Male						
	Negative	D29 fold-rise over D1		465	Binding Antibody to RBD	633
					Binding Antibody to Spike	748
					PsV Neutralization 50% Titer	24.
					PsV Neutralization 80% Titer	37.
		D57 fold-rise over D1		465	Binding Antibody to RBD	425
					Binding Antibody to Spike	625
					PsV Neutralization 50% Titer	108
					PsV Neutralization 80% Titer	132
		D57 fold-rise over D29		465	Binding Antibody to RBD	20.
					Binding Antibody to Spike	25.
					PsV Neutralization 50% Titer	11.
					PsV Neutralization 80% Titer	9.4
	Positive	D29 fold-rise over D1		245	Binding Antibody to RBD	223
					Binding Antibody to Spike	433
					PsV Neutralization 50% Titer	104
					PsV Neutralization 80% Titer	230

Table 2.26: Table 4e. Geometric mean titer ratios (GMTRs) or geometric mean concentrations ratios (GMCRs) between post-vaccinations/pre-vaccination by Sex (continued)

Group	Baseline	Visit	N	Endpoint	GMTR/GMCR
		D57 fold-rise over D1	245	Binding Antibody to RBD	1290420.10
				Binding Antibody to Spike	2536108.81
				PsV Neutralization 50% Titer	1804.41
				PsV Neutralization 80% Titer	3963.69
		D57 fold-rise over D29	245	Binding Antibody to RBD	58.25
				Binding Antibody to Spike	57.69
				PsV Neutralization 50% Titer	21.87
				PsV Neutralization 80% Titer	22.83

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.27: Table 4f. Geometric mean titer ratios (GMTRs) or geometric mean concentrations (GMCRs) between post-vaccinations/pre-vaccination by Age, sex

Group	Baseline	Visit	N	Endpoint	GM
Age, sex					
Age ≥ 65 Female					
	Negative	D29 fold-rise over D1	291	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	417 612 21. 31.
		D57 fold-rise over D1	291	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	309 444 84. 114
		D57 fold-rise over D29	291	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	23. 22. 10. 9.6
	Positive	D29 fold-rise over D1	166	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	155 242 71. 176
		D57 fold-rise over D1	166	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	837 149 101 256
		D57 fold-rise over D29	166	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	56. 58. 19. 19.
Age < 65 Male					
	Negative	D29 fold-rise over D1	222	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	628 730 22. 36.
		D57 fold-rise over D1	222	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	428 648 104 129
		D57 fold-rise over D29	222	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	20. 25. 11. 9.4
	Positive	D29 fold-rise over D1	128	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	164 318 77. 184

Table 2.27: Table 4f. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age, sex (continued)

Group	Baseline	Visit	N	Endpoint	GMTR/GMCR
Age $i = 65$ Female	Negative	D57 fold-rise over D1	128	Binding Antibody to RBD	912122.03
				Binding Antibody to Spike	1765955.30
				PsV Neutralization 50% Titer	1260.90
				PsV Neutralization 80% Titer	3204.69
	Positive	D57 fold-rise over D29	128	Binding Antibody to RBD	55.46
				Binding Antibody to Spike	54.50
				PsV Neutralization 50% Titer	20.76
				PsV Neutralization 80% Titer	23.33
	D29 fold-rise over D1		306	Binding Antibody to RBD	1169.07
				Binding Antibody to Spike	1653.46
				PsV Neutralization 50% Titer	42.96
				PsV Neutralization 80% Titer	54.21
	D29 fold-rise over D1	D57 fold-rise over D1	306	Binding Antibody to RBD	9751.39
				Binding Antibody to Spike	15487.56
				PsV Neutralization 50% Titer	221.80
				PsV Neutralization 80% Titer	235.10
	D29 fold-rise over D29	D57 fold-rise over D29	306	Binding Antibody to RBD	25.96
				Binding Antibody to Spike	27.05
				PsV Neutralization 50% Titer	11.75
				PsV Neutralization 80% Titer	10.46
	Positive	D29 fold-rise over D1	132	Binding Antibody to RBD	64445.47
				Binding Antibody to Spike	103367.45
				PsV Neutralization 50% Titer	250.60
				PsV Neutralization 80% Titer	399.42
	D29 fold-rise over D1	D57 fold-rise over D1	132	Binding Antibody to RBD	4315467.64
				Binding Antibody to Spike	8646767.97
				PsV Neutralization 50% Titer	8409.43
				PsV Neutralization 80% Titer	9555.30
	D29 fold-rise over D29	D57 fold-rise over D29	132	Binding Antibody to RBD	67.28
				Binding Antibody to Spike	81.73
				PsV Neutralization 50% Titer	40.83
				PsV Neutralization 80% Titer	26.34
Age $i = 65$ Male	Negative	D29 fold-rise over D1	243	Binding Antibody to RBD	648.53
				Binding Antibody to Spike	805.91
				PsV Neutralization 50% Titer	31.27
	D29 fold-rise over D1	D57 fold-rise over D1	243	Binding Antibody to RBD	4145.08
				Binding Antibody to Spike	5573.07
				PsV Neutralization 50% Titer	122.62
	D29 fold-rise over D29	D57 fold-rise over D29	243	Binding Antibody to RBD	144.21
				Binding Antibody to Spike	21.52
					24.21

Table 2.27: Table 4f. Geometric mean titer ratios (GMTRs) or geometric mean concentrations (GMCRs) between post-vaccinations/pre-vaccination by Age, sex (continued)

Group	Baseline	Visit	N	Endpoint	GM
				PsV Neutralization 50% Titer	10.
				PsV Neutralization 80% Titer	9.2
Positive	D29 fold-rise over D1		117	Binding Antibody to RBD	679
				Binding Antibody to Spike	133
				PsV Neutralization 50% Titer	312
				PsV Neutralization 80% Titer	582
	D57 fold-rise over D1		117	Binding Antibody to RBD	456
				Binding Antibody to Spike	948
				PsV Neutralization 50% Titer	666
				PsV Neutralization 80% Titer	860
	D57 fold-rise over D29		117	Binding Antibody to RBD	69.
				Binding Antibody to Spike	70.
				PsV Neutralization 50% Titer	26.
				PsV Neutralization 80% Titer	21.

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample size.

Table 2.28: Table 4g. Geometric mean titer ratios (GMTRs) or geometric mean concentrations ratios (GMCRs) between post-vaccinations/pre-vaccination by Hispanic or Latino ethnicity

Group	Baseline	Visit	N	Endpoint	GMTR/GMCR
Hispanic or Latino ethnicity					
Hispanic or Latino					
Negative	D29 fold-rise over D1	125	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	343.58 496.63 18.04 24.63	
D57 fold-rise over D1	125	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	1954.23 3095.67 77.63 68.85		
D57 fold-rise over D29	125	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	19.32 21.92 11.45 8.24		
Positive	D29 fold-rise over D1	77	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	29604.21 32281.89 104.50 194.37	
D57 fold-rise over D1	77	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	1959440.21 2218924.30 2098.97 3193.34		
D57 fold-rise over D29	77	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	63.84 66.46 23.15 22.71		
Not Hispanic or Latino					
Negative	D29 fold-rise over D1	844	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	659.19 861.14 26.18 39.20	
D57 fold-rise over D1	844	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	5047.71 7127.65 119.06 156.40		
D57 fold-rise over D29	844	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	22.98 24.35 10.98 10.14		
Positive	D29 fold-rise over D1	406	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	20101.01 37113.87 95.37 217.53	

Table 2.28: Table 4g. Geometric mean titer ratios (GMTRs) or geometric mean concentrations (GMCRs) between post-vaccinations/pre-vaccination by Hispanic or Latino ethnicity

Group	Baseline	Visit	N	Endpoint	GM
		D57 fold-rise over D1	406	Binding Antibody to RBD	116
				Binding Antibody to Spike	212
				PsV Neutralization 50% Titer	162
				PsV Neutralization 80% Titer	391
		D57 fold-rise over D29	406	Binding Antibody to RBD	59.
				Binding Antibody to Spike	55.
				PsV Neutralization 50% Titer	21.
				PsV Neutralization 80% Titer	22.
Not reported and unknown	Negative	D29 fold-rise over D1	93	Binding Antibody to RBD	239
				Binding Antibody to Spike	340
				PsV Neutralization 50% Titer	17.
				PsV Neutralization 80% Titer	26.
		D57 fold-rise over D1	93	Binding Antibody to RBD	127
				Binding Antibody to Spike	237
				PsV Neutralization 50% Titer	52.
				PsV Neutralization 80% Titer	61.
		D57 fold-rise over D29	93	Binding Antibody to RBD	20.
				Binding Antibody to Spike	25.
				PsV Neutralization 50% Titer	8.8
				PsV Neutralization 80% Titer	7.4
Positive		D29 fold-rise over D1	60	Binding Antibody to RBD	205
				Binding Antibody to Spike	352
				PsV Neutralization 50% Titer	90.
				PsV Neutralization 80% Titer	251
		D57 fold-rise over D1	60	Binding Antibody to RBD	875
				Binding Antibody to Spike	338
				PsV Neutralization 50% Titer	124
				PsV Neutralization 80% Titer	206
		D57 fold-rise over D29	60	Binding Antibody to RBD	44.
				Binding Antibody to Spike	94.
				PsV Neutralization 50% Titer	24.
				PsV Neutralization 80% Titer	15.

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample size.

Table 2.29: Table 4h. Geometric mean titer ratios (GMTRs) or geometric mean concentrations ratios (GMCRs) between post-vaccinations/pre-vaccination by Race

Group		Baseline	Visit	N	Endpoint	GMTR/GMCR
Race						
Not reported and unknown	Negative	D29 fold-rise over D1	98		Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	434.69 638.27 20.35 37.23
		D57 fold-rise over D1	98		Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	3185.68 4005.04 99.69 130.75
		D57 fold-rise over D29	98		Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	23.07 20.03 12.14 10.42
American Indian or Alaska Native	Positive	D29 fold-rise over D1	48		Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	28090.33 42367.70 108.10 286.19
		D57 fold-rise over D1	48		Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	1706361.44 2296534.83 3128.26 2822.93
		D57 fold-rise over D29	48		Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	57.28 53.76 27.84 17.19
	Negative	D29 fold-rise over D1	27		Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	356.51 659.35 21.90 28.67
		D57 fold-rise over D1	27		Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	2674.75 4434.52 114.80 123.96
		D57 fold-rise over D29	27		Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	24.99 20.47 12.79 10.92
	Positive	D29 fold-rise over D1	17		Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer	22115.21 42976.12 93.16

Table 2.29: Table 4h. Geometric mean titer ratios (GMTRs) or geometric mean co-ratios (GMCRs) between post-vaccinations/pre-vaccination by Race (continued)

Group	Baseline	Visit	N	Endpoint	GM
Asian	Negative	D57 fold-rise over D1	17	PsV Neutralization 80% Titer	189.
				Binding Antibody to RBD	629.
				Binding Antibody to Spike	366.
				PsV Neutralization 50% Titer	237.
	Positive	D57 fold-rise over D29	17	PsV Neutralization 80% Titer	477.
				Binding Antibody to RBD	31.
				Binding Antibody to Spike	86.
				PsV Neutralization 50% Titer	28.
		D29 fold-rise over D1	84	PsV Neutralization 80% Titer	21.
				Binding Antibody to RBD	856.
	Black or African American	D57 fold-rise over D1	84	Binding Antibody to Spike	120.
				PsV Neutralization 50% Titer	30.
		D57 fold-rise over D29	84	PsV Neutralization 80% Titer	50.
				Binding Antibody to RBD	603.
		D29 fold-rise over D1	46	Binding Antibody to Spike	130.
				PsV Neutralization 50% Titer	201.
		D57 fold-rise over D29	46	PsV Neutralization 80% Titer	210.
				Binding Antibody to RBD	19.
	White	D57 fold-rise over D1	46	Binding Antibody to Spike	28.
				PsV Neutralization 50% Titer	16.
		D57 fold-rise over D29	46	PsV Neutralization 80% Titer	9.7.
				Binding Antibody to RBD	155.
		D29 fold-rise over D1	216	Binding Antibody to Spike	393.
				PsV Neutralization 50% Titer	59.
		D57 fold-rise over D1	216	PsV Neutralization 80% Titer	183.
				Binding Antibody to RBD	781.
		D57 fold-rise over D29	216	Binding Antibody to Spike	218.
				PsV Neutralization 50% Titer	132.
		D29 fold-rise over D1	216	PsV Neutralization 80% Titer	295.
				Binding Antibody to RBD	50.
	Hispanic	D57 fold-rise over D1	216	Binding Antibody to Spike	54.
				PsV Neutralization 50% Titer	23.
		D57 fold-rise over D29	216	PsV Neutralization 80% Titer	20.
				Binding Antibody to RBD	505.
		D29 fold-rise over D1	216	Binding Antibody to Spike	651.
				PsV Neutralization 50% Titer	23.
		D57 fold-rise over D1	216	PsV Neutralization 80% Titer	29.
				Binding Antibody to RBD	370.
		D57 fold-rise over D29	216	Binding Antibody to Spike	523.
				PsV Neutralization 50% Titer	95.
		D29 fold-rise over D29	216	PsV Neutralization 80% Titer	109.
				Binding Antibody to RBD	22.

Table 2.29: Table 4h. Geometric mean titer ratios (GMTRs) or geometric mean concentrations ratios (GMCRs) between post-vaccinations/pre-vaccination by Race (continued)

Group		Baseline	Visit	N	Endpoint	GMTR/GMCR
White	Positive	D29 fold-rise over D1	91	Binding Antibody to Spike	24.75	
				PsV Neutralization 50% Titer	10.43	
				PsV Neutralization 80% Titer	9.39	
	D57 fold-rise over D1	91	Binding Antibody to RBD	23377.82		
			Binding Antibody to Spike	30850.37		
			PsV Neutralization 50% Titer	84.89		
	D57 fold-rise over D29	91	PsV Neutralization 80% Titer	286.08		
			Binding Antibody to RBD	1207232.20		
			Binding Antibody to Spike	1821625.35		
Multiracial	Negative	D29 fold-rise over D1	62	PsV Neutralization 50% Titer	1473.32	
				PsV Neutralization 80% Titer	4114.71	
				Binding Antibody to RBD	49.88	
	D57 fold-rise over D1	62	Binding Antibody to Spike	54.62		
			PsV Neutralization 50% Titer	23.92		
			PsV Neutralization 80% Titer	17.91		
	D57 fold-rise over D29	62	Binding Antibody to RBD	157.24		
			Binding Antibody to Spike	212.73		
			PsV Neutralization 50% Titer	14.16		
Asian	Positive	D29 fold-rise over D1	28	PsV Neutralization 80% Titer	19.83	
				Binding Antibody to RBD	687.18	
				Binding Antibody to Spike	995.62	
	D57 fold-rise over D1	28	PsV Neutralization 50% Titer	41.60		
			PsV Neutralization 80% Titer	39.15		
			Binding Antibody to RBD	18.59		
	D57 fold-rise over D29	28	Binding Antibody to Spike	19.85		
			PsV Neutralization 50% Titer	9.85		
			PsV Neutralization 80% Titer	6.98		
Native Hawaiian or Other Pacific Islander	Positive	D29 fold-rise over D1	28	Binding Antibody to RBD	42948.33	
				Binding Antibody to Spike	36052.67	
				PsV Neutralization 50% Titer	141.72	
	D57 fold-rise over D1	28	PsV Neutralization 80% Titer	308.18		
			Binding Antibody to RBD	3397460.95		
			Binding Antibody to Spike	3188150.09		
	D57 fold-rise over D29	28	PsV Neutralization 50% Titer	1894.69		
			PsV Neutralization 80% Titer	7151.03		
			Binding Antibody to RBD	77.42		
American Indian or Alaskan Native	Negative	D29 fold-rise over D1	20	Binding Antibody to Spike	81.46	
				PsV Neutralization 50% Titer	20.45	
American Indian or Alaskan Native	Positive	D29 fold-rise over D1	20	PsV Neutralization 80% Titer	26.90	
				Binding Antibody to RBD	1596.59	
American Indian or Alaskan Native	Positive	D57 fold-rise over D1	20	Binding Antibody to Spike	1863.42	

Table 2.29: Table 4h. Geometric mean titer ratios (GMTRs) or geometric mean co-ratios (GMCRs) between post-vaccinations/pre-vaccination by Race (continued)

Group	Baseline	Visit	N	Endpoint	GM
				PsV Neutralization 50% Titer	40.
				PsV Neutralization 80% Titer	72.
	D57 fold-rise over D1		20	Binding Antibody to RBD	145.
				Binding Antibody to Spike	261.
				PsV Neutralization 50% Titer	280.
				PsV Neutralization 80% Titer	361.
	D57 fold-rise over D29		20	Binding Antibody to RBD	23.
				Binding Antibody to Spike	32.
				PsV Neutralization 50% Titer	12.
				PsV Neutralization 80% Titer	12.
	Positive	D29 fold-rise over D1	7	Binding Antibody to RBD	466.
				Binding Antibody to Spike	558.
				PsV Neutralization 50% Titer	102.
				PsV Neutralization 80% Titer	245.
	D57 fold-rise over D1		7	Binding Antibody to RBD	266.
				Binding Antibody to Spike	221.
				PsV Neutralization 50% Titer	961.
				PsV Neutralization 80% Titer	155.
	D57 fold-rise over D29		7	Binding Antibody to RBD	55.
				Binding Antibody to Spike	32.
				PsV Neutralization 50% Titer	15.
				PsV Neutralization 80% Titer	59.
Other	Negative	D29 fold-rise over D1	28	Binding Antibody to RBD	593.
				Binding Antibody to Spike	795.
				PsV Neutralization 50% Titer	60.
				PsV Neutralization 80% Titer	55.
	D57 fold-rise over D1		28	Binding Antibody to RBD	106.
				Binding Antibody to Spike	249.
				PsV Neutralization 50% Titer	550.
				PsV Neutralization 80% Titer	300.
	D57 fold-rise over D29		28	Binding Antibody to RBD	30.
				Binding Antibody to Spike	48.
				PsV Neutralization 50% Titer	14.
				PsV Neutralization 80% Titer	11.
	Positive	D29 fold-rise over D1	24	Binding Antibody to RBD	306.
				Binding Antibody to Spike	327.
				PsV Neutralization 50% Titer	115.
				PsV Neutralization 80% Titer	107.
	D57 fold-rise over D1		24	Binding Antibody to RBD	149.
				Binding Antibody to Spike	225.
				PsV Neutralization 50% Titer	237.
				PsV Neutralization 80% Titer	201.

Table 2.29: Table 4h. Geometric mean titer ratios (GMTRs) or geometric mean concentrations ratios (GMCRs) between post-vaccinations/pre-vaccination by Race (continued)

Group	Baseline	Visit	N	Endpoint	GMTR/GMCR
White	Negative	D57 fold-rise over D29	24	Binding Antibody to RBD	47.74
				Binding Antibody to Spike	63.97
				PsV Neutralization 50% Titer	27.71
				PsV Neutralization 80% Titer	28.09
	Negative	D29 fold-rise over D1	43	Binding Antibody to RBD	282.58
				Binding Antibody to Spike	450.41
				PsV Neutralization 50% Titer	20.23
				PsV Neutralization 80% Titer	35.08
	Positive	D57 fold-rise over D1	43	Binding Antibody to RBD	1961.93
				Binding Antibody to Spike	3868.14
				PsV Neutralization 50% Titer	56.12
				PsV Neutralization 80% Titer	78.98
White Non-Hispanic	Negative	D57 fold-rise over D29	43	Binding Antibody to RBD	23.71
				Binding Antibody to Spike	29.57
				PsV Neutralization 50% Titer	8.40
				PsV Neutralization 80% Titer	6.81
	Positive	D29 fold-rise over D1	38	Binding Antibody to RBD	21778.80
				Binding Antibody to Spike	39263.71
				PsV Neutralization 50% Titer	121.70
				PsV Neutralization 80% Titer	256.63
	Positive	D57 fold-rise over D1	38	Binding Antibody to RBD	954961.94
				Binding Antibody to Spike	3970647.18
				PsV Neutralization 50% Titer	1248.14
				PsV Neutralization 80% Titer	2324.53
	Positive	D57 fold-rise over D29	38	Binding Antibody to RBD	46.22
				Binding Antibody to Spike	98.78
				PsV Neutralization 50% Titer	20.68
				PsV Neutralization 80% Titer	16.66
White Non-Hispanic	Negative	D29 fold-rise over D1	456	Binding Antibody to RBD	679.58
				Binding Antibody to Spike	859.47
				PsV Neutralization 50% Titer	26.49
				PsV Neutralization 80% Titer	39.30
	Positive	D57 fold-rise over D1	456	Binding Antibody to RBD	5013.07
				Binding Antibody to Spike	7068.94
				PsV Neutralization 50% Titer	114.31
				PsV Neutralization 80% Titer	157.20
	Positive	D57 fold-rise over D29	456	Binding Antibody to RBD	22.43
				Binding Antibody to Spike	24.59
				PsV Neutralization 50% Titer	10.38
				PsV Neutralization 80% Titer	10.09
	Positive	D29 fold-rise over D1	224	Binding Antibody to RBD	17204.87
				Binding Antibody to Spike	34845.96

Table 2.29: Table 4h. Geometric mean titer ratios (GMTRs) or geometric mean count ratios (GMCRs) between post-vaccinations/pre-vaccination by Race (continued)

Group	Baseline	Visit	N	Endpoint	GM
				PsV Neutralization 50% Titer	91.
				PsV Neutralization 80% Titer	194.
	D57 fold-rise over D1		224	Binding Antibody to RBD	105.
				Binding Antibody to Spike	190.
				PsV Neutralization 50% Titer	147.
	D57 fold-rise over D29		224	PsV Neutralization 80% Titer	370.
				Binding Antibody to RBD	65.
				Binding Antibody to Spike	55.
				PsV Neutralization 50% Titer	21.
				PsV Neutralization 80% Titer	23.

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.30: Table 4i. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Race and ethnic group

Group	Baseline	Visit	N	Endpoint	GMTR/GMCR
Race and ethnic group					
White Non-Hispanic					
	Negative	D29 fold-rise over D1	456	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	679.58 859.47 26.49 39.30
		D57 fold-rise over D1	456	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	5013.07 7068.94 114.31 157.20
		D57 fold-rise over D29	456	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	22.43 24.59 10.38 10.09
	Positive	D29 fold-rise over D1	224	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	17204.87 34845.96 91.73 194.54
		D57 fold-rise over D1	224	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	1050253.62 1969272.23 1474.90 3700.51
		D57 fold-rise over D29	224	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	65.83 55.30 21.04 23.40
Communities of Color					
	Negative	D29 fold-rise over D1	535	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	482.15 664.28 22.66 33.17
		D57 fold-rise over D1	535	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	3384.24 5053.13 103.66 115.92
		D57 fold-rise over D29	535	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	22.12 23.49 11.66 9.51
	Positive	D29 fold-rise over D1	261	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	25369.75 36576.63 93.48 235.73

Table 2.30: Table 4i. Geometric mean titer ratios (GMTRs) or geometric mean concentrations (GMCRs) between post-vaccinations/pre-vaccination by Race and ethnic group (contd)

Group	Baseline	Visit	N	Endpoint	GM
	D57 fold-rise over D1		261	Binding Antibody to RBD	136
				Binding Antibody to Spike	220
				PsV Neutralization 50% Titer	191
				PsV Neutralization 80% Titer	363
	D57 fold-rise over D29		261	Binding Antibody to RBD	52.
				Binding Antibody to Spike	58.
				PsV Neutralization 50% Titer	24.
				PsV Neutralization 80% Titer	20.

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample size.

Table 2.31: Table 4j. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age, Race and ethnic group

Group	Baseline	Visit	N	Endpoint	GMTR/GMCR
Age, Race and ethnic group					
Age \geq 65 Communities of Color	Negative	D29 fold-rise over D1	253	Binding Antibody to RBD	417.36
				Binding Antibody to Spike	578.95
				PsV Neutralization 50% Titer	20.16
				PsV Neutralization 80% Titer	30.60
		D57 fold-rise over D1	253	Binding Antibody to RBD	2882.89
				Binding Antibody to Spike	4408.72
				PsV Neutralization 50% Titer	90.99
				PsV Neutralization 80% Titer	105.65
		D57 fold-rise over D29	253	Binding Antibody to RBD	21.73
				Binding Antibody to Spike	23.32
				PsV Neutralization 50% Titer	11.65
				PsV Neutralization 80% Titer	9.51
Age \geq 65 White Non-Hispanic	Positive	D29 fold-rise over D1	148	Binding Antibody to RBD	18944.69
				Binding Antibody to Spike	28154.49
				PsV Neutralization 50% Titer	66.53
				PsV Neutralization 80% Titer	184.83
		D57 fold-rise over D1	148	Binding Antibody to RBD	969628.42
				Binding Antibody to Spike	1626634.74
				PsV Neutralization 50% Titer	1241.15
				PsV Neutralization 80% Titer	2654.93
		D57 fold-rise over D29	148	Binding Antibody to RBD	49.65
				Binding Antibody to Spike	54.81
				PsV Neutralization 50% Titer	22.61
				PsV Neutralization 80% Titer	19.49
	Negative	D29 fold-rise over D1	227	Binding Antibody to RBD	600.38
				Binding Antibody to Spike	743.82
				PsV Neutralization 50% Titer	23.43
				PsV Neutralization 80% Titer	36.27
		D57 fold-rise over D1	227	Binding Antibody to RBD	4334.22
				Binding Antibody to Spike	6001.66
				PsV Neutralization 50% Titer	100.07
				PsV Neutralization 80% Titer	141.16
		D57 fold-rise over D29	227	Binding Antibody to RBD	21.72
				Binding Antibody to Spike	24.00
				PsV Neutralization 50% Titer	10.33
				PsV Neutralization 80% Titer	9.98
	Positive	D29 fold-rise over D1	117	Binding Antibody to RBD	13075.33
				Binding Antibody to Spike	25773.49
				PsV Neutralization 50% Titer	74.27

Table 2.31: Table 4j. Geometric mean titer ratios (GMTRs) or geometric mean concentrations (GMCRs) between post-vaccinations/pre-vaccination by Age, Race and ethnic group

Group	Baseline	Visit	N	Endpoint	GM
Age ≥ 65 Communities of Color		D57 fold-rise over D1	117	PsV Neutralization 80% Titer Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	165 780 138 106 322
		D57 fold-rise over D29	117	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	64. 52. 19. 24.
	Negative	D29 fold-rise over D1	282	Binding Antibody to RBD	818
				Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	109 34. 44.
		D57 fold-rise over D1	282	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	609 833 167 162
		D57 fold-rise over D29	282	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	23. 24. 11. 9.4
	Positive	D29 fold-rise over D1	113	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	823 105 368 628
		D57 fold-rise over D1	113	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	541 852 109 128
		D57 fold-rise over D29	113	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	65. 79. 35. 25.
Age ≥ 65 White Non-Hispanic	Negative	D29 fold-rise over D1	229	Binding Antibody to RBD	107
				Binding Antibody to Spike PsV Neutralization 50% Titer PsV Neutralization 80% Titer	146 41. 52.
		D57 fold-rise over D1	229	Binding Antibody to RBD Binding Antibody to Spike PsV Neutralization 50% Titer	858 129 186

Table 2.31: Table 4j. Geometric mean titer ratios (GMTRs) or geometric mean concentration ratios (GMCRs) between post-vaccinations/pre-vaccination by Age, Race and ethnic group (continu)

Group	Baseline	Visit	N	Endpoint	GMTR/GMCR
		D57 fold-rise over D29	229	PsV Neutralization 80% Titer	234.05
				Binding Antibody to RBD	25.29
				Binding Antibody to Spike	26.90
				PsV Neutralization 50% Titer	10.58
				PsV Neutralization 80% Titer	10.46
Positive		D29 fold-rise over D1	107	Binding Antibody to RBD	53767.78
				Binding Antibody to Spike	121879.78
				PsV Neutralization 50% Titer	220.43
				PsV Neutralization 80% Titer	382.29
		D57 fold-rise over D1	107	Binding Antibody to RBD	3597009.84
				Binding Antibody to Spike	8602356.49
				PsV Neutralization 50% Titer	5619.00
				PsV Neutralization 80% Titer	6558.81
		D57 fold-rise over D29	107	Binding Antibody to RBD	69.73
				Binding Antibody to Spike	70.64
				PsV Neutralization 50% Titer	31.14
				PsV Neutralization 80% Titer	21.01

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

2.0.5 Table 5. Ratios of GMTs/GMCs between the vaccine arm vs. placebo arm, by baseline status

Table 2.32: Table 5. Ratios of GMTs/GMCs between the vaccine arm vs. placebo arm, by baseline status

Baseline	Visit	N	Endpoint	Ratios of GMT/GMC	95% CI
All participants					
Negative	Day 29	1062	Binding Antibody to RBD	0.00	(0.00, 0.00)
			Binding Antibody to Spike	0.00	(0.00, 0.00)
			PsV Neutralization 50% Titer	0.19	(0.17, 0.22)
			PsV Neutralization 80% Titer	0.10	(0.08, 0.11)
	Day 57	1062	Binding Antibody to RBD	0.00	(0.00, 0.00)
			Binding Antibody to Spike	0.00	(0.00, 0.00)
			PsV Neutralization 50% Titer	0.01	(0.01, 0.02)
			PsV Neutralization 80% Titer	0.01	(0.01, 0.01)
Positive	Day 29	543	Binding Antibody to RBD	0.29	(0.22, 0.38)
			Binding Antibody to Spike	0.22	(0.18, 0.28)
			PsV Neutralization 50% Titer	0.39	(0.30, 0.50)
			PsV Neutralization 80% Titer	0.48	(0.36, 0.63)
	Day 57	543	Binding Antibody to RBD	0.17	(0.13, 0.23)
			Binding Antibody to Spike	0.12	(0.10, 0.16)
			PsV Neutralization 50% Titer	0.12	(0.08, 0.17)
			PsV Neutralization 80% Titer	0.22	(0.15, 0.32)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the sub-cohort sampling strata.

2.0.6 Table 6. Ratios of GMTs/GMCs between baseline positive participants vs. negative participants, among the vaccinees

Table 2.33: Table 6. Ratios of GMTs/GMCs between baseline positive participants vs. negative participants, among the vaccine recipients

Visit	N	Endpoint	Ratios of GMT/GMC	95% CI
All participants				
Day 29	1180	Binding Antibody to RBD	1.62	(1.18, 2.22)
		Binding Antibody to Spike	1.73	(1.32, 2.26)

Table 2.33: Table 6. Ratios of GMTs/GMCs between baseline positive participants vs. negative participants, among the vaccine recipients (continued)

Visit	N	Endpoint	Ratios of GMT/GMC	95% CI
Day 57	1180	PsV Neutralization 50% Titer	1.43	(1.06, 1.93)
		PsV Neutralization 80% Titer	1.50	(1.08, 2.09)
		Binding Antibody to RBD	2.48	(1.79, 3.43)
		Binding Antibody to Spike	2.44	(1.86, 3.21)
		PsV Neutralization 50% Titer	2.59	(1.70, 3.94)
		PsV Neutralization 80% Titer	2.68	(1.79, 4.02)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

2.0.7 Table 7. Ratios of GMTs/GMCs between demographic subgroups among the vaccine recipients

Table 2.34: Table 7. Ratios of GMTs/GMCs between demographic subgroups among the vaccine recipients

Baseline	Visit	Endpoint	N	Ratios of GMT/GMC	95% CI
Age					
Negative	Day 29	Binding Antibody to RBD	847	0.76	(0.61, 0.95)
		Binding Antibody to Spike		0.84	(0.70, 1.02)
		PsV Neutralization 50% Titer		0.92	(0.74, 1.13)
		PsV Neutralization 80% Titer		1.01	(0.80, 1.27)
		Binding Antibody to RBD	907	3.90	(3.05, 4.98)
				1.15	(0.93, 1.43)
				0.95	(0.75, 1.21)
				1.16	(0.77, 1.75)
		Binding Antibody to Spike		3.70	(3.01, 4.54)
				0.90	(0.75, 1.08)
				0.94	(0.77, 1.16)
		PsV Neutralization 50% Titer		1.08	(0.76, 1.53)
Sex				2.91	(2.30, 3.68)
				1.01	(0.82, 1.23)
				0.95	(0.76, 1.19)
				1.18	(0.80, 1.75)

Table 2.34: Table 7. Ratios of GMTs/GMCs between demographic subgroups among the vaccine recipients (continued)

Baseline	Visit	Endpoint	N	Ratios of GMT/GMC	95% CI
Day 57	Day 57	PsV Neutralization 80% Titer		2.46	(1.88, 3.21)
				1.06	(0.84, 1.32)
				1.07	(0.83, 1.38)
				1.14	(0.74, 1.76)
		Binding Antibody to RBD	847	0.80	(0.63, 1.01)
	Day 29	Binding Antibody to Spike		0.83	(0.69, 1.02)
		PsV Neutralization 50% Titer		1.11	(0.83, 1.49)
		PsV Neutralization 80% Titer		0.81	(0.61, 1.08)
		Binding Antibody to RBD	907	3.83	(2.96, 4.94)
				0.86	(0.69, 1.08)
Positive	Day 29			0.91	(0.71, 1.17)
				1.18	(0.77, 1.81)
		Binding Antibody to Spike		3.35	(2.69, 4.16)
				0.95	(0.79, 1.15)
				1.01	(0.82, 1.25)
	Day 29	PsV Neutralization 50% Titer		1.06	(0.73, 1.52)
				3.75	(2.68, 5.24)
				1.15	(0.86, 1.53)
		PsV Neutralization 80% Titer		1.00	(0.73, 1.38)
				1.02	(0.59, 1.76)
Positive	Day 29	Binding Antibody to RBD	241	2.72	(1.96, 3.77)
		Binding Antibody to Spike		0.99	(0.75, 1.30)
		PsV Neutralization 50% Titer		1.02	(0.75, 1.39)
		PsV Neutralization 80% Titer		1.91	(1.13, 3.23)
		Binding Antibody to RBD	273	1.05	(0.69, 1.59)
	Day 29	Binding Antibody to Spike		1.13	(0.80, 1.58)
		PsV Neutralization 50% Titer		1.18	(0.76, 1.82)
		PsV Neutralization 80% Titer		1.31	(0.83, 2.07)
		Binding Antibody to RBD		3.44	(2.15, 5.48)
				1.03	(0.70, 1.53)
Positive	Day 29			0.98	(0.63, 1.54)
				0.84	(0.46, 1.54)
		Binding Antibody to Spike		3.67	(2.53, 5.31)
				1.12	(0.81, 1.54)
				0.83	(0.57, 1.19)
	Day 29	PsV Neutralization 50% Titer		1.02	(0.62, 1.67)
				3.04	(1.87, 4.96)
				1.00	(0.66, 1.49)
		PsV Neutralization 80% Titer		0.78	(0.49, 1.24)
				0.91	(0.49, 1.71)

Table 2.34: Table 7. Ratios of GMTs/GMCs between demographic subgroups among the vaccine recipients (continued)

Baseline	Visit	Endpoint	N	Ratios of GMT/GMC	95% CI
Day 57	Binding Antibody to RBD	241		0.90	(0.55, 1.46)
				1.05	(0.55, 2.02)
				1.05	(0.70, 1.57)
				1.19	(0.88, 1.61)
				1.34	(0.78, 2.32)
	PsV Neutralization 50% Titer	273		0.68	(0.39, 1.19)
				3.19	(2.03, 5.00)
				1.01	(0.69, 1.47)
				0.88	(0.57, 1.36)
				0.57	(0.32, 1.02)
Binding Antibody to Spike	PsV Neutralization 50% Titer	273		2.80	(2.01, 3.89)
				1.12	(0.84, 1.48)
				1.02	(0.74, 1.41)
				0.77	(0.50, 1.20)
				5.36	(2.78, 10.33)
	PsV Neutralization 80% Titer	273		1.04	(0.60, 1.81)
				1.01	(0.54, 1.89)
				0.78	(0.34, 1.83)
				3.62	(1.85, 7.09)
				0.92	(0.53, 1.59)
PsV Neutralization 80% Titer	273			0.86	(0.45, 1.61)
				1.11	(0.47, 2.60)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

2.0.8 Table 8. Differences of responder rates between the vaccine arm and the placebo arm

Table 2.35: Table 8a. Differences of responder rates between the vaccine arm and the placebo by All participants

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
All participants	Negative	Day 29	1062	Binding Antibody to RBD	100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%, 100.0%)

Table 2.35: Table 8a. Differences of responder rates between the vaccine arm and the placebo arm by All participants (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
					(100.0%, 100.0%)
				PsV Neutralization 50% Titer	66.6%
					(62.5%, 70.6%)
				PsV Neutralization 80% Titer	80.0%
					(76.5%, 83.5%)
	Day 57	1062		Binding Antibody to RBD	100.0%
					(100.0%, 100.0%)
				Binding Antibody to Spike	100.0%
					(100.0%, 100.0%)
				PsV Neutralization 50% Titer	95.7%
					(93.9%, 97.5%)
				PsV Neutralization 80% Titer	97.6%
					(96.3%, 98.9%)
Positive	Day 29	543		Binding Antibody to RBD	-0.0%
					(-0.0%, -0.0%)
				Binding Antibody to Spike	-0.0%
					(-0.0%, -0.0%)
				PsV Neutralization 50% Titer	24.4%
					(16.6%, 32.3%)
				PsV Neutralization 80% Titer	7.7%
					(1.3%, 14.1%)
	Day 57	543		Binding Antibody to RBD	-0.0%
					(-0.0%, -0.0%)
				Binding Antibody to Spike	-0.0%
					(-0.0%, -0.0%)
				PsV Neutralization 50% Titer	12.8%
					(7.9%, 17.7%)
				PsV Neutralization 80% Titer	2.4%
					(0.0%, 4.8%)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampled.

Table 2.36: Table 8b. Differences of responder rates between the vaccine arm and the placebo by Age

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
Age \geq 65	Negative	Day 29	513	Binding Antibody to RBD	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%, 100.0%)
		Day 57	513	Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%, 100.0%)
				PsV Neutralization 50% Titer	61.9%	46.8%
	Positive	Day 29	294		(55.9%, 68.0%)	(40.5%, 40.5%)
				Binding Antibody to RBD	76.9%	66.1%
		Day 57	294		(71.7%, 82.2%)	(60.2%, 60.2%)
				Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%, 100.0%)
Age $i= 65$	Negative	Day 29	549	PsV Neutralization 50% Titer	95.4%	89.1%
					(92.8%, 98.0%)	(85.2%, 85.2%)
		Day 57	294	PsV Neutralization 80% Titer	97.2%	93.7%
					(95.1%, 99.2%)	(90.7%, 90.7%)
				Binding Antibody to RBD	0.0%	0.3%
	Positive	Day 29	294		(0.0%, 0.0%)	(-0.6%, -0.6%)
				Binding Antibody to Spike	0.0%	0.0%
		Day 57	294		(0.0%, 0.0%)	(0.0%, 0.0%)
				PsV Neutralization 50% Titer	26.5%	17.9%
					(15.7%, 37.4%)	(6.7%, 6.7%)
Age $i= 65$	Negative	Day 29	549	PsV Neutralization 80% Titer	6.8%	12.2%
					(-2.2%, 15.9%)	(1.4%, 1.4%)
		Day 57	294	Binding Antibody to RBD	0.0%	0.0%
					(0.0%, 0.0%)	(0.0%, 0.0%)
				Binding Antibody to Spike	0.0%	0.0%
	Positive	Day 29	294		(0.0%, 0.0%)	(0.0%, 0.0%)
				PsV Neutralization 50% Titer	15.4%	21.4%
		Day 57	294		(8.3%, 22.5%)	(13.3%, 13.3%)
				PsV Neutralization 80% Titer	2.3%	5.6%
					(-1.1%, 5.7%)	(0.5%, 0.5%)

Table 2.36: Table 8b. Differences of responder rates between the vaccine arm and the by Age (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
				PsV Neutralization 80% Titer	91.4% (88.0%, 94.7%)
	Day 57	549		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	96.6% (94.5%, 98.8%)
				PsV Neutralization 80% Titer	99.3% (98.2%, 100.3%)
Positive	Day 29	249		Binding Antibody to RBD	-0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	-0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	15.7% (6.5%, 24.9%)
				PsV Neutralization 80% Titer	11.2% (3.6%, 18.7%)
	Day 57	249		Binding Antibody to RBD	-0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	-0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	2.2% (-1.9%, 6.3%)
				PsV Neutralization 80% Titer	2.7% (-0.1%, 5.5%)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.37: Table 8c. Differences of responder rates between the vaccine arm and the placebo by Risk for Severe Covid-19

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
At-risk	Negative	Day 29	541	Binding Antibody to RBD	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%, 100.0%)
		Day 57	541	Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%, 100.0%)
				PsV Neutralization 50% Titer	65.3%	50.9%
	Positive	Day 29	246		(59.4%, 71.1%)	(44.8%, 67.1%)
				PsV Neutralization 80% Titer	78.9%	67.1%
		Day 57	246	Binding Antibody to RBD	(73.9%, 83.9%)	(61.4%, 89.7%)
					100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%, 100.0%)
Not at-risk	Negative	Day 29	521	PsV Neutralization 50% Titer	93.5%	89.7%
					(90.5%, 96.5%)	(86.0%, 94.8%)
		Day 57	246	PsV Neutralization 80% Titer	97.5%	94.8%
					(95.6%, 99.4%)	(92.1%, 99.4%)
				Binding Antibody to RBD	-0.0%	1.1%
	Positive	Day 29	246		(-0.0%, -0.0%)	(-0.7%, -0.0%)
				Binding Antibody to Spike	-0.0%	-0.0%
		Day 57	246		(-0.0%, -0.0%)	(-0.0%, -0.0%)
				PsV Neutralization 50% Titer	21.1%	20.4%
					(9.8%, 32.4%)	(8.0%, 32.4%)
Not at-risk	Positive	Day 29	246	PsV Neutralization 80% Titer	13.6%	17.6%
					(3.4%, 23.7%)	(6.4%, 23.7%)
		Day 57	246	Binding Antibody to RBD	-0.0%	-0.0%
					(-0.0%, -0.0%)	(-0.0%, -0.0%)
				Binding Antibody to Spike	-0.0%	-0.0%
	Not at-risk	Day 29	521		(-0.0%, -0.0%)	(-0.0%, -0.0%)
				PsV Neutralization 50% Titer	7.3%	9.6%
		Day 57	521		(0.8%, 13.9%)	(1.6%, 13.9%)
				PsV Neutralization 80% Titer	2.8%	4.6%
					(-1.0%, 6.5%)	(0.3%, 6.5%)

Table 2.37: Table 8c. Differences of responder rates between the vaccine arm and the by Risk for Severe Covid-19 (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
				PsV Neutralization 80% Titer	80.4% (75.5%, 85.3%)
	Day 57	521		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	96.5% (94.3%, 98.8%)
				PsV Neutralization 80% Titer	97.7% (95.8%, 99.5%)
Positive	Day 29	297		Binding Antibody to RBD	0.0% (0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (0.0%, 0.0%)
				PsV Neutralization 50% Titer	25.3% (14.7%, 36.0%)
				PsV Neutralization 80% Titer	6.0% (-2.4%, 14.5%)
	Day 57	297		Binding Antibody to RBD	0.0% (0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (0.0%, 0.0%)
				PsV Neutralization 50% Titer	14.5% (7.7%, 21.2%)
				PsV Neutralization 80% Titer	2.3% (-0.9%, 5.5%)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.38: Table 8d. Differences of responder rates between the vaccine arm and the placebo by Age, Risk for Severe Covid-19

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
Age \geq 65 At-risk	Negative	Day 29	257	Binding Antibody to RBD	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
		Day 57	257	Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	55.7%	40.4%
	Positive	Day 29	148		(46.9%, 64.5%)	(31.7%)
				PsV Neutralization 80% Titer	73.3%	60.7%
		Day 57	148	Binding Antibody to RBD	(65.5%, 81.1%)	(52.1%)
					100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
Age \geq 65 Not at-risk	Negative	Day 29	256	PsV Neutralization 50% Titer	92.3%	87.1%
					(87.6%, 97.0%)	(81.1%)
		Day 57	148	PsV Neutralization 80% Titer	95.9%	92.5%
					(92.4%, 99.4%)	(87.8%)
				Binding Antibody to RBD	0.0%	1.6%
	Positive	Day 29	148		(0.0%, 0.0%)	(-1.2%)
				Binding Antibody to Spike	0.0%	0.0%
		Day 57	148		(0.0%, 0.0%)	(0.0%,)
				PsV Neutralization 50% Titer	21.9%	18.1%
					(6.6%, 37.2%)	(2.2%,)
	Not at-risk	Day 29	256	PsV Neutralization 80% Titer	8.7%	12.6%
					(-5.2%, 22.6%)	(-2.8%)
		Day 57	148	Binding Antibody to RBD	0.0%	0.0%
					(0.0%, 0.0%)	(0.0%,)
				Binding Antibody to Spike	0.0%	0.0%
Age < 65 At-risk	Negative	Day 29	256		(0.0%, 0.0%)	(0.0%,)
				PsV Neutralization 50% Titer	9.6%	11.0%
		Day 57	148		(0.6%, 18.5%)	(0.2%,)
				PsV Neutralization 80% Titer	1.2%	2.7%
					(-3.4%, 5.7%)	(-2.6%)
	Positive	Day 29	148	Binding Antibody to RBD	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
		Day 57	148	Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	63.6%	48.5%
	Not at-risk	Day 29	256		(55.1%, 72.1%)	(39.6%)
				PsV Neutralization 80% Titer	1.2%	2.7%
		Day 57	148		(-3.4%, 5.7%)	(-2.6%)
				Binding Antibody to RBD	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
		Day 57	148	Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	63.6%	48.5%
					(55.1%, 72.1%)	(39.6%)

Table 2.38: Table 8d. Differences of responder rates between the vaccine arm and the by Age, Risk for Severe Covid-19 (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
				PsV Neutralization 80% Titer	77.9% (70.5%, 85.2%)
	Day 57	256		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	96.3% (92.9%, 99.6%)
				PsV Neutralization 80% Titer	97.5% (94.8%, 100.3%)
Positive	Day 29	146		Binding Antibody to RBD	0.0% (0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (0.0%, 0.0%)
				PsV Neutralization 50% Titer	27.6% (12.1%, 43.0%)
				PsV Neutralization 80% Titer	6.5% (-6.0%, 19.1%)
	Day 57	146		Binding Antibody to RBD	0.0% (0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (0.0%, 0.0%)
				PsV Neutralization 50% Titer	16.8% (6.5%, 27.1%)
				PsV Neutralization 80% Titer	2.6% (-2.2%, 7.5%)
Age \geq 65 At-risk	Negative	Day 29	284	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	80.1% (73.3%, 86.9%)
				PsV Neutralization 80% Titer	87.6% (82.0%, 93.2%)
	Day 57	284		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)

Table 2.38: Table 8d. Differences of responder rates between the vaccine arm and the placebo by Age, Risk for Severe Covid-19 (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold	
Positive	Day 29	98	PsV Neutralization 50% Titer	0.0%	0.0%		
				(-0.0%, 0.0%)	(-0.0%)		
				Binding Antibody to Spike	0.0%	0.0%	
				(-0.0%, 0.0%)	(-0.0%)		
				PsV Neutralization 50% Titer	19.2%	24.9%	
	Day 57	98		(4.3%, 34.0%)	(6.2%,		
				PsV Neutralization 80% Titer	23.6%	27.9%	
				(10.1%, 37.1%)	(13.9%)		
				Binding Antibody to RBD	0.0%	0.0%	
				(-0.0%, 0.0%)	(-0.0%)		
Age $i = 65$ Not at-risk	Negative	Day 29	Binding Antibody to RBD	0.0%	0.0%		
				(-0.0%, 0.0%)	(-0.0%)		
				Binding Antibody to Spike	0.0%	0.0%	
				(-0.0%, 0.0%)	(-0.0%)		
				PsV Neutralization 50% Titer	2.7%	6.7%	
	Day 57	265		(-6.3%, 11.7%)	(-4.8%)		
				PsV Neutralization 80% Titer	6.1%	8.6%	
				(-0.4%, 12.6%)	(0.9%,		
				Binding Antibody to RBD	100.0%	100.0%	
				(100.0%, 100.0%)	(100.0%)		
Positive	Day 29	151	Binding Antibody to Spike	100.0%	100.0%		
				(100.0%, 100.0%)	(100.0%)		
				PsV Neutralization 50% Titer	87.4%	77.8%	
				(81.8%, 93.0%)	(70.9%)		
				PsV Neutralization 80% Titer	95.2%	84.9%	
	Day 57	265		(91.7%, 98.8%)	(78.8%)		
				Binding Antibody to RBD	100.0%	100.0%	
				(100.0%, 100.0%)	(100.0%)		
				Binding Antibody to Spike	100.0%	100.0%	
				(100.0%, 100.0%)	(100.0%)		
Positive	Day 29	151	PsV Neutralization 50% Titer	98.0%	97.7%		
				(95.7%, 100.4%)	(95.2%)		
	Day 57	265		PsV Neutralization 80% Titer	98.5%	98.5%	
				(96.5%, 100.5%)	(96.5%)		
Positive	Day 29	151	Binding Antibody to RBD	0.0%	0.0%		
				(-0.0%, 0.0%)	(-0.0%)		
Positive	Day 57	265	Binding Antibody to Spike	0.0%	0.0%		
				(-0.0%, 0.0%)	(-0.0%)		

Table 2.38: Table 8d. Differences of responder rates between the vaccine arm and the by Age, Risk for Severe Covid-19 (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
					(-0.0%, 0.0%)
				PsV Neutralization 50% Titer	13.5%
					(1.8%, 25.3%)
				PsV Neutralization 80% Titer	3.4%
					(-5.1%, 11.9%)
Day 57	151			Binding Antibody to RBD	0.0%
					(-0.0%, 0.0%)
				Binding Antibody to Spike	0.0%
					(-0.0%, 0.0%)
				PsV Neutralization 50% Titer	2.1%
					(-1.2%, 5.4%)
				PsV Neutralization 80% Titer	0.6%
					(-1.2%, 2.3%)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.39: Table 8e. Differences of responder rates between the vaccine arm and the placebo by Sex

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
Female	Negative	Day 29	597	Binding Antibody to RBD	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%, 100.0%)
		Day 57	597	Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%, 100.0%)
				PsV Neutralization 50% Titer	66.9%	53.3%
	Positive	Day 29	298		(61.5%, 72.3%)	(47.6%, 69.4%)
				PsV Neutralization 80% Titer	78.9%	69.4%
		Day 57	298	Binding Antibody to RBD	(74.2%, 83.6%)	(64.1%, 92.0%)
					100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%, 100.0%)
Male	Negative	Day 29	465	PsV Neutralization 50% Titer	95.4%	92.0%
					(93.0%, 97.8%)	(88.8%, 94.9%)
		Day 57	298	PsV Neutralization 80% Titer	98.6%	(97.3%, 100.0%)
					0.0%	(92.4%, 0.4%)
				Binding Antibody to RBD	(-0.0%, 0.0%)	(-0.6%, 0.4%)
	Positive	Day 29	298	Binding Antibody to Spike	0.0%	(-0.0%, 0.0%)
					(-0.0%, 0.0%)	(-0.0%, 0.0%)
		Day 57	298	PsV Neutralization 50% Titer	22.5%	18.5%
					(11.7%, 33.4%)	(7.3%, 20.0%)
				PsV Neutralization 80% Titer	2.0%	14.5%
					(-6.9%, 10.9%)	(3.9%, 14.5%)
				Binding Antibody to RBD	0.0%	0.0%
					(-0.0%, 0.0%)	(-0.0%, 0.0%)
				Binding Antibody to Spike	0.0%	0.0%
					(-0.0%, 0.0%)	(-0.0%, 0.0%)
				PsV Neutralization 50% Titer	14.7%	19.5%
					(7.9%, 21.4%)	(11.5%, 20.0%)
				PsV Neutralization 80% Titer	4.6%	7.4%
					(0.9%, 8.4%)	(1.9%, 7.4%)
	Male	Day 29	465	Binding Antibody to RBD	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%, 100.0%)
				Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%, 100.0%)
				PsV Neutralization 50% Titer	66.1%	50.9%
					(59.9%, 72.3%)	(44.3%, 50.9%)

Table 2.39: Table 8e. Differences of responder rates between the vaccine arm and the by Sex (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
				PsV Neutralization 80% Titer	81.4% (76.2%, 86.5%)
	Day 57	465		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	96.1% (93.6%, 98.7%)
				PsV Neutralization 80% Titer	96.4% (93.9%, 98.8%)
Positive	Day 29	245		Binding Antibody to RBD	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	26.0% (14.7%, 37.2%)
				PsV Neutralization 80% Titer	15.1% (6.0%, 24.2%)
	Day 57	245		Binding Antibody to RBD	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	10.2% (3.1%, 17.2%)
				PsV Neutralization 80% Titer	-0.8% (-3.3%, 1.6%)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.40: Table 8f. Differences of responder rates between the vaccine arm and the placebo by Age, sex

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
Age \geq 65 Female	Negative	Day 29	291	Binding Antibody to RBD	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
		Day 57	291	Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	62.6%	48.2%
	Positive	Day 29	166		(54.7%, 70.5%)	(40.0%)
				Binding Antibody to RBD	75.1%	66.5%
		Day 57	166	Binding Antibody to Spike	(68.0%, 82.2%)	(58.7%)
				PsV Neutralization 50% Titer	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
Age \geq 65 Male	Negative	Day 29	222	Binding Antibody to RBD	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
		Day 57	222	Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	61.1%	45.0%
	Positive	Day 29	166		(51.6%, 70.6%)	(35.3%)
				Binding Antibody to RBD	-0.0%	0.5%
		Day 57	166	Binding Antibody to Spike	(-0.0%, 0.0%)	(-1.1%)
					-0.0%	-0.0%
				PsV Neutralization 50% Titer	(-2.2%)	10.9%
					(-14.5%, 10.1%)	(-3.7%)

Table 2.40: Table 8f. Differences of responder rates between the vaccine arm and the by Age, sex (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
				PsV Neutralization 80% Titer	79.2% (71.4%, 87.1%)
	Day 57	222		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	96.1%
					(92.3%, 99.8%)
				PsV Neutralization 80% Titer	95.5% (91.5%, 99.5%)
Positive	Day 29	128		Binding Antibody to RBD	0.0% (0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (0.0%, 0.0%)
				PsV Neutralization 50% Titer	31.5% (15.5%, 47.5%)
				PsV Neutralization 80% Titer	19.2%
					(6.0%, 32.4%)
	Day 57	128		Binding Antibody to RBD	0.0% (0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (0.0%, 0.0%)
				PsV Neutralization 50% Titer	13.6% (3.0%, 24.1%)
				PsV Neutralization 80% Titer	-1.7% (-5.1%, 1.7%)
Age \geq 65 Female	Negative	Day 29	306	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	83.3% (77.1%, 89.4%)
				PsV Neutralization 80% Titer	93.2% (89.0%, 97.4%)
	Day 57	306		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)

Table 2.40: Table 8f. Differences of responder rates between the vaccine arm and the placebo by Age, sex (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
				PsV Neutralization 50% Titer	96.9% (94.1%, 99.8%)	96.1% (92.9%, 99.8%)
				PsV Neutralization 80% Titer	99.2% (97.7%, 100.7%)	98.5% (96.4%, 100.7%)
	Positive	Day 29	132	Binding Antibody to RBD	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	19.1% (6.0%, 32.2%)	24.5% (8.7%, 32.2%)
				PsV Neutralization 80% Titer	18.7% (7.5%, 29.9%)	25.7% (13.3%, 29.9%)
		Day 57	132	Binding Antibody to RBD	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	3.7% (-2.3%, 9.7%)	7.0% (-0.2%, 9.7%)
				PsV Neutralization 80% Titer	3.3% (-0.9%, 7.5%)	3.3% (-0.9%, 7.5%)
Age $i = 65$ Male	Negative	Day 29	243	Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	84.3% (78.0%, 90.6%)	72.4% (64.7%, 90.6%)
				PsV Neutralization 80% Titer	89.1% (83.7%, 94.5%)	82.0% (75.3%, 94.5%)
		Day 57	243	Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	96.3% (93.0%, 99.6%)	95.3% (91.7%, 99.6%)
				PsV Neutralization 80% Titer	99.3% (97.9%, 100.7%)	98.4% (96.2%, 100.7%)
	Positive	Day 29	117	Binding Antibody to RBD	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0%	0.0%

Table 2.40: Table 8f. Differences of responder rates between the vaccine arm and the by Age, sex (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
					(-0.0%, 0.0%)
				PsV Neutralization 50% Titer	12.7%
					(-0.1%, 25.5%)
				PsV Neutralization 80% Titer	3.6%
					(-6.1%, 13.4%)
Day 57	117			Binding Antibody to RBD	0.0%
					(-0.0%, 0.0%)
				Binding Antibody to Spike	0.0%
					(-0.0%, 0.0%)
				PsV Neutralization 50% Titer	0.6%
					(-4.9%, 6.1%)
				PsV Neutralization 80% Titer	2.1%
					(-1.7%, 5.9%)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sample.

Table 2.41: Table 8g. Differences of responder rates between the vaccine arm and the placebo by Hispanic or Latino ethnicity

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
Hispanic or Latino	Negative	Day 29	125	Binding Antibody to RBD	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
		Day 57	125	Binding Antibody to Spike	100.0%	100.0%
					(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	55.5%	44.1%
	Positive	Day 29	77		(43.5%, 67.5%)	(32.2%)
				Binding Antibody to RBD	80.0%	69.0%
		Day 57	77	Binding Antibody to Spike	(70.3%, 89.6%)	(57.9%)
				PsV Neutralization 50% Titer	97.9%	90.4%
				PsV Neutralization 80% Titer	(94.5%, 101.4%)	(83.2%)
Not Hispanic or Latino	Negative	Day 29	844	Binding Antibody to RBD	92.0%	90.4%
					(85.5%, 98.6%)	(83.3%)
		Day 57	77	Binding Antibody to Spike	-0.0%	-0.0%
				PsV Neutralization 50% Titer	(-0.0%, 0.0%)	(-0.0%)
				PsV Neutralization 80% Titer	-0.0%	-0.0%
	Positive	Day 29	77	Binding Antibody to RBD	33.8%	35.7%
					(13.2%, 54.4%)	(14.6%)
		Day 57	77	Binding Antibody to Spike	10.2%	25.2%
				PsV Neutralization 50% Titer	(-7.3%, 27.6%)	(4.2%)
				PsV Neutralization 80% Titer	-0.0%	-0.0%

Table 2.41: Table 8g. Differences of responder rates between the vaccine arm and the by Hispanic or Latino ethnicity (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
				PsV Neutralization 80% Titer	80.1% (76.1%, 84.0%)
	Day 57	844		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	95.5% (93.4%, 97.5%)
				PsV Neutralization 80% Titer	97.9% (96.4%, 99.3%)
Positive	Day 29	406		Binding Antibody to RBD	-0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	-0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	24.4% (15.4%, 33.4%)
				PsV Neutralization 80% Titer	8.8% (1.1%, 16.5%)
	Day 57	406		Binding Antibody to RBD	-0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	-0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	12.1% (6.9%, 17.3%)
				PsV Neutralization 80% Titer	2.0% (-0.2%, 4.2%)
Not reported and unknown	Negative	Day 29	93	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	70.0% (57.5%, 82.5%)
				PsV Neutralization 80% Titer	79.2% (68.1%, 90.2%)
	Day 57	93		Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)

Table 2.41: Table 8g. Differences of responder rates between the vaccine arm and the placebo arm by Hispanic or Latino ethnicity (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold Rise
				PsV Neutralization 50% Titer	96.0% (90.7%, 101.3%)	90.9% (83.0%, 98.7%)
				PsV Neutralization 80% Titer	100.0% (100.0%, 100.0%)	93.1% (86.2%, 98.7%)
Positive	Day 29	60		Binding Antibody to RBD	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	15.1% (-9.6%, 39.9%)	29.1% (4.8%, 53.9%)
				PsV Neutralization 80% Titer	-1.0% (-11.3%, 9.4%)	-4.5% (-24.2%, 19.7%)
	Day 57	60		Binding Antibody to RBD	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	18.7% (-1.0%, 38.5%)	36.0% (14.8%, 50.0%)
				PsV Neutralization 80% Titer	10.5% (-0.7%, 21.6%)	20.3% (5.7%, 26.0%)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.42: Table 8h. Differences of responder rates between the vaccine arm and the by Race

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
Not reported and unknown	Negative	Day 29	98	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
		Day 57	98	PsV Neutralization 50% Titer	64.1% (50.6%, 77.6%)
				PsV Neutralization 80% Titer	78.1% (66.5%, 89.8%)
				Binding Antibody to RBD	100.0% (100.0%, 100.0%)
	Positive	Day 29	48	Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	97.9% (93.8%, 101.9%)
		Day 57	48	PsV Neutralization 80% Titer	99.1% (96.4%, 101.8%)
				Binding Antibody to RBD	-0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	-0.0% (-0.0%, 0.0%)
American Indian or Alaska Native	Negative	Day 29	27	PsV Neutralization 50% Titer	42.9% (17.5%, 68.3%)
				PsV Neutralization 80% Titer	19.5% (-1.0%, 40.0%)
				Binding Antibody to RBD	-0.0% (-0.0%, 0.0%)
		Day 57	48	Binding Antibody to Spike	-0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	-4.3% (-12.8%, 4.2%)
				PsV Neutralization 80% Titer	-0.0% (-0.0%, 0.0%)
				Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	62.3%

Table 2.42: Table 8h. Differences of responder rates between the vaccine arm and the placebo by Race (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
Asian	Positive	Day 57	27	PsV Neutralization 80% Titer	(35.8%, 88.8%)	(21.4%)
				75.4%	50.8%	
				(51.9%, 98.9%)	(23.5%)	
				Binding Antibody to RBD	100.0%	100.0%
				(100.0%, 100.0%)	(100.0%)	
	Negative	Day 29	17	Binding Antibody to Spike	100.0%	100.0%
				(100.0%, 100.0%)	(100.0%)	
				PsV Neutralization 50% Titer	98.3%	98.3%
				(91.4%, 105.3%)	(91.4%)	
				PsV Neutralization 80% Titer	98.3%	98.3%
African American	Positive	Day 57	17	Binding Antibody to RBD	0.0%	0.0%
				(0.0%, 0.0%)	(0.0%)	
				Binding Antibody to Spike	0.0%	0.0%
				(0.0%, 0.0%)	(0.0%)	
				PsV Neutralization 50% Titer	58.3%	20.9%
	Negative	Day 29	84	PsV Neutralization 80% Titer	(27.3%, 89.3%)	(-30.8%)
				12.2%	24.1%	
				(-19.9%, 44.3%)	(-25.0%)	
				Binding Antibody to RBD	0.0%	0.0%
				(0.0%, 0.0%)	(0.0%)	
Hispanic	Positive	Day 57	17	Binding Antibody to Spike	0.0%	0.0%
				(0.0%, 0.0%)	(0.0%)	
				PsV Neutralization 50% Titer	9.3%	9.3%
				(-9.0%, 27.6%)	(-9.0%)	
				PsV Neutralization 80% Titer	0.0%	0.0%
	Negative	Day 29	84	(0.0%, 0.0%)	(0.0%)	
				Binding Antibody to RBD	100.0%	100.0%
				(100.0%, 100.0%)	(100.0%)	
				Binding Antibody to Spike	100.0%	100.0%
				(100.0%, 100.0%)	(100.0%)	
White	Positive	Day 57	84	PsV Neutralization 50% Titer	65.3%	45.5%
				(49.3%, 81.4%)	(28.7%)	
				PsV Neutralization 80% Titer	89.1%	69.1%
				(78.6%, 99.6%)	(53.6%)	
				Binding Antibody to RBD	100.0%	100.0%
	Negative	Day 29	84	(100.0%, 100.0%)	(100.0%)	
				Binding Antibody to Spike	100.0%	100.0%
				(100.0%, 100.0%)	(100.0%)	
				PsV Neutralization 50% Titer	65.3%	45.5%
				(49.3%, 81.4%)	(28.7%)	

Table 2.42: Table 8h. Differences of responder rates between the vaccine arm and the by Race (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
					(100.0%, 100.0%)
				PsV Neutralization 50% Titer	98.4%
					(94.1%, 102.6%)
				PsV Neutralization 80% Titer	98.5%
					(94.3%, 102.6%)
	Positive	Day 29	46	Binding Antibody to RBD	-0.0%
					(-0.0%, 0.0%)
				Binding Antibody to Spike	-0.0%
					(-0.0%, 0.0%)
				PsV Neutralization 50% Titer	-20.9%
					(-49.8%, 8.0%)
				PsV Neutralization 80% Titer	-19.0%
		Day 57	46	Binding Antibody to RBD	-0.0%
					(-0.0%, 0.0%)
				Binding Antibody to Spike	-0.0%
					(-0.0%, 0.0%)
				PsV Neutralization 50% Titer	14.2%
					(-6.5%, 34.8%)
				PsV Neutralization 80% Titer	-8.5%
					(-21.2%, 4.1%)
Black or African American	Negative	Day 29	216	Binding Antibody to RBD	100.0%
					(100.0%, 100.0%)
				Binding Antibody to Spike	100.0%
					(100.0%, 100.0%)
				PsV Neutralization 50% Titer	63.6%
					(54.5%, 72.8%)
				PsV Neutralization 80% Titer	76.5%
		Day 57	216	Binding Antibody to RBD	100.0%
					(100.0%, 100.0%)
				Binding Antibody to Spike	100.0%
					(100.0%, 100.0%)
				PsV Neutralization 50% Titer	89.4%
					(83.5%, 95.3%)
				PsV Neutralization 80% Titer	96.2%
					(92.5%, 99.8%)
	Positive	Day 29	91	Binding Antibody to RBD	-0.0%

Table 2.42: Table 8h. Differences of responder rates between the vaccine arm and the placebo by Race (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
Multiracial	Negative	Day 29	62	Binding Antibody to Spike	(-0.0%, 0.0%)	(-0.0%)
				PsV Neutralization 50% Titer	-0.0%	-0.0%
				PsV Neutralization 80% Titer	(-0.0%, 0.0%)	(-0.0%)
		Day 57	91	Binding Antibody to RBD	26.6%	8.9%
				Binding Antibody to Spike	(6.7%, 46.4%)	(-11.6%)
				PsV Neutralization 50% Titer	19.7%	18.2%
	Positive	Day 29	28	PsV Neutralization 80% Titer	(4.0%, 35.4%)	(-1.2%)
				Binding Antibody to RBD	-0.0%	-0.0%
				Binding Antibody to Spike	(-0.0%, 0.0%)	(-0.0%)
		Day 57	62	PsV Neutralization 50% Titer	8.0%	16.5%
				PsV Neutralization 80% Titer	(-2.0%, 18.1%)	(2.9%, 2.7%)
				Binding Antibody to RBD	2.7%	2.7%
				Binding Antibody to Spike	(-2.4%, 7.8%)	(-2.4%)
				PsV Neutralization 50% Titer	100.0%	100.0%
				PsV Neutralization 80% Titer	(100.0%, 100.0%)	(100.0%)
				Binding Antibody to RBD	100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	47.1%	32.7%
				PsV Neutralization 80% Titer	(31.1%, 63.0%)	(17.8%)
				Binding Antibody to RBD	76.7%	66.9%
				Binding Antibody to Spike	(63.2%, 90.2%)	(51.8%)
				PsV Neutralization 50% Titer	100.0%	100.0%
				PsV Neutralization 80% Titer	(100.0%, 100.0%)	(100.0%)
				Binding Antibody to RBD	100.0%	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	100.0%	86.5%
				PsV Neutralization 80% Titer	(100.0%, 100.0%)	(75.5%)
				Binding Antibody to RBD	100.0%	97.1%
				Binding Antibody to Spike	(100.0%, 100.0%)	(91.8%)
				PsV Neutralization 50% Titer	-0.0%	-0.0%
				PsV Neutralization 80% Titer	(-0.0%, 0.0%)	(-0.0%)
				Binding Antibody to RBD	-0.0%	-0.0%
				Binding Antibody to Spike	(-0.0%, 0.0%)	(-0.0%)
				PsV Neutralization 50% Titer	23.2%	32.5%
				PsV Neutralization 80% Titer	(-11.2%, 57.5%)	(-5.0%)
				Binding Antibody to RBD	17.8%	47.4%

Table 2.42: Table 8h. Differences of responder rates between the vaccine arm and the by Race (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
		Day 57	28	Binding Antibody to RBD	(-5.4%, 40.9%)
				Binding Antibody to Spike	-0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	-0.0% (-0.0%, 0.0%)
				PsV Neutralization 80% Titer	33.2% (10.3%, 56.1%)
Native Hawaiian or Other Pacific Islander	Negative	Day 29	20	Binding Antibody to RBD	-0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)
				PsV Neutralization 80% Titer	100.0% (100.0%, 100.0%)
		Day 57	20	Binding Antibody to RBD	68.7% (33.2%, 104.2%)
				Binding Antibody to Spike	92.6% (72.6%, 112.6%)
				PsV Neutralization 50% Titer	100.0% (100.0%, 100.0%)
				PsV Neutralization 80% Titer	100.0% (100.0%, 100.0%)
	Positive	Day 29	7	Binding Antibody to RBD	(100.0%, 100.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	0.0% (-0.0%, 0.0%)
				PsV Neutralization 80% Titer	(-41.7%, 68.9%)
		Day 57	7	Binding Antibody to RBD	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	13.6% (-0.0%, 0.0%)

Table 2.42: Table 8h. Differences of responder rates between the vaccine arm and the placebo by Race (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
Other	Negative	Day 29	28	PsV Neutralization 80% Titer	(-43.4%, 76.2%)	(-43.4%
				Binding Antibody to RBD	0.0%	0.0%
		Day 57	28	Binding Antibody to Spike	(-0.0%, 0.0%)	(-0.0%
				PsV Neutralization 50% Titer	100.0%	100.0%
				PsV Neutralization 80% Titer	(100.0%, 100.0%)	(100.0%
	Positive	Day 29	24	Binding Antibody to Spike	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%
		Day 57	24	Binding Antibody to RBD	74.0%	65.3%
				Binding Antibody to Spike	(35.7%, 112.3%)	(23.7%
				PsV Neutralization 80% Titer	66.7%	63.4%
White	Negative	Day 29	43	PsV Neutralization 80% Titer	(25.5%, 107.9%)	(21.2%
				Binding Antibody to RBD	100.0%	100.0%
		Day 57	43	Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%
				PsV Neutralization 50% Titer	96.7%	96.7%
				PsV Neutralization 80% Titer	(81.0%, 112.3%)	(81.0%
Black	Negative	Day 29	43	PsV Neutralization 80% Titer	84.2%	84.2%
				Binding Antibody to RBD	(52.4%, 116.1%)	(52.4%
		Day 57	43	Binding Antibody to Spike	0.0%	0.0%
				PsV Neutralization 50% Titer	(-0.0%, 0.0%)	(-0.0%
				PsV Neutralization 80% Titer	59.6%	55.6%
	Positive	Day 29	43	PsV Neutralization 80% Titer	(26.6%, 92.6%)	(22.3%
				Binding Antibody to RBD	4.4%	49.5%
		Day 57	43	Binding Antibody to Spike	(-26.7%, 35.5%)	(13.9%
				PsV Neutralization 50% Titer	0.0%	0.0%
				PsV Neutralization 80% Titer	(-0.0%, 0.0%)	(-0.0%
Asian	Negative	Day 29	43	Binding Antibody to Spike	0.0%	0.0%
				PsV Neutralization 50% Titer	(-0.0%, 0.0%)	(-0.0%
		Day 57	43	Binding Antibody to RBD	-10.2%	-6.0%
				Binding Antibody to Spike	(-34.8%, 14.3%)	(-32.8%
				PsV Neutralization 80% Titer	0.0%	14.6%
	Positive	Day 29	43	PsV Neutralization 80% Titer	(-0.0%, 0.0%)	(-5.5%
				Binding Antibody to RBD	100.0%	100.0%
		Day 57	43	Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%
				PsV Neutralization 50% Titer	100.0%	100.0%
				PsV Neutralization 80% Titer	(100.0%, 100.0%)	(100.0%

Table 2.42: Table 8h. Differences of responder rates between the vaccine arm and the by Race (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
					(100.0%, 100.0%)
				PsV Neutralization 50% Titer	74.8%
					(56.7%, 92.9%)
				PsV Neutralization 80% Titer	82.5%
					(66.6%, 98.4%)
	Day 57	43		Binding Antibody to RBD	100.0%
					(100.0%, 100.0%)
				Binding Antibody to Spike	100.0%
					(100.0%, 100.0%)
				PsV Neutralization 50% Titer	92.3%
					(81.2%, 103.4%)
				PsV Neutralization 80% Titer	100.0%
					(100.0%, 100.0%)
Positive	Day 29	38		Binding Antibody to RBD	0.0%
					(0.0%, 0.0%)
				Binding Antibody to Spike	0.0%
					(0.0%, 0.0%)
				PsV Neutralization 50% Titer	2.6%
					(-28.2%, 33.3%)
				PsV Neutralization 80% Titer	-0.7%
					(-12.7%, 11.3%)
	Day 57	38		Binding Antibody to RBD	0.0%
					(0.0%, 0.0%)
				Binding Antibody to Spike	0.0%
					(0.0%, 0.0%)
				PsV Neutralization 50% Titer	22.4%
					(-4.1%, 48.9%)
				PsV Neutralization 80% Titer	14.7%
					(-1.0%, 30.5%)
White Non-Hispanic	Negative	Day 29	456	Binding Antibody to RBD	100.0%
					(100.0%, 100.0%)
				Binding Antibody to Spike	100.0%
					(100.0%, 100.0%)
				PsV Neutralization 50% Titer	69.1%
					(62.9%, 75.2%)
				PsV Neutralization 80% Titer	80.8%
					(75.5%, 86.1%)
	Day 57	456		Binding Antibody to RBD	100.0%

Table 2.42: Table 8h. Differences of responder rates between the vaccine arm and the placebo by Race (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
Positive	Day 29	224		Binding Antibody to Spike	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 50% Titer	100.0%	100.0%
				PsV Neutralization 50% Titer	(100.0%, 100.0%)	(100.0%)
				PsV Neutralization 80% Titer	96.5%	92.5%
				PsV Neutralization 80% Titer	(94.1%, 99.0%)	(88.9%)
	Day 57	224		Binding Antibody to RBD	98.2%	95.3%
				Binding Antibody to Spike	(96.4%, 100.0%)	(92.4%)
				Binding Antibody to RBD	-0.0%	0.5%
				Binding Antibody to Spike	(-0.0%, -0.0%)	(-0.8%)
				PsV Neutralization 50% Titer	23.9%	10.9%
				PsV Neutralization 50% Titer	(11.7%, 36.1%)	(-2.1%)
				PsV Neutralization 80% Titer	7.3%	12.4%
				PsV Neutralization 80% Titer	(-3.3%, 17.8%)	(0.4%,
				Binding Antibody to RBD	-0.0%	-0.0%
				Binding Antibody to Spike	(-0.0%, -0.0%)	(-0.0%)
				PsV Neutralization 50% Titer	15.3%	18.0%
				PsV Neutralization 80% Titer	(8.2%, 22.4%)	(9.3%,
				PsV Neutralization 80% Titer	2.6%	1.5%
				PsV Neutralization 80% Titer	(-0.9%, 6.2%)	(-3.5%)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.43: Table 8i. Differences of responder rates between the vaccine arm and the by Race and ethnic group

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
White Non-Hispanic	Negative	Day 29	456	Binding Antibody to RBD	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)
		Day 57	456	PsV Neutralization 50% Titer	100.0%
				PsV Neutralization 80% Titer	69.1%
				Binding Antibody to RBD	(62.9%, 75.2%)
	Positive	Day 29	224	Binding Antibody to Spike	80.8%
				PsV Neutralization 50% Titer	(75.5%, 86.1%)
		Day 57	224	Binding Antibody to RBD	100.0%
				Binding Antibody to Spike	(100.0%, 100.0%)
				PsV Neutralization 50% Titer	96.5%
Communities of Color	Negative	Day 29	535	PsV Neutralization 80% Titer	(94.1%, 99.0%)
				Binding Antibody to RBD	98.2%
		Day 57	224	Binding Antibody to Spike	(96.4%, 100.0%)
				PsV Neutralization 50% Titer	-0.0%
				PsV Neutralization 80% Titer	(-0.0%, -0.0%)
	Positive	Day 29	224	Binding Antibody to RBD	23.9%
				Binding Antibody to Spike	(11.7%, 36.1%)
		Day 57	224	PsV Neutralization 50% Titer	7.3%
				PsV Neutralization 80% Titer	(-3.3%, 17.8%)
				Binding Antibody to RBD	-0.0%
		Day 57	224	Binding Antibody to Spike	(-0.0%, -0.0%)
				PsV Neutralization 50% Titer	-0.0%
				PsV Neutralization 80% Titer	(-0.0%, -0.0%)

Table 2.43: Table 8i. Differences of responder rates between the vaccine arm and the placebo arm by Race and ethnic group (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold Rise
				PsV Neutralization 80% Titer	78.9% (73.9%, 83.8%)	67.0% (61.3%, 73.0%)
	Day 57	535		Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	95.0% (92.4%, 97.7%)	89.1% (85.4%, 94.9%)
Positive	Day 29	261		PsV Neutralization 80% Titer	97.4% (95.4%, 99.3%)	94.9% (92.2%, 97.0%)
				Binding Antibody to RBD	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
	Day 57	261		PsV Neutralization 50% Titer	27.6% (16.3%, 38.9%)	25.8% (14.1%, 37.0%)
				PsV Neutralization 80% Titer	10.6% (1.5%, 19.7%)	17.6% (6.2%, 25.8%)
				Binding Antibody to RBD	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)	0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	6.5% (0.0%, 12.9%)	13.0% (5.4%, 21.0%)
				PsV Neutralization 80% Titer	-0.6% (-3.3%, 2.2%)	8.5% (3.0%, 13.0%)

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.

Table 2.44: Table 8j. Differences of responder rates between the vaccine arm and the by Age, Race and ethnic group

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
Age ≥ 65 Communities of Color	Negative	Day 29	253	Binding Antibody to RBD	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)
		Day 57	253	PsV Neutralization 50% Titer	57.9% (49.2%, 66.6%)
				PsV Neutralization 80% Titer	74.9% (67.3%, 82.6%)
				Binding Antibody to RBD	100.0% (100.0%, 100.0%)
	Positive	Day 29	148	Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	94.5% (90.5%, 98.6%)
		Day 57	148	PsV Neutralization 80% Titer	97.1% (94.2%, 100.1%)
				Binding Antibody to RBD	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)
Age ≥ 65 White Non-Hispanic	Negative	Day 29	227	PsV Neutralization 50% Titer	30.8% (15.4%, 46.1%)
				PsV Neutralization 80% Titer	12.0% (-0.9%, 24.9%)
		Day 57	148	Binding Antibody to RBD	0.0% (-0.0%, 0.0%)
				Binding Antibody to Spike	0.0% (-0.0%, 0.0%)
				PsV Neutralization 50% Titer	8.6% (-0.7%, 17.8%)
				PsV Neutralization 80% Titer	-1.4% (-5.0%, 2.2%)
				Binding Antibody to RBD	100.0% (100.0%, 100.0%)
	Positive	Day 29	148	Binding Antibody to Spike	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	64.6% (55.5%, 73.7%)

Table 2.44: Table 8j. Differences of responder rates between the vaccine arm and the placebo by Age, Race and ethnic group (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
				PsV Neutralization 80% Titer	78.4% (70.6%, 86.2%)	67.4% (58.5%, 76.3%)
	Day 57	227		Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	96.6% (93.1%, 100.0%)	91.4% (86.1%, 96.7%)
	Positive	Day 29	117	Binding Antibody to RBD	-0.0% (-0.0%, 0.0%)	0.6% (-1.4%, -0.8%)
				Binding Antibody to Spike	-0.0% (-0.0%, 0.0%)	-0.0% (-0.0%, -0.0%)
				PsV Neutralization 50% Titer	25.7% (8.5%, 43.0%)	8.3% (-9.8%, 18.1%)
				PsV Neutralization 80% Titer	4.1% (-11.0%, 19.1%)	9.3% (-7.8%, 19.1%)
	Day 57	117		Binding Antibody to RBD	-0.0% (-0.0%, 0.0%)	-0.0% (-0.0%, -0.0%)
				Binding Antibody to Spike	-0.0% (-0.0%, 0.0%)	-0.0% (-0.0%, -0.0%)
				PsV Neutralization 50% Titer	18.3% (7.9%, 28.8%)	21.6% (9.0%, 31.2%)
				PsV Neutralization 80% Titer	2.8% (-2.4%, 8.0%)	0.4% (-6.6%, 8.0%)
Age \geq 65 Communities of Color	Negative	Day 29	282	Binding Antibody to RBD	100.0%	100.0%
				Binding Antibody to Spike	100.0% (100.0%, 100.0%)	100.0% (100.0%, 100.0%)
				PsV Neutralization 50% Titer	81.5% (75.1%, 87.9%)	70.2% (62.6%, 77.7%)
				PsV Neutralization 80% Titer	93.5% (89.4%, 97.6%)	79.8% (73.1%, 86.5%)
	Day 57	282		Binding Antibody to RBD	100.0% (100.0%, 100.0%)	100.0% (100.0%, 100.0%)
				Binding Antibody to Spike	100.0%	100.0%

Table 2.44: Table 8j. Differences of responder rates between the vaccine arm and the by Age, Race and ethnic group (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise
					(100.0%, 100.0%)
				PsV Neutralization 50% Titer	96.8%
					(93.9%, 99.7%)
				PsV Neutralization 80% Titer	98.2%
					(96.0%, 100.4%)
	Positive	Day 29	113	Binding Antibody to RBD	0.0%
					(0.0%, 0.0%)
				Binding Antibody to Spike	0.0%
					(0.0%, 0.0%)
				PsV Neutralization 50% Titer	17.1%
					(5.1%, 29.0%)
				PsV Neutralization 80% Titer	6.2%
					(-2.0%, 14.4%)
		Day 57	113	Binding Antibody to RBD	0.0%
					(0.0%, 0.0%)
				Binding Antibody to Spike	0.0%
					(0.0%, 0.0%)
				PsV Neutralization 50% Titer	-1.3%
					(-5.8%, 3.3%)
				PsV Neutralization 80% Titer	2.6%
					(-1.6%, 6.8%)
Age $i = 65$ White Non-Hispanic	Negative	Day 29	229	Binding Antibody to RBD	100.0%
					(100.0%, 100.0%)
				Binding Antibody to Spike	100.0%
					(100.0%, 100.0%)
				PsV Neutralization 50% Titer	85.7%
					(79.0%, 92.3%)
				PsV Neutralization 80% Titer	89.8%
					(84.1%, 95.5%)
		Day 57	229	Binding Antibody to RBD	100.0%
					(100.0%, 100.0%)
				Binding Antibody to Spike	100.0%
					(100.0%, 100.0%)
				PsV Neutralization 50% Titer	96.4%
					(92.9%, 99.9%)
				PsV Neutralization 80% Titer	100.0%
					(100.0%, 100.0%)
	Positive	Day 29	107	Binding Antibody to RBD	0.0%

Table 2.44: Table 8j. Differences of responder rates between the vaccine arm and the placebo by Age, Race and ethnic group (continued)

Group	Baseline	Visit	N	Endpoint	2-Fold Rise	4-Fold
				Binding Antibody to Spike	(-0.0%, 0.0%) 0.0%	(-0.0% 0.0%
				PsV Neutralization 50% Titer	(-0.0%, 0.0%) 15.0%	(-0.0% 20.3%
				PsV Neutralization 80% Titer	(-0.0%, 29.9%) 20.1%	(2.2%, 24.4%
					(7.0%, 33.3%)	(9.6%,
Day 57	107			Binding Antibody to RBD	0.0%	0.0%
				Binding Antibody to Spike	(-0.0%, 0.0%) 0.0%	(-0.0% 0.0%
				PsV Neutralization 50% Titer	(-0.0%, 0.0%) 2.1%	(-0.0% 2.5%
				PsV Neutralization 80% Titer	(-4.2%, 8.5%) 2.0%	(-7.0% 5.9%
					(-1.7%, 5.7%)	(-0.4%

All calculations were weighted by the inverse probability sampling (IPS), defined based on the subcohort sampling strata.