

**Table S1.** Multivariable linear regression for Anti-S/RBD IgG antibody titers. Statistically significant variables are marked in bold for each (sub) analyses performed. The regression coefficient (i.e the  $\beta$  estimate) obtained shows the increase or decrease in  $\log_{10}$ -transformed anti-Spike/RBD values outcome per unit increase in the factor studied, adjusted for the effect of other variables in the model. Results reported the  $\beta$  estimate, its 95% confidence interval, and the corresponding p-value for the variable of interest in a particular model. The adjusted R-square is also reported for each model run. R-square for multicollinearity was always below 0.20 for all model tested.

| Variable                   | Day 14   |                   | Day 28   |                   | Day 42   |                   |
|----------------------------|--|-------------------|--|-------------------|--|-------------------|
|                            | Beta (95%CI)   | p-value           | Beta (95%CI)   | p-value           | Beta (95%CI)   | p-value           |
| <b>Full cohort</b>         | <b>N analyzed = 192, Adjusted R<sup>2</sup>: 0.778</b> |                   | <b>N analyzed = 196, Adjusted R<sup>2</sup>: 0.115</b> |                   | <b>N analyzed = 184, Adjusted R<sup>2</sup>: 0.103</b> |                   |
| Sex (male)                 | -0.09812 (-0.2448 to 0.04860)                          | 0.1887            | 0.07499 (-0.2018 to 0.09401)                           | 0.4730            | -0.0981 (-0.202 to 0.00636)                            | 0.0655            |
| <b>Age (years)</b>         | <b>-0.01259 (-0.01800 to -0.007172)</b>                | <b>&lt;0.0001</b> | <b>-0.002714 (-0.01145 to -0.0007421)</b>              | <b>0.0259</b>     | -0.00336 (-0.00712 to 0.000400)                        | 0.0795            |
| BMI (kg/m <sup>2</sup> )   | 0.009489 (-0.005105 to 0.02408)                        | 0.2012            | 0.007403 (-0.007995 to 0.02121)                        | 0.3732            | 0.00354 (-0.00676 to 0.0138)                           | 0.4985            |
| Blood group A              | 0.02738 (-0.1103 to 0.1651)                            | 0.6953            | 0.06961 (-0.1417 to 0.1329)                            | 0.9494            | -0.0209 (-0.116 to 0.0739)                             | 0.6640            |
| <b>Blood group AB</b>      | <b>-0.3152 (-0.6225 to -0.007893)</b>                  | <b>0.0445</b>     | 0.1577 (-0.3702 to 0.2520)                             | 0.7083            | -0.138 (-0.374 to 0.0975)                              | 0.2489            |
| Blood group B              | 0.1721 (-0.05609 to 0.4002)                            | 0.1385            | 0.1167 (-0.2422 to 0.2182)                             | 0.9184            | 0.0249 (-0.149 to 0.199)                               | 0.7779            |
| <b>Previous SARS-CoV-2</b> | <b>1.683 (1.545 to 1.821)</b>                          | <b>&lt;0.0001</b> | <b>0.06957 (0.1473 to 0.4218)</b>                      | <b>&lt;0.0001</b> | <b>0.209 (0.111 to 0.307)</b>                          | <b>&lt;0.0001</b> |
| <b>SARS-CoV-2 Naïve</b>    | <b>N analyzed = 133, Adjusted R<sup>2</sup>: 0.160</b> |                   | <b>N analyzed = 134, Adjusted R<sup>2</sup>: 0.044</b> |                   | <b>N analyzed = 131, Adjusted R<sup>2</sup>: 0.070</b> |                   |
| Sex (male)                 | -0.153 (-0.3281 to 0.02204)                            | 0.0861            | -0.07752 (-0.2753 to 0.1202)                           | 0.4393            | <b>-0.1286 (-0.2509 to -0.006370)</b>                  | <b>0.0394</b>     |
| <b>Age (years)</b>         | <b>-0.01474 (-0.02135 to -0.008119)</b>                | <b>&lt;0.0001</b> | <b>-0.007837 (-0.01524 to -0.0004362)</b>              | <b>0.0381</b>     | -0.00413 (-0.008652 to 0.0003919)                      | 0.0731            |
| BMI (kg/m <sup>2</sup> )   | 0.007087 (-0.01012 to 0.02429)                         | 0.4165            | 0.005132 (-0.01392 to 0.02418)                         | 0.5949            | 0.000847 (-0.01085 to 0.01254)                         | 0.8863            |
| Blood group (A)            | 0.002837 (-0.1647 to 0.1703)                           | 0.9733            | -0.02639 (-0.2117 to 0.1589)                           | 0.7785            | -0.03809 (-0.1517 to 0.07554)                          | 0.5083            |
| Blood group (AB)           | -0.1533 (-0.5041 to 0.1975)                            | 0.3888            | -0.01729 (-0.4108 to 0.3762)                           | 0.9308            | -0.1421 (-0.3979 to 0.1136)                            | 0.2734            |
| Blood group (B)            | 0.1333 (-0.1451 to 0.4117)                             | 0.3453            | -0.1138 (-0.4253 to 0.1976)                            | 0.4709            | 0.0408 (-0.1654 to 0.2470)                             | 0.6960            |
| <b>Previous SARS-CoV-2</b> | <b>N analyzed = 59, Adjusted R<sup>2</sup>: 0.294</b>  |                   | <b>N analyzed = 62, Adjusted R<sup>2</sup>: 0.114</b>  |                   | <b>N analyzed = 53, Adjusted R<sup>2</sup>: 0.056</b>  |                   |
| Sex (male)                 | 0.06036 (-0.2002 to 0.3209)                            | 0.6440            | -0.003949 (-0.2018 to 0.1939)                          | 0.9682            | -0.009967 (-0.2211 to 0.2012)                          | 0.09502           |
| <b>Age (years)</b>         | <b>-0.002444 (-0.01219 to 0.007299)</b>                | <b>0.6168</b>     | <b>-0.0008248 (-0.007887 to 0.006237)</b>              | <b>0.8158</b>     | -0.0008263 (-0.008100 to 0.006448)                     | 0.2286            |
| BMI (kg/m <sup>2</sup> )   | 0.01918 (-0.007521 to 0.04589)                         | 0.1554            | 0.01466 (-0.006176 to 0.03549)                         | 0.1642            | 0.01646 (-0.007005 to 0.03992)                         | 1.412             |
| Blood group (A)            | 0.1692 (-0.07606 to 0.4145)                            | 0.1721            | 0.09159 (-0.09532 to 0.2785)                           | 0.3304            | 0.06968 (-0.1200 to 0.2594)                            | 0.7393            |
| Blood group (AB)           | 0.2079 (-0.1760 to 0.5917)                             | 0.2822            | 0.1837 (-0.1153 to 0.4827)                             | 0.2235            | -0.0323 (-0.3751 to 0.3105)                            | 0.1897            |
| <b>Blood group (B)</b>     | <b>-1.086 (-1.713 to -0.4597)</b>                      | <b>0.0010</b>     | <b>-0.3325 (-0.8222 to 0.1572)</b>                     | <b>0.1792</b>     | -0.1932 (-0.8326 to 0.4462)                            | 0.6083            |
| <b>Female gender</b>       | <b>N analyzed = 143, Adjusted R<sup>2</sup>: 0.759</b> |                   | <b>N analyzed = 147, Adjusted R<sup>2</sup>: 0.130</b> |                   | <b>N analyzed = 140, Adjusted R<sup>2</sup>: 0.107</b> |                   |
| <b>Age (years)</b>         | <b>-0.01167 (-0.02280 to -0.0005468)</b>               | <b>0.0399</b>     | -0.001849 (-0.01232 to 0.008620)                       | 0.7275            | -0.003665 (-0.01108 to 0.003752)                       | 0.3302            |
| BMI (kg/m <sup>2</sup> )   | 0.01109 (-0.005272 to 0.02745)                         | 0.1824            | 0.01051 (-0.005007 to 0.02603)                         | 0.1827            | 0.005487 (-0.005657 to 0.01663)                        | 0.3318            |
| Blood group A              | 0.0541 (-0.1096 to 0.2178)                             | 0.5146            | -0.01694 (-0.1718 to 0.1379)                           | 0.8291            | -0.03186 (-0.1408 to 0.07710)                          | 0.5639            |
| <b>Blood group AB</b>      | <b>-0.4756 (-0.8663 to -0.08498)</b>                   | <b>0.0174</b>     | -0.06347 (-0.4398 to 0.3129)                           | 0.7393            | -0.2011 (-0.4609 to 0.05870)                           | 0.1281            |
| Blood group B              | 0.1385 (-0.1621 to 0.4390)                             | 0.3638            | 0.1689 (-0.1196 to 0.4575)                             | 0.2491            | -0.002485 (-0.2374 to 0.2325)                          | 0.9833            |
| Menopausal                 | -0.08219 (-0.3504 to 0.1860)                           | 0.5455            | -0.1477 (-0.4021 to 0.1067)                            | 0.2528            | 0.04522 (-0.1385 to 0.2290)                            | 0.6272            |
| <b>Previous SARS-CoV-2</b> | <b>1.625 (1.457 to 1.792)</b>                          | <b>&lt;0.0001</b> | <b>0.2627 (0.1052 to 0.4203)</b>                       | <b>0.0012</b>     | <b>0.1854 (0.07177 to 0.2990)</b>                      | <b>0.0016</b>     |
| <b>Childbearing age</b>    | <b>N analyzed = 98, Adjusted R<sup>2</sup>: 0.831</b>  |                   | <b>N analyzed = 100, Adjusted R<sup>2</sup>: 0.169</b> |                   | <b>N analyzed = 96, Adjusted R<sup>2</sup>: 0.194</b>  |                   |
| <b>Age (years)</b>         | <b>-0.01433 (-0.02458 to -0.004071)</b>                | <b>0.0067</b>     | -0.001916 (-0.01127 to 0.007436)                       | 0.6850            | -0.00417 (-0.01114 to 0.002796)                        | 0.2374            |
| BMI (kg/m <sup>2</sup> )   | 0.02571 (0.006468 to 0.04495)                          | 0.0094            | 0.01571 (-0.001809 to 0.03323)                         | 0.0782            | 0.01136 (-0.001957 to 0.02468)                         | 0.0936            |

|                            |   |                   |   |               |   |               |
|----------------------------|---|-------------------|---|---------------|---|---------------|
| Blood group A              | -0.003061 (-0.1658 to 0.1597)                         | 0.9703            | 0.01863 (-0.1309 to 0.1682)                           | 0.8051        | 0.0009382 (-0.1094 to 0.1112)                         | 0.9866        |
| <b>Blood group AB</b>      | <b>-0.5378 (-0.8907 to -0.1849)</b>                   | <b>0.0032</b>     | -0.01882 (-0.3476 to 0.3100)                          | 0.9097        | -0.1414 (-0.3783 to 0.09552)                          | 0.2388        |
| Blood group B              | 0.02588 (-0.2813 to 0.3331)                           | 0.8674            | 0.1086 (-0.1742 to 0.3914)                            | 0.4477        | -0.1106 (-0.3314 to 0.1102)                           | 0.3222        |
| Use of contraceptive       | -0.03245 (-0.1964 to 0.1315)                          | 0.6951            | 0.07693 (-0.07597 to 0.2298)                          | 0.3203        | 0.07073 (-0.04599 to 0.1874)                          | 0.2317        |
| <b>Previous SARS-CoV-2</b> | <b>1.604 (1.445 to 1.763)</b>                         | <b>&lt;0.0001</b> | <b>0.2596 (0.1122 to 0.4070)</b>                      | <b>0.0007</b> | <b>0.1964 (0.08644 to 0.3063)</b>                     | <b>0.0006</b> |
| <b>Menopausal</b>          | <b>N analyzed = 40, Adjusted R<sup>2</sup>: 0.059</b> |                   | <b>N analyzed = 42, Adjusted R<sup>2</sup>: 0.089</b> |               | <b>N analyzed = 39, Adjusted R<sup>2</sup>: 0.148</b> |               |
| Age (years)                | -0.0004572 (-0.04205 to 0.04113)                      | 0.9823            | -0.01397 (-0.05149 to 0.02355)                        | 0.4546        | -0.00341 (-0.02931 to 0.02249)                        | 0.7901        |
| BMI (kg/m <sup>2</sup> )   | -0.008783 (-0.04905 to 0.03148)                       | 0.6598            | 0.006668 (-0.03101 to 0.04435)                        | 0.7213        | 0.003677 (-0.02220 to 0.02955)                        | 0.7739        |
| Blood group A              | 0.2474 (-0.2391 to 0.7338)                            | 0.3080            | -0.09809 (-0.5421 to 0.3459)                          | 0.6563        | -0.11 (-0.4161 to 0.1961)                             | 0.4692        |
| Blood group B              | 0.04948 (-0.8481 to 0.9470)                           | 0.9113            | 0.0671 (-0.7753 to 0.9095)                            | 0.8724        | 0.5643 (-0.3416 to 1.470)                             | 0.2134        |
| Blood group AB             | -0.5564 (-2.042 to 0.9292)                            | 0.4511            | -0.472 (-1.865 to 0.9214)                             | 0.4959        | -0.6349 (-1.596 to 0.3258)                            | 0.1875        |
| Use of HRT                 | 0.2958 (-0.2526 to 0.8441)                            | 0.2801            | 0.2435 (-0.2575 to 0.7445)                            | 0.3302        | 0.1494 (-0.2129 to 0.5116)                            | 0.4068        |
| <b>Previous SARS-CoV-2</b> | <b>1.54 (1.001 to 2.078)</b>                          | <b>&lt;0.0001</b> | <b>0.1739 (-0.3010 to 0.6487)</b>                     | <b>0.4619</b> | <b>0.1337 (-0.2194 to 0.4867)</b>                     | <b>0.4458</b> |

Abbreviations: BMI, body mass index; CI, confidence interval; HRT, hormone replacement therapy; R<sup>2</sup>, R-square.