

Supplementary Table S1. Correlations of clinical manifestations and anti-SARS-CoV-2 Abs in controls.

clinical manifestations	Controls (early collection)						Controls (late collection)					
	anti-SARS-CoV-2 S Abs			anti-SARS-CoV-2 neutralizing Abs			anti-SARS-CoV-2 S Abs			anti-SARS-CoV-2 neutralizing Abs		
	PRC	95%CI	<i>P</i>	PRC	95%CI	<i>P</i>	PRC	95%CI	<i>P</i>	PRC	95%CI	<i>P</i>
Age, years	-28.39	(-39.84~-16.94)	<0.0001	-0.09	(-0.18~0.01)	0.0710	-12.35	(-18.04~-6.67)	<0.0001	0.22	(-0.41~0.84)	0.4935
Male	-420.38	(-745.24~-95.52)	0.0117	-1.60	(-4.15~0.94)	0.2145	-167.12	(-326.64~-7.60)	0.0402	1.16	(-0.29~2.60)	0.1161
Interval between last vaccination and blood collection, days	-14.11	(-28.01~-0.21)	0.0467	-0.07	(-0.18~0.04)	0.1991	-2.96	(-9.82~3.90)	0.3941	-0.07	(-0.13~-0.01)	0.0318

Association for anti-SARS-CoV-2 S Abs was tested by linear regression analysis. PRC: partial regression coefficient, CI: confidence interval.

Supplementary Table S2. Multiple linear regression analysis of clinical manifestations for anti-SARS-CoV-2 Abs.

anti-SARS-CoV-2 S Abs clinical manifestations	Unconditioned			Conditioned on the other clinical manifestations		
	PRC	95%CI	<i>P</i>	PRC <sub>adjusted</sub>	95%CI	<i>P</i> <sub>adjusted</sub>
Age, years	-26.97	(-31.62~-22.33)	<0.0001	-22.86	(-31.02~-14.71)	<0.0001
Male	-206.75	(-462.47~48.98)	0.1125	-163.02	(-375.53~49.50)	0.1320
Interval between last vaccination and blood collection, days	-8.78	(-12.25~-5.31)	<0.0001	2.46	(-1.51~6.44)	0.2234
RA	-902.16	(-1,101.08~-703.25)	<0.0001	-300.15	(-663.28~62.98)	0.1047
anti-SARS-CoV-2 neutralizing Abs clinical manifestations	Unconditioned			Conditioned on the other clinical manifestations		
	PRC	95%CI	<i>P</i>	PRC <sub>adjusted</sub>	95%CI	<i>P</i> <sub>adjusted</sub>
Age, years	0.03	(-0.01~0.07)	0.1715	-0.03	(-0.10~0.03)	0.3213
Male	-1.18	(-2.93~0.57)	0.1856	-0.59	(-2.37~1.19)	0.5124
Interval between last vaccination and blood collection, days	-0.005	(-0.03~0.02)	0.7103	-0.05	(-0.09~-0.02)	0.0022
RA	2.15	(0.59~3.71)	0.0072	5.48	(2.44~8.52)	0.0005

RA: rheumatoid arthritis, PRC: partial regression coefficient, CI: confidence interval. *P*, PRC, 95%CI, *P*<sub>adjusted</sub>, PRC<sub>adjusted</sub> were calculated by linear regression analysis on RA patients and controls (early collection).