Supplementary Materials for

Infection or a third dose of mRNA vaccine elicit neutralizing antibody responses against SARS-CoV-2 in kidney transplant recipients

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The PDF file includes:

Fig. S1
Table S1

Other Supplementary Material for this manuscript includes the following:

MDAR Reproducibility Checklist
Data file S1
Supplementary materials

**Fig. S1.** Correlations between Tfh subpopulations and the viral neutralization capacity of the serum. The correlations between the number of spike protein-specific Tfh1, Tfh2, or Tfh17 cells and the viral neutralization capacity of the serum are shown. The results of Spearman correlation test are shown on the graphs. Tfh, T follicular helper. Neg indicates absence of neutralizing antibodies.
Table S1. Clinical characteristics of epidemiological and COVATRHUS cohorts.

|                                | Epidemiological cohort | COVATRHUS cohort | p<sup>1</sup> | p<sup>2</sup> | Inf p<sup>3</sup> | Vac p<sup>4</sup> |
|--------------------------------|------------------------|------------------|---------------|---------------|------------------|------------------|
|                                | n (%) or median [IQR]  |                  |               |               |                  |                  |
| **Age (y)**                    | 59.9 [49.7-68.9]       | 57.7 [49.1-67.3] | 0.219         | 54.9 [36.9-60.4] | 56.4 [43.4-69.6] | 0.314 | 0.057 | 0.819 |
| **Male**                       | 88 (64)                | 439 (60)         | 0.361         | 12 (57)       | 18 (62)          | 0.726 | 0.530 | 0.794 |
| **BMI (kg/m²)**                | 26.0 [23.0-31.0]       | 26.0 [22.6-30.0] | 0.404         | 25.0 [22.5-30.0] | 24.2 [23.4-27.5] | 0.603 | 0.543 | 0.259 |
| **Time since transplantation (y)** | 6.18 [2.14-12.6]       | 6.41 [2.94-13.1] | 0.176         | 2.0 [1.35-7.53] | 7.04 [2.19-16.2] | **0.017** | **0.027** | 0.846 |
| **Donor type**                 |                        |                  |               |               |                  |                  |
| Deceased                       | 106 (77)               | 602 (82)         | 0.652         | 13 (62)       | 25 (86)          | 0.08  | 0.140 | 0.544 |
| Living                         | 27 (20)                | 134 (18)         |               | 7 (33)        | 4 (14)           |               |              |        |
| NA                             | 4 (3)                  | 0                |               | 1 (5)         | 0               |               |              |        |
| **Comorbidities**              |                        |                  |               |               |                  |                  |
| Cardiovascular disease         | 48 (35)                | 226 (31)         | 0.367         | 4 (19)        | 21 (72)          | **<0.001** | 0.146 | **<0.001** |
| Diabetes                       | 58 (42)                | 263 (36)         | 0.169         | 7 (33)        | 3 (10)           | 0.045 | 0.435 | **0.005** |
| **Induction**                  |                        |                  |               |               |                  |                  |
| Anti-thymocyte globulins       | 47 (34)                | 418 (57)         | **<0.001**    | 8 (38)        | 17 (59)          | 0.087 | 0.797 | 0.743 |
| Basiliximab                    | 80 (58)                | 254 (34)         |               | 12 (57)       | 9 (31)           |               |              |        |
| No induction                   | 7 (5)                  | 38 (5)           |               | 0             | 0               |               |              |        |
| NA                             | 3 (2)                  | 26 (4)           |               | 1 (5)         | 1 (3)           |               |              |        |
| **Immunosuppressive drugs**    |                        |                  |               |               |                  |                  |
| CNI                            | 126 (92)               | 659 (90)         | 0.385         | 19 (90)       | 28 (97)          | 0.372 | 0.817 | 0.221 |
| MMF/MPA                        | 109 (80)               | 582 (80)         | 0.898         | 19 (90)       | 22 (76)          | 0.184 | 0.235 | 0.677 |
| Steroids                       | 89 (65)                | 493 (67)         | 0.645         | 14 (67)       | 19 (66)          | 0.932 | 0.879 | 0.869 |
| imTOR                          | 22 (16)                | 126 (17)         | 0.751         | 1 (5)         | 3 (10)           | 0.472 | 0.172 | 0.336 |
| Belatacept                     | 3 (2)                  | 24 (3)           | 0.506         | 2 (10)        | 1 (3)            | 0.372 | 0.074 | 0.956 |
| Imurel                         | 3 (2)                  | 16 (2)           | 0.991         | 0             | 0               | NA | NA | NA |

Qualitative variables were compared using a Chi-square test, quantitative variables were compared using a Mann Whitney test. Significant p-values are in bold. p<sup>1</sup> was the comparison between infected (Inf) and vaccinated (Vac) patients from the epidemiological
cohort; \( p^2 \) was the comparison between infected and vaccinated patients from the biological cohort; \( p^3 \) was the comparison between infected patients from the epidemiological and biological cohorts; \( p^4 \) was the comparison between vaccinated patients from the epidemiological and biological cohorts. IQR, interquartile range; BMI, body mass index; SD, standard deviation; y, years; NA, not available; CNI, calcineurin inhibitor; MMF/MPA, mycophenolate mofetil/mycophenolic acid; imTOR, inhibitors of the mechanistic target of rapamycin.