

**Supplementary Table S1.** ROC curves statistics (vs. COVID-19 cases/controls).

| <b>Assays</b>     | <b>Difference</b> | <b>95% CI</b> |          | <b>SE</b> | <b>Z</b> | <b>p-Value</b> |
|-------------------|-------------------|---------------|----------|-----------|----------|----------------|
| Roche N–DiaSorin  | 0.063             | 0.033         | to 0.094 | 0.0155    | 4.09     | <0.0001        |
| EI–DiaSorin       | 0.052             | 0.022         | to 0.082 | 0.0153    | 3.42     | 0.0006         |
| Roche S1–DiaSorin | 0.047             | 0.020         | to 0.075 | 0.0138    | 3.43     | 0.0006         |
| Epitope–DiaSorin  | 0.040             | 0.009         | to 0.072 | 0.0162    | 2.50     | 0.0123         |
| Roche N–Epitope   | 0.023             | 0.007         | to 0.039 | 0.0081    | 2.83     | 0.0046         |
| Roche N–Roche S1  | 0.016             | 0.003         | to 0.029 | 0.0065    | 2.44     | 0.0146         |
| EI–Epitope        | 0.012             | –0.007        | to 0.031 | 0.0097    | 1.22     | 0.2227         |
| Roche N–EI        | 0.011             | 0.001         | to 0.021 | 0.0051    | 2.15     | 0.0319         |
| Roche S1–Epitope  | 0.007             | –0.012        | to 0.026 | 0.0098    | 0.71     | 0.4747         |
| EI–Roche S1       | 0.005             | –0.006        | to 0.015 | 0.0053    | 0.91     | 0.3635         |

**Supplementary Table S2.** ROC curves statistics (vs. rIFA).

| <b>Assays</b>     | <b>Difference</b> | <b>95% CI</b> |          | <b>SE</b> | <b>Z</b> | <b>p-Value</b> |
|-------------------|-------------------|---------------|----------|-----------|----------|----------------|
| Roche N–DiaSorin  | 0.033             | 0.010         | to 0.056 | 0.0117    | 2.83     | 0.0046         |
| Roche S1–DiaSorin | 0.032             | 0.011         | to 0.053 | 0.0108    | 2.96     | 0.0031         |
| EI–DiaSorin       | 0.032             | 0.010         | to 0.054 | 0.0112    | 2.83     | 0.0047         |
| Roche N–Epitope   | 0.017             | 0.003         | to 0.030 | 0.0068    | 2.46     | 0.0140         |
| Epitope–DiaSorin  | 0.016             | –0.010        | to 0.043 | 0.0135    | 1.22     | 0.2240         |
| Roche S1–Epitope  | 0.015             | –0.001        | to 0.031 | 0.0082    | 1.90     | 0.0578         |
| EI–Epitope        | 0.015             | 0.000         | to 0.030 | 0.0076    | 2.01     | 0.0446         |
| Roche N–EI        | 0.001             | –0.003        | to 0.005 | 0.0020    | 0.70     | 0.4821         |
| Roche N–Roche S1  | 0.001             | –0.005        | to 0.008 | 0.0033    | 0.39     | 0.6979         |
| Roche S1–EI       | 0.000             | –0.007        | to 0.007 | 0.0035    | 0.04     | 0.9713         |

**Supplementary Table S3.** Sensitivity, specificity, PPV, NPV and accuracy of tested assays (COVID-19 cases versus controls).

|             | Epitope * |               | Diasorin * |                 | Roche N     |                  | Roche S1   |                   | Euroimmun * |                  | rIFA        |                  |
|-------------|-----------|---------------|------------|-----------------|-------------|------------------|------------|-------------------|-------------|------------------|-------------|------------------|
|             | Value     | 95% CI        | Value      | 95% CI          | Value       | 95% CI           | Value      | 95% CI            | Value       | 95% CI           | Value       | 95% CI           |
| Sensitivity | 77.91%    | 70.96–83.87   | 69.19<br>% | 61.71–<br>75.99 | 87.79%      | 81.94–92.28      | 92.44<br>% | 87.42–95.91       | 89.53<br>%  | 83.97–93.68      | 93.60%      | 88.85–96.76      |
| Specificity | 99.46%    | 97.03–99.99   | 97.84<br>% | 94.56–<br>99.41 | 100.00<br>% | 98.03–<br>100.00 | 99.46<br>% | 97.03–99.99       | 98.38<br>%  | 94.95–99.58      | 100.00<br>% | 98.03–<br>100.00 |
| PLR         | 144.13    | 20.38–1019.45 | 32.00      | 12.08–<br>84.79 |             | NA               | 171.02     | 24.21–<br>1208.25 | 55.21       | 17.95–<br>169.82 |             | NA               |
| NLR         | 0.22      | 0.17–0.29     | 0.31       | 0.25–0.39       | 0.12        | 0.08–0.18        | 0.08       | 0.05–0.13         | 0.11        | 0.07–0.17        | 0.06        | 0.04–0.11        |
| PPV         | 99.26%    | 94.99–99.89   | 96.75<br>% | 91.82–<br>98.75 | 100.00<br>% | 96.91–<br>100.00 | 99.38<br>% | 95.75–99.91       | 98.09<br>%  | 94.08–99.51      | 100.00<br>% | 97.10–<br>100.00 |
| NPV         | 82.88%    | 78.52–86.51   | 77.35<br>% | 73.17–<br>81.05 | 89.81%      | 85.51–92.93      | 93.40<br>% | 89.35–95.98       | 91.13<br>%  | 86.91–94.09      | 94.39%      | 90.47–96.75      |

\* Borderline samples were handled as negative. PLR, positive likelihood ratio; NLR, negative likelihood ratio; PPV, positive predictive value; NPV, negative predictive value