

Supplementary information

Table S1. Binding antibody levels of participants who have received 2, 3, 4, or ≥ 5 doses, categorized by the duration since the last vaccination and vaccination plus infection.

| | (1) <6 | (2) 6 to <9 | (3) 9 to <12 | (4) ≥ 12 |
|-------------------------------|-------------------|------------------|------------------|------------------|
| N_{pos} groups | | | | |
| 2 doses, n | 2 | 2 | 7 | 16 |
| GMT | 24924.9 | 10615.3 | 1733.2 | 2642.7 |
| [95%CI] | | | [506.0–5936.8] | [870.4–8023.3] |
| 3 doses, n | 9 | 17 | 32 | 43 |
| GMT | 10349.5 | 7142.2 | 5425.7 | 5965.7 |
| [95%CI] | [5795.0–8483.7] | [4957.0–10290.7] | [4280.1–6877.9] | [4574.3–7780.4] |
| 4 doses, n | 31 | 62 | 91 | 74 |
| GMT | 8044.8 | 10483.7 | 6737.7 | 5847.9 |
| [95%CI] | [5671.5–11411.3] | [8737.9–12578.2] | [5734.3–7916.7] | [4909.7–6965.4] |
| ≥ 5 doses, n | 38 | 52 | 72 | 5 |
| GMT | 15934.0 | 10988.4 | 8613.7 | 10361.8 |
| [95%CI] | [13803.9–18392.9] | [8927.5–13525.0] | [7352.7–10090.9] | [4084.7–26285.7] |
| Overall, n | 80 | 133 | 202 | 138 |
| GMT | 11778.4 | 10168.9 | 6779.6 | 5479.1 |
| [95%CI] | [9900.8–14012.1] | [8970.9–11526.9] | [6066.5–7576.4] | [4590.4–6539.8] |
| N_{neg} groups | | | | |
| 2 doses, n | N/A | N/A | N/A | 2 |
| GMT | | | | 119.1 |
| [95%CI] | | | | |
| 3 doses, n | N/A | 1 | 5 | 27 |
| GMT | | 1460.0 | 2820.9 | 1078.2 |
| [95%CI] | | | [927.7–8577.8] | [791.9–1468.0] |
| 4 doses, n | N/A | 16 | 50 | 42 |
| GMT | | 4175.2 | 2266.5 | 1889.3 |
| [95%CI] | | [2783.6–6262.4] | [1811.0–2836.5] | [1575.5–2265.5] |
| ≥ 5 doses, n | 8 | 30 | 35 | 2 |
| GMT | 10578.5 | 4433.2 | 3272.5 | 1184.5 |
| [95%CI] | [5928.6–18875.4] | [3270.0–6010.1] | [2626.3–4077.8] | |
| Overall, n | 8 | 47 | 90 | 73 |
| GMT | 10578.5 | 4242.2 | 2646.5 | 1405.3 |
| [95%CI] | [5928.6–18875.4] | [3358.1–5359.0] | [2260.3–3098.7] | [1151.0–1715.7] |

The duration of the last vaccination and vaccination plus infection is categorized as follows: (1) <6 months, (2) 6 to <9 months, (3) 9 to <12 months, and (4) ≥ 12 months.

Abbreviations: 95%CI, 95% confidence intervals; GMT, geometric mean titer in U/mL; n, number; N_{neg}, the seronegative of total anti-N Ig; N_{pos}, the seropositive of total anti-N Ig; N/A, no available.

