

Supplementary Material: Kinetics of anti-SARS-CoV-2 antibody responses 3 months post complete vaccination with BNT162b2; a prospective study in 283 health workers

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A. Normality testing:

A1. Nabs levels

Table S1. Normality testing of the Nabs levels on all measurement days.

	Kolmogorov-Smirnov		Shapiro-Wilk	
	Statistic	p-value	Statistic	p-value
D1	0.103	0	0.888	0
D8	0.166	0	0.703	0
D22	0.047	0.02	0.988	0.034
D36	0.325	0	0.329	0
D50	0.308	0	0.381	0
D111	0.182	0	0.777	0

Table S2. Normality testing of the Rate of change (in case of the Nabs levels) on all measurement days.

	Kolmogorov-Smirnov		Shapiro-Wilk	
	Statistic	p-value	Statistic	Sig.
Rate of change 1_8	0.222	0	0.596	0
Rate of change 8_22	0.15	0.02	0.99	0.017
Rate of change 22_36	0.149	0.02	0.988	0.046
Rate of change 50_111	0.182	0	0.8	0
Rate of change 36_111	0.18	0	0.806	0

A2. Anti-S-RBDs

Table S3. Normality testing of the anti-S-RBDs levels on all measurement days.

	Kolmogorov-Smirnov		Shapiro-Wilk	
	Statistic	p-value	Statistic	p-value
R_D1	0.508	0	0.08	0
R_D8	0.54	0	0.174	0
R_D22	0.402	0	0.275	0
R_D36	0.277	0	0.791	0
R_D50	0.162	0	0.892	0
R_D111	0.156	0	0.884	0

Table S4. Normality testing of the Rate of change (in case of the anti-S-RBDs levels) on all measurement days.

	Kolmogorov-Smirnov		Shapiro-Wilk	
	Statistic	p-value	Statistic	p-value
Rate of change 1_8	0.54	0	0.175	0
Rate of change 8_22	0.374	0	0.213	0
Rate of change 22_36	0.222	0	0.843	0
Rate of change 1_36	0.247	0	0.798	0
Rate of change 36_50	0.141	0	0.901	0
Rate of change 50_111	0.095	0	0.956	0
Rate of change 36_111	0.11	0	0.957	0

B. Nabs comparison among days 36, 50, 111

Table S5. Wilcoxon signed rank test results for the comparisons of Nabs levels.

	D36 - D111	D50 - D111	D36 - D50
Z score	-12.843	-12.814	-9.2
p-value	< 0.001	< 0.001	< 0.001

C. Anti-S-RBDs among days 36, 50, 111

Table S6. Wilcoxon signed rank test results for the comparisons of rate of change (in case of the Nabs levels).

	R_D1 - R_D8	R_D8 - R_D22	R_D22 - R_D36	R_D36 - R_D50	R_D50 - R_D111
Z score	-2.38	-12.976	-13.034	-11.441	-12.032
p-value	0.017	< 0.001	< 0.001	< 0.001	< 0.001

D. Nabs per age group among days 36, 50, 111

Table S7. Wilcoxon signed rank test results for the comparisons of anti-S-RBDs levels.

	D36	D50	D111
Wilcoxon	14886	16939.5	13564
Z score	-2.997	-3.244	-3.12
p-value	0.003	0.001	0.002

E. Anti-S-RBDs per age group among days 36, 50, 111

Table S8. Wilcoxon signed rank test results for the comparisons of rate of change (in case of the anti-S-RBDs levels).

	R_D1	R_D8	R_D22	R_D36	R_D50	R_D111
Wilcoxon	19377.5	17206	12447	14750	16116	10542
Z score	-0.45	-0.289	-3.074	-2.092	-1.936	-2.331
p-value	0.653	0.773	0.002	0.036	0.053	0.02

F. Principal Component Analysis

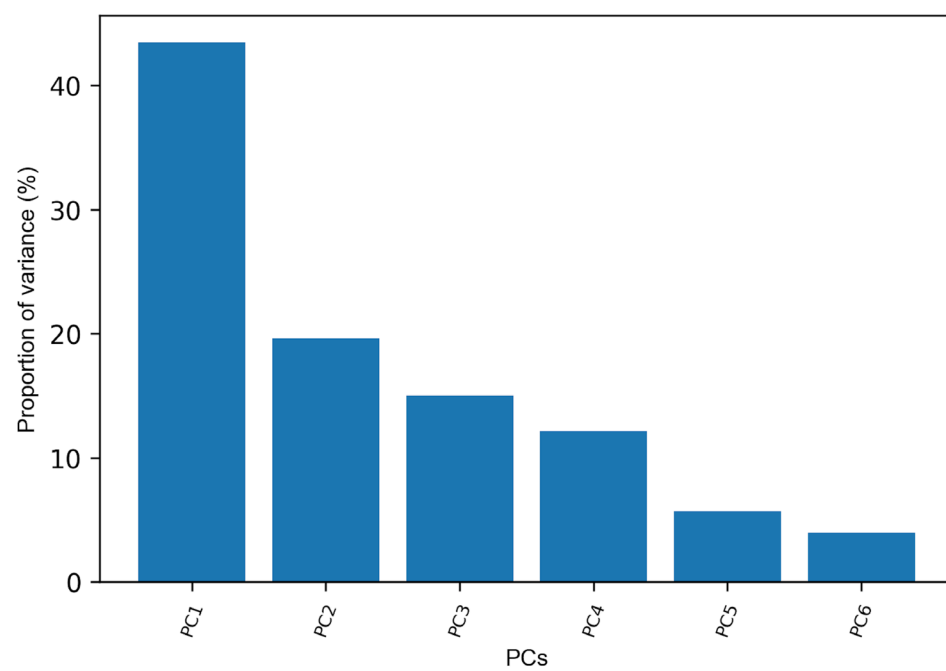


Figure S1. Scree plot for the final PCA model showing the proportion of variance explained by each component.

G. Relationship between adverse events and Nabs (or anti-S-RBDs) levels

G1. Nabs vs. Adverse events

Table S9. Association between adverse events and Nabs levels. The Mann-Whitney test results indicate no significant difference between the group of subjects experiencing an adverse event and the group of people without any adverse events.

	D1	D8	D22	D36	D50	D111
Mann-Whitney	7710.5	7285	8507	8251.5	9708	7645.5
Z score	-1.837	-1.233	-0.46	-1.282	-0.439	-1.426
p-value	0.066	0.217	0.646	0.2	0.661	0.154

G2. Rate of Change of Nabs vs. Adverse events

Table S10. Association between adverse events and rate of change in the case of Nabs levels. The results of the Mann-Whitney test show no significant difference between the group of subjects with an adverse event and the group of subjects without an adverse event.

	Rate of change1_8	Rate of change8_22	Rate of change22_36	Rate of change1_36	Rate of change36_50
Mann-Whitney	7473	6597.5	7209	7005	7362
Z score	-0.587	-1.831	-0.954	-1.107	-1.746
p-value	0.557	0.067	0.34	0.268	0.081

G3. Anti-S-RBDs vs. Adverse events

Table S11. Association between adverse events and anti-S-RBDs levels. The results of the Mann-Whitney test show no significant difference between the group of subjects with an adverse event and the group of subjects without an adverse event.

	R_D1	R_D8	R_D22	R_D36	R_D50	R_D111
Mann-Whitney	7878	7513	7555.5	8144	8612	6123.5
Z score	-1.848	-0.989	-0.69	-0.709	-0.785	-1.048
p-value	0.065	0.322	0.49	0.479	0.433	0.295

G4. Rate of Change of Anti-S-RBDs vs. Adverse events

Table S12. Association between adverse events and rate of change in the case of anti-S-RBDs levels. The results of the Mann-Whitney test show no significant difference between the group of subjects with an adverse event and the group of subjects without an adverse event.

	Rate of change1_8	Rate of change8_22	Rate of change22_36	Rate of change1_36	Rate of change36_50	Rate of change50_111	Rate of change36_111
Mann-Whitney	6888	6028	5993.5	6693	7226	6032	5474
Z score	-0.57	-1.257	-1.474	-0.486	-0.487	-0.47	-0.205
p-value	0.568	0.209	0.14	0.627	0.626	0.639	0.837