SUPPLEMENTAL MATERIALS

Supplementary Table 1. Demographic, clinical and analytical characteristics at hospital admission.
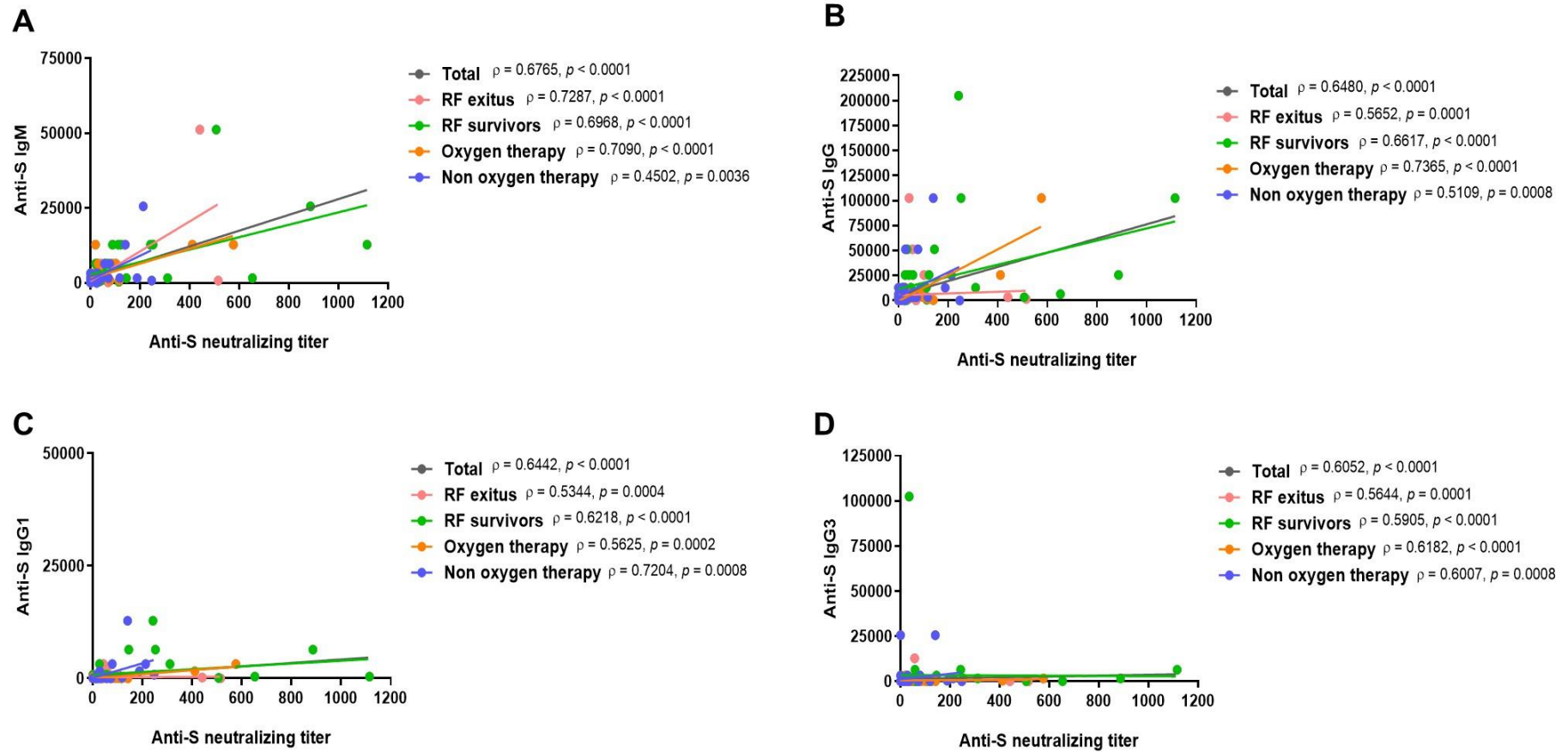
Characteristics	Total (N=160)	RF non-survivors (n=40)	RF survivors (n=40)	Oxygen therapy (Non RF) (n=40)	Non Oxygen therapy (n=40)	*p* value
Ethnicity Others, no. (%)						0.287
Subsaharian	1 (0.6%)	0 (0%)	1 (2.5%)	0 (0%)	0 (0%)	
Magreb	2 (1.3%)	0 (0%)	1 (2.5%)	1 (2.5%)	0 (0%)	
Asian	1 (0.6%)	0 (0%)	0 (0%)	1 (2.5%)	0 (0%)	
Gipsy	1 (0.6%)	0 (0%)	1 (2.5%)	0 (0%)	0 (0%)	
Comorbidities, no. (%)						
Asthma	9 (5.6%)	1 (2.5%)	3 (7.5%)	2 (5%)	3 (7.5%)	0.730
Transplant	1 (0.6%)	0 (0%)	0 (0%)	0 (0%)	2 (2.5%)	0.389
Analytical characteristics *§*						
IL-6 level (pg/mL) *data not available in all cases	38 (7.8-159.8) N=16	79 n=1	166 (117-346) n= 7	16 (2-31.5) n=4	10 (2.3-35.8) n=4	**0.03**
Procalcitonin level (ng/mL) *data not available in all cases	0.14 (0.09-0.42) N=63	0.38 (0.19-0.81) n=20	0.23 (0.13-0.60) n=18	0.1 (0.08-0.11) n=12	0.08 (0.06-0.12) n=13	**< 0.001**
Fibrinogen level (mg/dL) *data not available in all cases	770 (626-896) N=101	784 (627.3-934.8) n=22	877 (792.8-1011) n=28	723 (630-850) n=30	592 (515.5-728) n=21	**< 0.001**
Triglycerides level (mg/dL) *data not available in all cases	124 (99-174) N=35	217 (111.5-558) n=5	148 (102-212) n=7	120 (94.3-168) n=10	113 (97.5-154) n=13	0.313
D-dimer level (ng/mL) *data not available in all cases	679.5 (431.3-1345.5) N=98	1370 (649.5-3326.5) n=22	755 (603.5-1118.5) n=29	599 (441.8-1368) n=26	345 (294-675) n=21	**< 0.001**
Monocyte count (x 10^3 cells/µL)	0.4 (0.3-0.6)	0.4 (0.2-0.6)	0.4 (0.3-0.6)	0.4 (0.4-0.6)	0.4 (0.3-0.6)	0.458
Platelet count (x 10^3 cells/µL)	184.5 (153.3-233.5)	176.5 (136-229)	216.5 (162.8-275.3)	174 (145.3-211.5)	212 (156.8-232.5)	0.09
Time from hospital admission to serum extraction (d), median (IQR)	2 (2-3)	2 (2-3)	2.5 (2-3)	2 (2-3)	2 (2-3)	0.759
Length of hospital stay (d), median (IQR)	**9 (5-16)**	**7.5 (5-11)**	**21.5 (15.25-31)**	**9.5 (6.25-15)**	**5 (4-7.75)**	**< 0.001**

RF: respiratory failure. *§* represented median and interquartile range.

Supplementary Table 2. Uni- and multivariate analysis of characteristics present at serum extraction predicting neutralizing antibody titer.

Characteristics	Univariate			Multivariate		
	Regression coefficient B	95% CI	*p* value	Regression coefficient B	95% CI	*p* value
Oxygen saturation	-2.389	-5.794 – 1.016	0.168			
LDH	0.168	0.023 – 0.314	0.024			
CPR	2.141	-0.210 – 4.492	0.074			
Leucocyte count	15.393	7.501 – 23.285	< 0.001			
Neutrophil count	16.694	8.585 – 24.803	0.000			
Platelet count	0.509	0.201 – 0.816	0.001			
GPT	0.628	-0.015 – 1.270	0.056			
Procalcitonin	23.257	-15.791 – 62.305	0.238			
Ferritin	0.001	-0.010 – 0.011	0.889			
Fibrinogen	0.270	0.122 – 0.418	0.000			
D-Dimers	0.000	-0.002 – 0.002	0.787			
IgM	0.013	0.010 – 0.016	< 0.001	0.012	0.009 – 0.015	< 0.001
IgG1	0.03	0.017 – 0.043	< 0.001	0.020	0.008 – 0.032	0.002
IgG3	**0.001**	**-0.002 – 0.003**	**0.609**			

Supplementary Figure 1. Relationship between antibody levels and neutralizing activity. Levels of anti-S IgM, (A) and anti-S IgG (B), anti-S IgG1 (C) and anti-S IgG3 (D) were plotted against the neutralizing titer for the total cohort of patients (grey circles, n = 160) and the different severity groups: RF exitus (pink circles, n = 40), RF survivors (green circles, n = 40), oxygen therapy (orange circles, n = 40) and non-oxygen therapy (blue circles, n = 40). Statistical analyses were performed using Spearman's correlation coefficient test (ρ) and *p*-value. RF indicates respiratory failure.

Supplementary Figure 2. Relationship of humoral response with age, days since admission and time post-symptom onset. Levels of anti-S IgM and anti-S IgG were plotted against the age (A, B), days since admission (C, D) and time post-symptom onset (E, F) for the total cohort of patients (grey circles, n = 160) and the different severity groups: RF exitus (pink circles, n = 40), RF survivors (green circles, n = 40), oxygen therapy (orange circles, n = 40) and non-oxygen therapy (blue circles, n = 40). Statistical analyses were performed using Spearman's correlation coefficient test (ρ) and *p*-value. RF indicates respiratory failure.