

Supplementary Table 1. Baseline characteristics of the healthy volunteers

Characteristic	Healthy healthcare workers with homologous three-dose mRNA vaccine (n=34)
Age (yr)	32.8 (27.2–36.9)
Age range (yr)	
20–29	15 (44.1)
30–39	14 (41.1)
40–49	4 (11.8)
50–59	1 (2.9)
Male sex	13 (38.2)
Interval between second and third doses (day)	196 (196–201)
Interval between third dose and blood sampling (day)	14 (13–14)
Antibody titer after booster dose (IU/mL)	4,586 (3,300–7,028)

Values are presented as median (interquartile range) or number (%).

Supplementary Table 2. Risk factors associated with IgG antibody titer (IU/mL) 3 weeks after COVID-19 mRNA booster vaccination in solid organ transplant recipients

Variable	Univariable analysis		Multivariable analysis	
	β (95% CI)	P-value	β (95% CI)	P-value
Age ≥ 60 yr	0.95 (0.24–3.80)	0.950	-	-
Male sex	1.01 (0.32–3.21)	0.980	-	-
GFR (mL/min/1.73 m ²)				
≥ 30 & < 45	0.15 (0.03–0.86)	0.040	0.21 (0.04–0.95)	0.050
≥ 45	Reference	Reference	Reference	Reference
Years from transplant				
≤ 3	Reference	Reference	Reference	Reference
> 3	12.29 (4.49–33.64)	< 0.001	7.15 (2.28–22.4)	0.001
ABO-incompatible transplant	0.76 (0.19–3.02)	0.700	-	-
Rituximab use within 1 yr	0.08 (0.02–0.35)	0.001	0.21 (0.04–1.09)	0.070
High-dose steroid use within 1 yr	0.15 (0.05–0.44)	< 0.001	1.12 (0.30–4.16)	0.870
Basiliximab or anti-thymocyte globulin use within 1 yr	0.10 (0.03–0.32)	< 0.001	0.60 (0.15–2.37)	0.460
Maintenance immunosuppressant				
Tacrolimus serum concentration ≥ 8 ng/mL	0.36 (0.07–1.99)	0.250	-	-
Steroid ^{a)}	0.16 (0.04–0.58)	0.007	0.78 (0.18–3.34)	0.740
Mycophenolic acid	0.20 (0.07–0.58)	0.004	0.35 (0.14–0.91)	0.030
mTOR inhibitor	0.48 (0.11–2.02)	0.320	-	-
Vaccination regimen				
Heterologous booster	Reference	Reference	-	-
Homologous booster	0.97 (0.21–4.50)	0.970	-	-
Booster vaccine				
mRNA-1273	Reference	Reference	-	-
BNT162b2	2.63 (0.73–9.52)	0.140	-	-
Interval between second and third doses > 3 mo	1.02 (0.99–1.04)	0.200	-	-

IgG, immunoglobulin G; COVID-19, coronavirus disease 2019; CI, confidence interval; GFR, glomerular filtration rate; mTOR, mammalian target of rapamycin.

^{a)} > 20 mg of methylprednisolone for > 10 days.