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Appendix Table S1. F1-scores computed for different threshold levels.

| Threshold | Sensitivity % | Specificity % | F1-Score |
|-----------|---------------|---------------|----------|
| 0.0485    | 100.00        | 1.35          | 2.67     |
| 0.0635    | 100.00        | 2.70          | 5.26     |
| 0.068     | 100.00        | 4.06          | 7.79     |
| 0.0635    | 100.00        | 5.41          | 10.26    |
| 0.071     | 100.00        | 6.76          | 12.66    |
| 0.0835    | 100.00        | 8.11          | 15.00    |
| 0.098     | 100.00        | 9.46          | 17.28    |
| 0.106     | 100.00        | 10.81         | 19.51    |
| 0.11      | 100.00        | 12.16         | 21.88    |
| 0.116     | 100.00        | 13.51         | 23.90    |
| 0.1205    | 100.00        | 14.86         | 25.87    |
| 0.123     | 100.00        | 16.22         | 27.91    |
| 0.126     | 100.00        | 17.57         | 29.89    |
| 0.135     | 100.00        | 20.27         | 33.71    |
| 0.1445    | 100.00        | 24.32         | 39.12    |
| 0.1505    | 100.00        | 25.68         | 40.87    |
| 0.1615    | 100.00        | 27.03         | 42.56    |
| 0.1745    | 100.00        | 28.38         | 44.21    |
| 0.209     | 100.00        | 29.73         | 45.83    |
| 0.2395    | 100.00        | 31.08         | 47.42    |
| 0.242     | 100.00        | 32.43         | 48.98    |
| 0.246     | 100.00        | 33.79         | 50.50    |
| 0.2605    | 100.00        | 35.14         | 52.01    |
| 0.2815    | 100.00        | 36.49         | 53.47    |
| 0.292     | 100.00        | 37.84         | 54.90    |
| 0.298     | 100.00        | 39.19         | 56.31    |
| 0.3105    | 100.00        | 40.54         | 57.69    |
| 0.332     | 100.00        | 41.89         | 59.05    |
| 0.3555    | 100.00        | 43.24         | 60.37    |
| 0.3695    | 100.00        | 44.59         | 61.68    |
| 0.3775    | 100.00        | 45.95         | 62.97    |
| 0.3875    | 100.00        | 47.30         | 64.22    |
| 0.3955    | 100.00        | 50.00         | 66.67    |
| 0.412     | 100.00        | 51.35         | 68.06    |
| 0.445     | 100.00        | 52.70         | 69.02    |
| 0.4655    | 100.00        | 54.05         | 70.17    |
| 0.4895    | 100.00        | 55.41         | 71.31    |
| 0.549     | 100.00        | 56.76         | 72.42    |
| 0.5255    | 100.00        | 58.11         | 73.51    |
| 0.58      | 100.00        | 59.46         | 74.58    |
| 0.6465    | 100.00        | 60.81         | 75.63    |
| 0.6705    | 100.00        | 62.16         | 76.67    |
| 0.6905    | 100.00        | 63.51         | 77.68    |
| 0.721     | 100.00        | 64.86         | 78.68    |
| 0.769     | 100.00        | 66.22         | 79.68    |
| 0.8205    | 100.00        | 67.57         | 80.65    |
| 0.8535    | 100.00        | 68.92         | 81.60    |
| 0.884     | 100.00        | 70.27         | 82.54    |
| 0.914     | 100.00        | 71.62         | 83.46    |
| 0.9435    | 100.00        | 72.97         | 84.37    |
| 1.024     | 100.00        | 74.32         | 85.27    |
| 1.161     | 100.00        | 75.68         | 86.16    |
| 1.237     | 100.00        | 77.03         | 87.02    |
| 1.344     | 100.00        | 78.38         | 87.88    |
| 1.512     | 100.00        | 79.73         | 88.72    |
| 1.595     | 100.00        | 81.08         | 89.55    |
| 1.627     | 100.00        | 82.43         | 90.37    |
| 1.687     | 100.00        | 83.76         | 91.17    |
| 1.784     | 100.00        | 85.14         | 91.97    |
| 1.893     | 100.00        | 86.49         | 92.76    |
| 2.016     | 98.65         | 86.49         | 92.17    |
| 2.097     | 97.30         | 86.49         | 91.58    |
| 2.187     | 97.30         | 87.84         | 92.33    |
| 2.261     | 95.95         | 87.84         | 91.72    |
| Treshold | Sensitivity% | Specificity% | F1-Score |
|----------|--------------|--------------|----------|
| 2.293    | 94.59        | 87.84        | 91.09    |
| 2.325    | 93.24        | 87.84        | 90.46    |
| 2.348    | 91.89        | 87.84        | 89.82    |
| 2.378    | 91.89        | 89.19        | 90.52    |
| 2.386    | 90.54        | 89.19        | 89.66    |
| 2.396    | 90.54        | 90.54        | 90.54    |
| 2.431    | 90.54        | 91.89        | 91.21    |
| 2.46    | 87.84        | 91.89        | 89.66    |
| 2.473    | 87.84        | 93.24        | 90.46    |
| 2.486    | 86.49        | 93.24        | 89.74    |
| 2.504    | 85.14        | 93.24        | 89.01    |
| 2.521    | 83.78        | 93.24        | 88.26    |
| 2.549    | 82.43        | 93.24        | 87.50    |
| 2.578    | 81.08        | 93.24        | 86.74    |
| 2.601    | 79.73        | 93.24        | 85.96    |
| 2.629    | 78.38        | 93.24        | 85.17    |
| 2.654    | 77.03        | 93.24        | 84.36    |
| 2.688    | 75.68        | 93.24        | 83.55    |
| 2.728    | 74.32        | 93.24        | 82.71    |
| 2.775    | 72.97        | 93.24        | 81.87    |
| 2.804    | 71.62        | 93.24        | 81.01    |
| 2.812    | 70.27        | 93.24        | 80.14    |
| 2.826    | 68.92        | 93.24        | 79.26    |
| 2.848    | 67.57        | 93.24        | 78.36    |
| 2.866    | 67.57        | 94.59        | 78.83    |
| 2.926    | 66.22        | 94.59        | 77.90    |
| 2.948    | 64.86        | 94.59        | 76.95    |
| 2.956    | 63.51        | 94.59        | 76.00    |
| 2.97    | 62.16        | 94.59        | 75.02    |
| 2.985    | 60.81        | 94.59        | 74.03    |
| 2.999    | 59.46        | 94.59        | 73.02    |
| 3.015    | 58.11        | 94.59        | 71.99    |
| 3.021    | 56.76        | 94.59        | 70.95    |
| 3.042    | 55.41        | 94.59        | 69.88    |
| 3.074    | 54.05        | 94.59        | 68.79    |
| 3.094    | 52.70        | 94.59        | 67.69    |
| 3.113    | 51.35        | 94.59        | 66.56    |
| 3.131    | 50.00        | 94.59        | 65.42    |
| 3.147    | 48.65        | 94.59        | 64.25    |
| 3.159    | 47.30        | 94.59        | 63.06    |
| 3.162    | 45.95        | 94.59        | 61.85    |
| 3.168    | 44.59        | 94.59        | 60.61    |
| 3.176    | 43.24        | 94.59        | 59.35    |
| 3.185    | 41.89        | 94.59        | 58.07    |
| 3.193    | 40.54        | 94.59        | 56.76    |
| 3.198    | 39.19        | 94.59        | 55.42    |
| 3.211    | 37.84        | 94.59        | 54.06    |
| 3.23    | 36.49        | 94.59        | 52.66    |
| 3.246    | 35.14        | 94.59        | 51.24    |
| 3.262    | 33.78        | 94.59        | 49.78    |
| 3.283    | 32.43        | 94.59        | 48.30    |
| 3.303    | 31.08        | 94.59        | 46.79    |
| 3.347    | 29.73        | 94.59        | 45.24    |
| 3.389    | 28.38        | 94.59        | 43.66    |
| 3.421    | 27.03        | 94.59        | 42.05    |
| 3.464    | 25.68        | 94.59        | 40.39    |
| 3.486    | 24.32        | 94.59        | 38.69    |
| 3.493    | 22.97        | 94.59        | 36.96    |
| 3.511    | 21.62        | 94.59        | 35.20    |
| 3.53    | 20.27        | 94.59        | 33.39    |
| 3.539    | 18.92        | 94.59        | 31.53    |
| 3.549    | 17.57        | 94.59        | 29.64    |
| 3.554    | 16.22        | 94.59        | 27.69    |
| 3.558    | 14.86        | 94.59        | 25.68    |
| 3.573    | 13.51        | 94.59        | 23.64    |
| 3.607    | 12.16        | 94.59        | 21.55    |
| Threshold | Sensitivity% | Specificity% | F1-Score |
|-----------|-------------|--------------|---------|
| 3.637     | 10.81       | 94.59        | 19.40   |
| 3.658     | 10.81       | 95.95        | 19.43   |
| 3.683     | 9.46        | 95.95        | 17.22   |
| 3.722     | 8.11        | 95.95        | 14.95   |
| 3.775     | 6.76        | 95.95        | 12.62   |
| 3.812     | 5.41        | 95.95        | 10.23   |
| 3.843     | 4.05        | 95.95        | 7.78    |
| 3.923     | 2.70        | 95.95        | 5.26    |
| 4.028     | 1.35        | 95.95        | 2.66    |
| 4.233     | 0.00        | 95.95        | 0.00    |
| 5.161     | 0.00        | 97.30        | 0.00    |
| 6.665     | 0.00        | 98.65        | 0.00    |

Appendix Table S2. Demographic table.

| Cohort | Counts | Mean | Std. Dev | Std. Error of Mean |
|--------|--------|------|----------|--------------------|
| Serology from symptom onset (Days) | | | | |
| COVID-19 | 28 | 23.9 | 9.6 | 1.8 |
| Age | | | | |
| COVID-19 | 28 | 47.3 | 16.6 | 3.1 |
| Control | 19 | 42.8 | 15.4 | 3.5 |
| Vaccinated (Plasma) | 92 (21 SARS-CoV-2 Exp) | 38.2 | 11.9 | 1.2 |
| Vaccinated (Saliva) | 85 (18 SARS-CoV-2 Exp) | 38.5 | 12 | 1.3 |
| Male | | | | |
| COVID-19 | 9 | | | |
| Control | 7 | | | |
| Vaccinated (Plasma) | 34 | | | |
| Vaccinated (Saliva) | 36 | | | |
| Female | | | | |
| COVID-19 | 19 | | | |
| Control | 12 | | | |
| Vaccinated (Plasma) | 58 | | | |
| Vaccinated (Saliva) | 49 | | | |
Appendix Figure S1. SARS-CoV-2 specific antibody response in plasma up to three months after BNT162b2 vaccination. SARS-CoV-2 specific antibody responses were measured in the plasma of vaccinated naïve (n=44) and SARS-CoV-2-Exp (n=12) subjects at different time points: at the time of the first (T0) and the 2nd (T1) vaccine dose (indicated with an arrow), at 7-10 days (T2) and 3 months (T3) after the 2nd dose. Plasma was tested for IgG and IgA to full-length spike and its receptor binding domain (RBD) and for anti-spike IgA1 and IgA2. The titers of antigen specific Ig are expressed in IU/ml, except for IgA2, expressed in AU (see Methods). LoD is indicated by a dotted line: LoD (spike IgG)=12, LoD (RBD IgG)=13.8, LoD (spike IgA)=54.22, LoD (RBD IgA)=54.08, LoD (IgA1)=74.64; LoD (IgA2)=0.009. Spaghetti plots showing the trends for each individual subject by linked dots. Each dot corresponds to an individual subject. P values were determined using Friedman test with Dunnett’s multiple comparisons test.
Appendix Figure S2. SARS-CoV-2 specific antibody response in saliva up to three months after BNT162b2 vaccination. SARS-CoV-2 specific antibody responses were measured in the saliva of vaccinated naïve (n=59) and SARS-CoV-2-Exp (n=17) subjects at different time points: at the time of the first (T0) and the 2nd (T1) vaccine dose (indicated with an arrow), at 7-10 days (T2) and 3 months (T3) after the 2nd dose. Saliva was tested for IgG and IgA to full-length spike and its receptor binding domain (RBD) and for anti-spike IgA1 and IgA2. The titers of antigen specific Ig were normalized by dividing the values of SARS-CoV-2 specific Ig by total IgA or total IgG concentrations of each sample. The normalization was applied only to values higher than LoD. The adjusted values are expressed in AU. Spaghetti plots showing the trends for each individual subject by linked dots. Each dot corresponds to an individual subject. Following the guidelines of the Italian Ministry of Health, some SARS-CoV-2-Exp subjects received only one dose of vaccine (dotted line). P values were determined using Friedman test with Dunnett's multiple comparisons test.