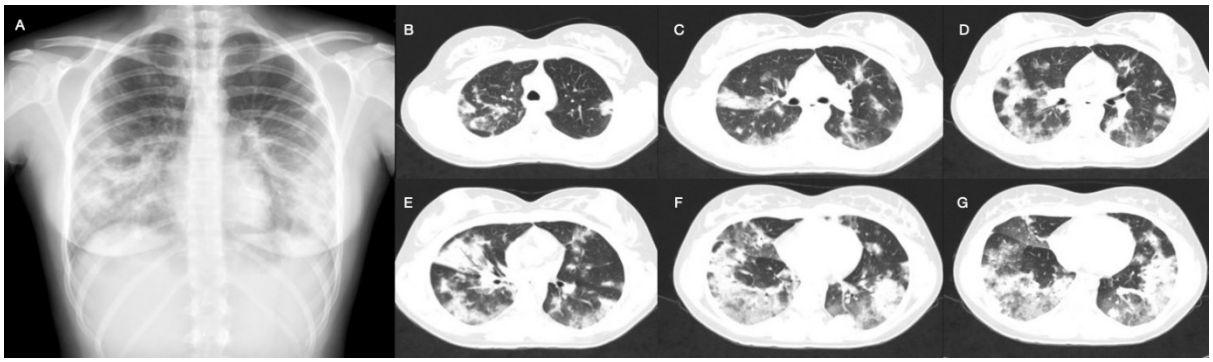
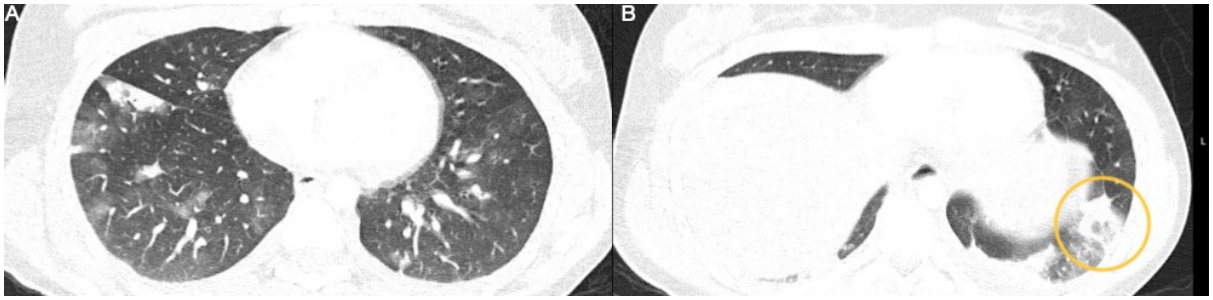
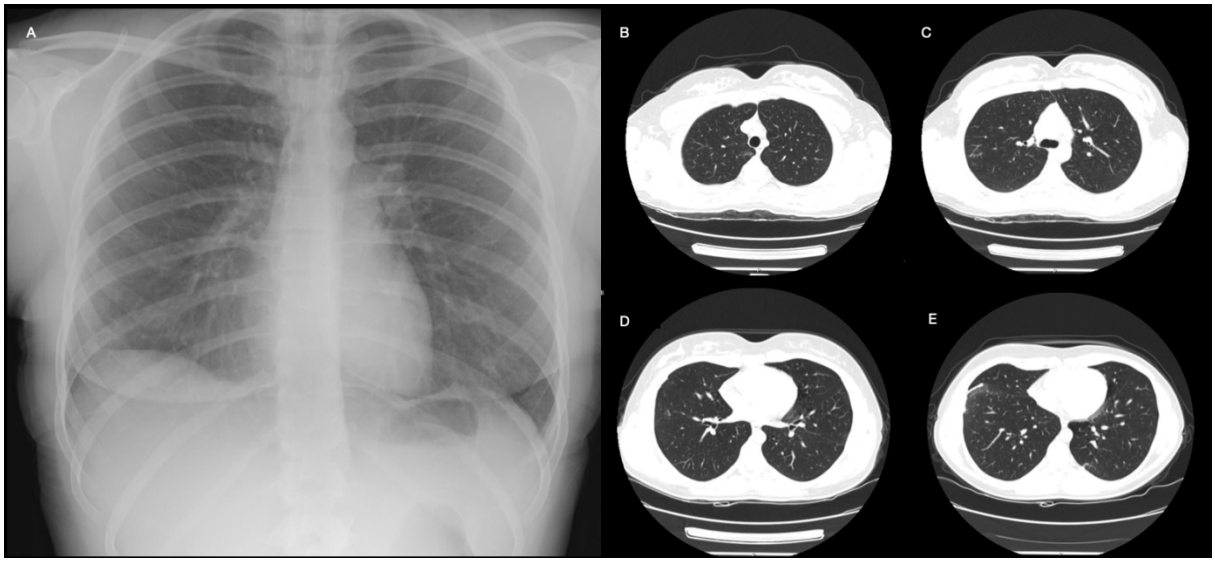
Dynamics of a dual SARS-CoV-2 strain co-infection on a prolonged viral shedding COVID-19 case: insights into clinical severity and disease duration



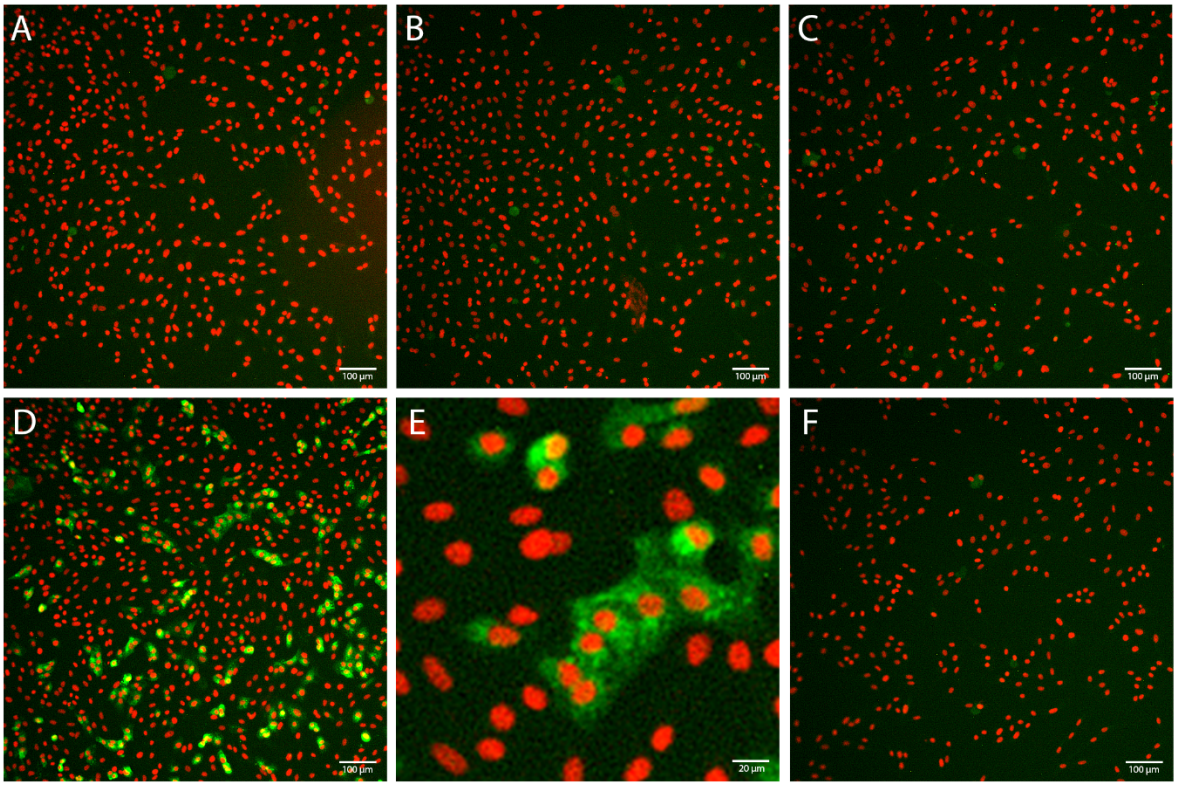
Supplementary Figure S1. X-ray **(A)** and chest CT-scan **(B-G)** pictures at the time of COVID-19 diagnosis (2020-03-10) revealing extensive bilateral subpleural ground-glass opacities (GGO) with areas of air-space consolidation concerning for COVID-19.



Supplementary Figure S2. Angio-chest CT scan performed after 6 days of inpatient stay (2020-03-16). Multiple foci of peripheral GGO and alveolar consolidation **(A)**. Heterogeneous ground-glass opacification with a peripheral halo of consolidation suggestive of pulmonary infarction of the left lung lobe (encircled in picture **B**).



Supplementary Figure S3. X-ray **(A)** and chest CT-scan **(B-D)** pictures from re-admission (2020-05-12), nearly 2 months after COVID-19 diagnosis, revealing improved aeration of the lung fields and resolving features of ground-glass-opacities.



Supplementary Figure S4. Results from the in vitro culture of SARS-CoV-2 from the nasopharyngeal samples. Images from immunofluorescence staining with the antibody against SARS-CoV-2 spike protein (green) and the marker for the nucleus (red), at 48h after the second inoculation in Vero cells. Images were acquired in an IN Cell Analyzer 2000, with 10x objective. Negative results in samples from the patient at May 26th (A), June 9th (B) and June 12th (C). Positive result (D) and higher detail (E) for a recently-diagnosed sample from another patient. Negative result (F) for control of non-infected cells. Bars represent 100µm or 20µm.

Supplementary Table S1. Results of the blood tests collected at admission during the 1st inpatient stay (2020-03-10) and at the time of COVID-19 symptom recurrence that led to a 2nd inpatient stay (2020-05-12). AST – Aspartate aminotransferase; ALT- Alanine Aminotransferase; GGT- Gamma-glutamyl-transferase; ALP– Alkaline Phosphatase; LDH – Lactate Dehydrogenase; CK – Creatinine Kinase; hs-cTNI – High-sensitivity Troponin I; CK-MB- Creatine Kinase MB; aPTT- Activated Partial Thromboplastin Time; PT- Prothrombin Time; CRP- C-reative-protein; NP- not performed.

Blood tests	1st inpatient stay results at admission (2020-03-10)	2nd inpatient stay results at admission (2020-05-12)	Normal range values
Haemoglobin (g/dL)	14.2	14.7	12.0-16.0
Leukocytes (x 10^9/L)	5.7	6.7	4.0-11.0
Neutrophils (%)	82.6	58.2	53.8-69.8
Lymphocytes (%)	12.9	34.7	22.6-36.6
Platelets (x 10^9/L)	172	290	150-400
AST (U/L)	34	19	10-31
ALT (U/L)	24	24	10-31
GGT (U/L)	41	NP	7-32
ALP (U/L)	50	NP	47-119
Total bilirubin (mg/dL)	0.60	NP	< 1.20
Direct bilirubin (mg/dL)	0.16	NP	< 0.40
LDH (U/L)	325	NP	135-225
CK (U/L)	74	NP	10-149
hs-cTnI (ng/L)	< 1.9	< 1.9	< 16.0
CK-MB (ng/mL)	0.30	0.30	0.00-6.40
Mioglobin (ng/mL)	21.5	20.2	< 146.9
Urea (mg/dL)	21	20	10-50
Plasma creatinine (mg/dL)	0.57	0.80	0.51-0.95
aPTT (sec)	27.2	30.7	24.2-36.4
PT (sec)	12.7	11.9	9.9-13.6
Fibrinogen (mg/dL)	382	248	200-400
CRP (mg/L)	37.6	0.40	< 3.0
Ferritin (ng/mL)	NP	76.28	4.63-204

Supplementary Table S2. Results of the microbiologic workup collected at admission during the 1st inpatient stay (2020-03-10) and at the time of COVID-19 symptom recurrence that led to a 2nd inpatient stay (2020-05-12). Ag – Antigen; NAAT – Nucleic Acid Amplification Test; NP- not performed.

	Product	1st inpatient stay results (2020-03-10)	2nd inpatient stay results (2020-05-12)
Blood cultures (each pair)	Blood	negative	negative
Bacterial cultures	Sputum	negative	negative
Pneumococcal Ag	Urine	negative	negative
Legionella Ag	Urine	negative	negative
Bordetella pertussis NAAT	Naso/oropharyngeal swab	negative	negative
Chlamydia pneumoniae NAAT	Naso/oropharyngeal swab	negative	negative
Mycoplasma pneumoniae NAAT	Naso/oropharyngeal swab	negative	negative
Adenovirus NAAT	Naso/oropharyngeal swab	negative	negative
Coronavirus 229E, HKU1, NL63, OC43 NAAT	Naso/oropharyngeal swab	negative	negative
Metapneumovirus NAAT	Naso/oropharyngeal swab	negative	negative
Rhinovirus/Enterovirus NAAT	Naso/oropharyngeal swab	negative	negative
Influenza A & B NAAT	Naso/oropharyngeal swab	negative	NP
Parainfluenza 1,2,3 & 4 NAAT	Naso/oropharyngeal swab	negative	negative
Bocavirus NAAT	Naso/oropharyngeal swab	NP	negative
SARS-CoV-2 NAAT	**Naso/oropharyngeal swab**	**positive**	**positive**

Supplementary Table S3. Immunophenotyping of peripheral blood lymphocytes and quantitative immunoglobulins' test performed during the 2nd inpatient stay (2020-05-12).

Immunophenotyping of peripheral blood lymphocytes	**Results**
Lymphocytes (flow cytometry)	3059/mm^3
T populations:	
CD3+	78.93%
CD3+CD4+	48.83%
(absolute value)	1494/mm^3
CD3+CD8+	27.19%
CD3+CD4+CD8+	0.33%
Ratio CD4+/CD8+	1.80
B populations:	
CD19+	9.02%
NK cell populations:	
CD16&56+	11.62%
Immunoglobulins (normal range values)	**Results**
Immunoglobulin G (650-1500 mg/dL)	955
IgG subclasses:	
IgG1 (370.0-1280.0 mg/dL)	705.0
IgG2 (106.0-610.0 mg/dL)	284.0
IgG3 (18.0-163.0 mg/dL)	42.6
IgG4 (4.0-230.0 mg/dL)	17.0
Immunoglobulin A (78-312 mg/dL)	137
Immunoglobulin M (55-300 mg/dL)	127

Supplementary Table S4. List of variants detected in all the analysed samples with a minimum of 5% frequency in at least one of the samples. The positions painted in blue are represented in Figure 3 and the grey coloured cells are the positions with variation.

POS	REF	ALT	11/03/2020 Mother of P1		10/03/2020 P1.1		18/03/2020 P1.2		26/05/2020 P1.3		06/06/2020 P1.4		09/06/2020 P1.5		11/06/2020 P1.6		12/06/2020 P1.7	
			N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het
72	G	A	17979	0.0	33542	0.0	182	0.0	723	0.0	14180	0.0	74	0.0	942	54.6	20	0.0
128	T	C	13357	0.0	21817	0.0	7	0.0	20	0.0	2306	10.8	31	0.0	0	0.0	7	0.0
144	T	C	10366	0.0	20117	0.0	6	0.0	18	0.0	1999	11.8	24	0.0	0	0.0	6	0.0
186	C	T	11906	0.0	21162	0.0	8	0.0	18	0.0	2204	10.7	22	0.0	0	0.0	5	0.0
241	C	T	7627	100.0	16314	100.0	4	100.0	15	100.0	1422	100.0	4	100.0	0	0.0	0	0.0
262	T	C	11543	0.0	28796	0.0	13	0.0	29	0.0	3964	5.4	273	0.0	0	0.0	7	0.0
338	G	A	23813	0.0	43641	0.0	16	0.0	57	0.0	4718	6.0	13	0.0	1139	0.0	7	0.0
592	T	C	12027	0.0	38376	0.0	673	0.0	415	0.0	2560	9.0	408	0.0	0	0.0	22	0.0
621	G	A	12233	0.0	38804	0.0	679	0.0	414	0.0	2568	13.1	128	0.0	0	0.0	21	0.0
1204	C	T	8429	0.0	16516	0.0	6	0.0	43	0.0	3652	5.8	3	0.0	109	0.0	3	0.0
1367	A	G	5997	5.8	21891	0.0	9	0.0	39	0.0	4513	0.0	7	0.0	477	0.0	3	0.0
1459	T	C	10715	0.0	17352	0.0	7	42.9	32	0.0	3855	8.3	5	0.0	23	0.0	4	0.0
1745	T	C	5655	0.0	21029	0.0	4	0.0	18	0.0	563	0.0	1	0.0	2	0.0	2	100.0
1895	G	A	7627	0.0	26589	0.0	19	0.0	46	0.0	6302	0.0	6	0.0	0	0.0	9	33.3
2013	C	T	6990	0.0	30450	0.0	7	0.0	66	0.0	1349	11.8	11	0.0	295	0.0	66	0.0
2217	T	C	7873	0.0	29341	0.0	8	0.0	14	0.0	2895	6.4	15	0.0	18	0.0	11	0.0
2240	A	G	5786	0.0	27623	0.0	7	0.0	15	0.0	2489	7.3	13	0.0	13	0.0	10	0.0
2419	A	G	3638	0.0	15566	0.0	199	0.0	9	0.0	1410	8.5	10	0.0	12	0.0	6	0.0
2501	A	G	2556	0.0	13809	0.0	308	40.3	2	0.0	1413	0.0	4	0.0	75	0.0	9	0.0
2818	A	G	10039	0.0	36617	0.2	250	0.0	246	0.0	9009	0.0	9	0.0	1503	33.5	8	0.0
2901	T	C	16112	0.0	48138	0.3	134	5.2	1583	0.0	52328	2.0	26	0.0	65	0.0	25	0.0
2903	A	G	16016	0.0	47839	0.0	130	5.4	1595	0.0	52781	0.0	27	0.0	66	0.0	25	0.0
3037	C	T	10924	100.0	32832	100.0	201	100.0	1263	100.0	44978	100.0	5	100.0	3	100.0	18	100.0
3140	C	T	5925	99.9	19494	100.0	167	88.0	43	0.0	5805	0.0	2	0.0	1	0.0	26	0.0
3477	T	C	3917	0.0	8584	0.0	0	0.0	19	0.0	1365	5.4	1	0.0	1	0.0	0	0.0
3512	A	G	6594	0.0	17428	0.0	637	41.3	68	0.0	5492	0.0	6	0.0	1	0.0	8	0.0
3514	G	A	6561	0.0	17458	0.0	637	0.0	66	0.0	5525	7.3	5	0.0	1	0.0	8	0.0
3667	T	C	6776	0.0	20763	0.0	328	96.3	36	0.0	3371	0.0	5	0.0	83	0.0	6	0.0
4411	A	G	3685	0.0	18706	0.0	703	45.1	24	0.0	11	0.0	5	0.0	2	0.0	8	0.0
4535	T	C	7106	0.0	27151	0.3	181	0.0	34	0.0	6839	6.2	7	0.0	440	0.0	9	0.0
4543	C	T	9963	0.0	34131	0.0	230	54.8	54	0.0	8636	0.0	5	0.0	578	0.0	12	0.0
4672	C	T	1804	8.2	16600	0.0	5	0.0	12	0.0	7	0.0	3	0.0	1	0.0	5	0.0
4673	A	G	1320	6.1	15444	0.0	3	0.0	7	0.0	7	0.0	4	0.0	0	0.0	3	0.0
4759	A	G	6147	0.0	17337	0.0	70	0.0	148	0.0	7806	6.9	6	0.0	0	0.0	121	0.0
4956	A	G	6053	0.0	25312	0.0	307	0.0	66	0.0	2935	8.0	17	0.0	195	0.0	54	0.0
5030	A	G	5493	0.0	14940	0.0	341	0.0	37	0.0	3150	0.0	14	0.0	213	7.0	10	0.0
5055	C	T	5586	0.0	14608	0.0	339	0.0	35	0.0	2471	17.6	2	0.0	221	0.0	5	0.0

POS	REF	ALT	11/03/2020 Mother of P1		10/03/2020 P1.1		18/03/2020 P1.2		26/05/2020 P1.3		06/06/2020 P1.4		09/06/2020 P1.5		11/06/2020 P1.6		12/06/2020 P1.7	
			N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het
5199	G	A	3703	0.0	12476	0.0	325	0.0	21	0.0	1895	11.4	1	0.0	2	0.0	2	0.0
5325	A	G	3861	0.0	9117	0.0	319	0.0	16	0.0	2044	7.5	0	0.0	25	0.0	1	0.0
5896	A	G	4374	0.0	16370	0.0	6	0.0	12	0.0	3013	0.0	2	0.0	29	0.0	3	66.7
5921	G	A	6482	0.0	18894	0.0	10	0.0	28	0.0	3745	0.0	0	0.0	35	28.6	4	0.0
5984	T	A	421	6.4	8061	0.0	0	0.0	4	0.0	233	0.0	1	0.0	0	0.0	4	0.0
6170	G	A	8993	0.0	30990	0.0	54	0.0	27	0.0	1652	11.1	6	0.0	258	0.0	10	0.0
6198	C	T	9860	0.0	32941	0.0	56	0.0	27	0.0	1821	0.0	6	0.0	262	5.7	11	0.0
6200	T	C	10871	0.0	34092	0.0	59	0.0	29	0.0	1950	9.4	7	0.0	273	0.0	11	0.0
6238	T	C	11250	0.0	34647	0.0	56	85.7	31	0.0	2016	0.0	9	0.0	284	0.0	12	0.0
6254	G	A	773	5.4	13265	0.0	55	0.0	12	0.0	164	0.0	6	0.0	292	0.0	8	0.0
6475	A	G	8374	0.0	23484	0.0	381	0.0	46	0.0	1536	12.4	17	0.0	0	0.0	9	0.0
6675	C	T	6242	0.0	31757	0.0	414	0.0	472	0.0	14436	12.4	12	0.0	1156	0.0	304	0.0
6701	C	T	6032	0.0	31314	0.0	407	0.0	463	0.0	14034	2.6	12	0.0	1113	11.8	313	0.0
6755	G	A	2079	0.0	18680	11.5	273	0.0	92	0.0	1742	0.0	7	0.0	566	0.0	279	0.0
6882	T	C	3205	0.0	8204	0.0	91	0.0	3	0.0	385	5.5	0	0.0	0	0.0	0	0.0
6920	A	G	3079	0.0	14260	0.0	166	0.0	10	0.0	370	9.5	4	0.0	0	0.0	3	0.0
6958	T	C	2343	0.0	14369	0.0	159	0.0	10	0.0	337	11.9	5	0.0	0	0.0	5	0.0
6982	C	T	2374	0.0	14384	0.3	153	0.0	8	0.0	327	8.0	5	0.0	0	0.0	5	0.0
6991	T	C	1657	0.0	12657	0.0	122	0.0	8	0.0	265	6.4	5	0.0	0	0.0	3	0.0
7225	T	C	1586	10.6	10328	0.6	21	0.0	4	0.0	737	0.0	1	0.0	0	0.0	1	0.0
7303	C	T	311	0.0	7085	12.1	43	0.0	1	0.0	0	0.0	4	0.0	0	0.0	4	0.0
7359	T	C	4327	0.0	17263	0.0	50	0.0	15	0.0	2459	0.0	12	33.3	0	0.0	26	19.2
7513	T	C	4487	0.0	19847	0.0	12	0.0	26	0.0	3676	5.1	5	0.0	1	0.0	18	0.0
7537	A	G	3878	0.0	19631	0.0	11	0.0	20	0.0	3474	5.0	3	0.0	1	0.0	13	0.0
8193	A	G	3485	7.3	15758	0.0	8	0.0	14	0.0	3050	0.0	5	0.0	246	0.0	9	0.0
8388	A	G	4947	0.0	18886	0.0	525	41.7	522	0.0	24309	0.0	9	0.0	1050	0.0	9	0.0
8389	C	T	4877	5.7	18899	0.0	511	0.0	529	0.0	23956	0.0	8	0.0	1008	0.0	9	0.0
8750	A	G	4464	3.9	19109	0.0	371	0.0	92	0.0	9222	0.0	8	0.0	388	5.7	6	0.0
8928	T	G	2626	4.7	12005	0.0	153	5.9	20	0.0	3965	2.3	3	0.0	259	0.0	3	0.0
9071	A	G	8749	0.0	25287	0.0	37	0.0	897	0.0	21944	0.4	5	0.0	831	34.1	21	0.0
9481	T	C	2743	0.0	13519	0.0	3	66.7	28	0.0	191	0.0	11	0.0	718	0.0	12	0.0
9704	T	C	2870	0.0	14830	0.0	2	0.0	8	0.0	473	5.9	5	0.0	0	0.0	2	0.0
10024	A	G	9789	0.0	27393	0.0	215	0.0	88	0.0	8892	0.0	2	0.0	1377	24.6	24	0.0
10201	G	A	7377	0.0	30149	0.0	169	0.0	78	0.0	7613	5.2	16	0.0	2	0.0	8	0.0
10389	T	C	4577	0.0	26143	0.0	616	0.0	84	0.0	11059	0.0	11	0.0	462	47.8	32	0.0
10409	A	G	4214	0.0	27736	0.0	589	0.0	70	0.0	10855	11.2	7	0.0	426	0.0	32	0.0
10411	T	C	5048	0.0	28279	0.0	625	0.0	88	0.0	11313	16.0	10	0.0	487	0.0	32	0.0
10549	G	A	4954	0.0	24894	0.0	284	0.0	29	0.0	3900	6.7	3	0.0	637	0.0	5	0.0
10622	A	C	1942	0.0	9178	0.0	81	9.9	20	0.0	50	0.0	2	0.0	277	0.0	7	0.0
10729	A	G	3480	0.0	25543	0.0	156	0.0	54	0.0	3701	6.3	6	0.0	1	0.0	13	0.0

POS	REF	ALT	11/03/2020 Mother of P1		10/03/2020 P1.1		18/03/2020 P1.2		26/05/2020 P1.3		06/06/2020 P1.4		09/06/2020 P1.5		11/06/2020 P1.6		12/06/2020 P1.7	
			N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het
10763	T	C	4324	0.0	25689	0.0	168	0.0	81	0.0	4000	8.4	8	0.0	1	0.0	19	0.0
10973	A	G	3434	0.0	11312	0.0	270	9.6	15	0.0	5189	0.0	1	0.0	1	0.0	2	0.0
11076	T	C	4112	6.1	17403	0.0	273	0.0	15	0.0	4121	0.0	1	0.0	1	0.0	3	0.0
11083	G	T	4935	2.6	24865	0.9	119	89.9	18	0.0	5368	0.0	1	0.0	2	0.0	3	0.0
11180	T	C	3694	0.0	14495	0.0	143	0.0	28	0.0	1430	15.1	1	0.0	0	0.0	2	0.0
11185	G	A	6954	0.0	26870	0.0	259	0.0	45	0.0	2553	0.0	5	0.0	3	100.0	6	0.0
11243	G	A	4602	0.0	12203	0.0	196	0.0	29	0.0	2019	12.5	0	0.0	0	0.0	3	0.0
11454	C	T	5221	0.0	20942	0.0	48	0.0	36	0.0	3112	0.0	9	0.0	712	15.3	9	0.0
11638	T	C	2138	0.0	15689	0.0	164	0.0	22	0.0	316	100.0	4	0.0	0	0.0	16	0.0
11827	A	G	13786	0.0	56716	0.0	20	15.0	144	0.0	10927	5.7	8	0.0	2799	0.0	14	0.0
11851	G	A	17115	0.0	58806	0.0	26	19.2	182	0.0	12998	19.1	6	0.0	3057	0.0	17	0.0
11968	T	C	10865	0.0	42559	0.0	17	0.0	109	0.0	5742	0.0	8	0.0	2463	15.7	18	0.0
12519	A	G	7656	0.0	27051	0.0	371	0.0	100	0.0	3789	0.0	12	33.3	0	0.0	8	0.0
12613	G	A	9133	0.0	41789	0.0	86	0.0	142	0.0	3083	6.5	21	0.0	1	0.0	23	0.0
12652	A	G	9938	0.0	42570	0.0	90	0.0	158	0.0	3157	5.9	25	0.0	0	0.0	24	0.0
12670	T	C	10092	0.0	42207	0.0	92	0.0	155	0.0	3168	0.0	23	17.4	1	0.0	23	0.0
13401	A	G	9064	0.0	20811	0.0	416	0.0	102	0.0	4535	5.1	46	0.0	283	0.0	278	0.0
13415	G	A	9137	0.0	21132	0.0	413	0.0	105	0.0	4597	0.0	49	0.0	291	0.0	282	9.9
13427	G	A	9811	0.0	21147	0.0	420	0.0	105	0.0	4712	0.0	48	0.0	284	6.7	280	0.0
13470	G	A	8206	0.0	17507	0.0	309	0.0	11	0.0	3583	6.3	5	0.0	0	0.0	0	0.0
13616	A	G	3452	0.0	12825	0.0	0	0.0	7	0.0	779	12.7	0	0.0	0	0.0	2	0.0
13875	A	G	8103	0.0	24955	0.0	10	0.0	27	0.0	1192	16.4	5	0.0	228	0.0	3	0.0
14006	C	A	8841	0.0	33679	0.0	12	0.0	77	0.0	3682	5.0	11	0.0	703	0.0	7	0.0
14188	G	A	6957	6.2	27983	0.0	6	0.0	45	0.0	3369	0.0	12	0.0	254	0.0	13	0.0
14408	C	T	445	100.0	9840	100.0	0	0.0	3	66.7	86	0.0	187	100.0	921	100.0	3	100.0
14424	A	G	984	0.0	10483	0.0	26	0.0	186	0.0	10411	7.3	191	0.0	942	0.0	4	0.0
14530	T	C	2463	5.3	14456	0.0	45	0.0	259	0.0	17223	0.0	5	0.0	1033	0.0	20	0.0
14586	T	C	2009	0.0	14203	0.0	1	0.0	41	0.0	1	0.0	6	0.0	746	0.0	20	40.0
14846	T	C	5465	0.0	18377	0.0	135	14.1	18	0.0	2702	0.0	5	0.0	0	0.0	8	0.0
14857	G	A	4915	0.0	18510	0.0	136	5.2	15	0.0	2587	0.0	6	0.0	0	0.0	8	0.0
14899	T	C	1033	0.0	7699	0.0	140	0.0	14	0.0	43	39.5	2	0.0	0	0.0	4	0.0
14913	C	T	994	0.0	7670	0.0	134	0.0	24	33.3	336	0.0	1	0.0	0	0.0	3	0.0
15189	A	G	13945	0.0	36581	0.2	299	0.0	63	0.0	5393	0.0	19	0.0	312	0.0	15	40.0
15201	A	G	14150	0.0	36618	0.0	300	0.0	61	0.0	5381	0.0	17	0.0	322	0.0	15	33.3
15444	G	A	24934	0.0	32766	0.0	486	11.1	390	0.0	15905	0.0	16	0.0	0	0.0	10	0.0
15570	T	C	30872	0.0	62167	0.0	484	10.3	694	0.0	16112	0.0	237	0.0	1389	0.0	24	0.0
15725	C	T	18173	0.0	40821	0.0	10	0.0	364	0.0	3109	0.0	264	0.0	1482	0.0	22	13.6
15758	A	G	9238	0.0	10576	0.0	8	0.0	9	0.0	1871	7.1	12	0.0	0	0.0	2	0.0
15804	T	C	11603	0.0	17539	0.0	177	0.0	26	0.0	4053	0.0	11	54.6	0	0.0	5	0.0
15851	A	C	1267	1.7	7582	0.8	47	14.9	7	0.0	1076	0.0	3	0.0	1	0.0	1	0.0

POS	REF	ALT	11/03/2020 Mother of P1		10/03/2020 P1.1		18/03/2020 P1.2		26/05/2020 P1.3		06/06/2020 P1.4		09/06/2020 P1.5		11/06/2020 P1.6		12/06/2020 P1.7	
			N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het
15854	T	A	1080	7.0	7369	4.2	48	14.6	6	0.0	1001	0.0	3	0.0	1	0.0	0	0.0
15856	A	G	1300	5.5	7489	3.5	46	15.2	8	37.5	1074	0.0	4	0.0	1	0.0	1	0.0
15982	G	A	14104	1.2	20818	1.4	67	1.5	372	0.0	12298	0.0	9	0.0	4	100.0	14	0.0
15988	A	G	5195	0.0	8171	0.0	16	0.0	180	0.0	5409	6.2	3	0.0	2	0.0	3	0.0
16006	A	G	15372	0.0	14953	0.3	29	13.8	484	0.0	13590	5.6	3	0.0	3	0.0	12	0.0
16385	G	A	18490	0.0	49697	0.0	444	0.0	839	0.0	5551	5.3	15	0.0	4796	24.9	24	0.0
16424	T	C	15054	0.6	46381	0.4	432	0.0	757	0.0	4983	0.0	14	0.0	4425	21.0	23	0.0
16548	T	C	10605	0.0	30434	0.0	238	0.0	49	0.0	5393	0.0	8	0.0	305	70.2	6	0.0
16801	A	T	6649	0.0	20543	0.0	70	0.0	21	0.0	7907	13.6	6	0.0	255	0.0	4	0.0
17121	A	G	1798	0.0	14184	0.0	9	0.0	34	0.0	1384	0.0	6	0.0	320	100.0	64	0.0
17164	T	C	24748	0.0	47086	0.2	681	0.0	967	0.0	35927	0.0	9	0.0	357	0.0	63	52.4
17335	A	G	4089	0.0	19583	0.0	12	0.0	112	0.0	2428	0.0	34	11.8	1	0.0	6	0.0
17483	C	T	5757	0.0	10435	0.0	277	0.0	51	0.0	2759	6.3	5	0.0	144	0.0	5	0.0
17485	C	T	5685	0.0	10459	0.0	269	0.0	53	0.0	2731	6.1	5	0.0	143	0.0	4	0.0
17927	C	T	7383	0.0	23691	0.0	115	0.0	23	0.0	5157	6.1	7	0.0	0	0.0	6	0.0
18342	T	C	8198	0.0	28712	0.0	373	0.0	31	71.0	5169	0.0	6	0.0	214	0.0	2	0.0
18688	T	C	523	0.0	7635	0.7	210	6.7	5	0.0	3	0.0	1	0.0	1	0.0	1	0.0
18747	C	T	3583	0.0	16366	0.0	383	0.0	464	0.0	4919	26.2	3	0.0	66	0.0	68	0.0
19087	T	C	6952	0.0	23103	0.0	24	0.0	21	0.0	4127	0.0	4	0.0	1257	0.0	41	34.2
19287	T	C	8400	0.0	13344	0.0	170	0.0	13	0.0	2963	7.3	2	0.0	131	0.0	6	0.0
19521	T	C	7676	0.0	20076	0.0	130	0.0	37	0.0	1737	42.0	6	0.0	1	0.0	9	0.0
19819	C	T	4254	0.0	13493	0.0	209	6.2	21	0.0	2727	0.0	6	0.0	199	0.0	3	0.0
20262	A	G	334	6.6	8613	0.0	52	0.0	3	0.0	3	0.0	8	0.0	0	0.0	3	0.0
20988	T	C	3484	0.0	17926	0.4	539	5.0	78	0.0	1878	0.0	69	0.0	0	0.0	23	0.0
21171	A	G	7670	0.0	21630	0.0	250	9.2	145	0.0	11495	0.0	3	0.0	461	0.0	4	0.0
21232	G	A	4397	0.0	22092	0.0	13	0.0	497	0.0	1860	21.6	277	0.0	696	0.0	562	0.0
21429	T	A	1078	0.0	13512	0.0	6	0.0	9	0.0	6	66.7	2	0.0	0	0.0	3	0.0
21765	T	C	5410	0.0	24104	0.0	23	0.0	24	0.0	13373	0.0	7	0.0	39	10.3	15	0.0
21788	A	G	5632	0.0	24110	0.0	23	26.1	26	0.0	13483	23.0	7	0.0	39	0.0	14	0.0
21908	T	C	6908	0.0	29762	0.0	24	0.0	62	0.0	2568	5.8	10	0.0	604	0.0	18	0.0
22025	A	G	1533	0.0	16354	0.2	5	0.0	30	0.0	198	0.0	5	0.0	539	43.6	7	0.0
22396	A	G	4378	0.0	13868	0.0	195	0.0	34	0.0	1502	15.5	1	0.0	180	0.0	24	0.0
23086	C	T	5537	5.1	11337	0.0	9	0.0	31	0.0	3556	0.0	4	0.0	146	0.0	8	0.0
23163	T	C	5578	0.0	19864	0.2	191	0.0	26	0.0	2817	0.0	8	0.0	451	0.0	15	46.7
23403	A	G	6427	100.0	36321	100.0	26	100.0	359	100.0	12792	100.0	6	100.0	475	100.0	17	100.0
23693	T	C	7840	0.0	38343	0.2	27	0.0	419	0.0	6470	0.4	109	0.0	5122	0.0	27	14.8
23698	T	C	6269	0.0	36625	0.0	24	0.0	316	0.0	6112	0.0	84	0.0	4220	22.9	22	0.0
23704	A	G	7788	0.0	37152	0.0	28	0.0	390	0.0	6443	0.0	97	0.0	4742	17.0	27	0.0
23884	A	G	2928	0.0	18161	0.0	6	0.0	18	0.0	1071	7.8	5	0.0	0	0.0	6	0.0
24077	G	T	5387	100.0	25846	100.0	36	16.7	159	0.0	15747	7.3	7	0.0	694	0.0	17	0.0

POS	REF	ALT	11/03/2020 Mother of P1		10/03/2020 P1.1		18/03/2020 P1.2		26/05/2020 P1.3		06/06/2020 P1.4		09/06/2020 P1.5		11/06/2020 P1.6		12/06/2020 P1.7	
			N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het	N reads	Avg het
24104	G	A	5552	0.0	26157	0.0	34	0.0	162	0.0	15723	0.0	7	0.0	698	0.0	18	22.2
24161	G	A	6292	0.0	26151	0.0	25	0.0	75	0.0	7779	0.4	3	0.0	392	37.2	19	0.0
24447	T	C	7455	0.0	22767	0.0	30	0.0	620	0.0	14751	0.0	9	0.0	933	54.5	10	0.0
24858	G	A	4626	0.0	25986	0.0	320	0.0	35	0.0	3529	6.9	15	0.0	428	0.0	1	0.0
24873	T	C	5507	0.0	25568	0.0	352	0.0	42	0.0	3816	6.7	15	0.0	474	0.0	1	0.0
24993	A	G	5618	0.0	27328	0.0	340	0.0	44	0.0	4369	0.0	12	0.0	466	33.7	2	0.0
25046	C	T	6197	0.0	28442	0.0	341	0.0	46	0.0	4588	18.2	11	0.0	477	0.0	4	0.0
25105	A	G	1001	0.0	6695	0.0	2	0.0	9	0.0	575	7.1	0	0.0	0	0.0	0	0.0
25440	G	A	10726	0.0	36120	0.0	17	0.0	260	0.0	7624	2.7	12	0.0	355	80.9	16	0.0
25556	T	C	10491	0.0	35154	0.3	447	0.0	1068	0.0	6698	7.7	25	0.0	3137	0.0	1087	12.5
25608	A	G	12114	0.0	37929	0.2	894	49.2	2183	0.0	3470	0.0	35	0.0	5303	0.0	1878	0.0
25657	A	G	11923	0.0	23571	0.0	52	0.0	77	0.0	13607	8.5	4	0.0	3	0.0	7	0.0
25677	G	A	14040	0.0	31970	0.0	56	0.0	81	0.0	12091	13.8	13	0.0	3	0.0	9	0.0
25785	G	A	9363	0.0	31450	0.0	27	0.0	53	0.0	9595	14.9	6	0.0	1	0.0	6	0.0
25789	T	C	11930	0.0	32893	0.0	37	0.0	71	0.0	10905	6.3	12	0.0	1	0.0	8	0.0
25892	T	C	5982	0.0	14331	0.0	15	0.0	99	0.0	4814	5.7	3	0.0	424	0.0	5	0.0
25934	A	G	12216	0.0	39205	0.0	997	0.0	284	0.0	4682	5.8	6	0.0	1559	0.0	102	0.0
26019	A	G	14574	0.0	40144	0.0	1174	0.0	336	0.0	4907	5.5	6	0.0	1848	0.0	145	0.0
26788	G	A	2984	0.0	17121	0.0	4	0.0	9	0.0	999	10.7	8	0.0	0	0.0	6	0.0
26895	C	T	10907	0.0	27539	0.0	29	24.1	277	0.0	8913	32.6	9	0.0	0	0.0	20	0.0
27014	G	A	10617	0.0	27763	0.0	28	25.0	262	0.0	8755	0.0	9	0.0	0	0.0	18	0.0
27085	C	T	9397	0.0	23364	0.0	65	0.0	2096	0.0	26165	0.0	18	0.0	2	100.0	20	0.0
27494	C	T	1839	0.0	14224	6.7	3	0.0	43	0.0	1253	0.0	4	0.0	6	0.0	5	0.0
27614	T	C	13140	0.0	20306	0.0	13	0.0	29	0.0	4163	9.6	7	0.0	413	0.0	6	0.0
27652	T	C	13381	0.0	25860	0.0	47	0.0	29	0.0	9013	0.0	6	0.0	1068	45.6	7	0.0
28494	T	C	1854	0.0	10932	0.0	145	11.0	24	0.0	1	0.0	3	0.0	154	0.0	2	0.0
28544	A	G	21304	0.0	35266	0.0	170	0.0	67	0.0	2874	6.9	9	0.0	170	0.0	15	0.0
28775	C	T	7224	0.0	31149	0.0	4	0.0	144	0.0	95	0.0	8	0.0	807	45.0	7	0.0
28881	G	A	8982	0.0	15939	0.0	150	3.3	35	100.0	2569	100.0	17	100.0	1	100.0	6	83.3
28882	G	A	15071	0.0	22435	0.0	209	2.9	24	100.0	2110	100.0	10	100.0	0	0.0	4	75.0
28883	G	C	15084	0.0	22428	0.0	208	2.4	34	100.0	2533	100.0	15	100.0	1	100.0	6	83.3
28916	G	A	13707	0.0	27841	0.0	201	0.0	175	7.4	3988	0.0	34	0.0	105	0.0	88	0.0
28933	T	C	11432	0.8	27048	0.4	175	0.0	140	0.0	3486	0.0	27	0.0	99	56.6	80	0.0
29061	C	T	8528	0.0	21694	0.0	8	0.0	5	0.0	266	10.5	95	0.0	12	0.0	7	0.0
29314	A	G	5754	0.0	25412	0.2	117	0.0	23	0.0	924	0.0	8	0.0	107	7.5	9	0.0
29555	C	T	2937	100.0	17539	100.0	6	100.0	11	0.0	0	0.0	12	0.0	0	0.0	7	0.0
29609	T	C	6513	0.0	32394	0.0	213	0.0	141	0.0	7676	5.0	14	0.0	203	0.0	9	0.0
29775	T	C	6349	0.0	25897	0.0	242	0.0	394	0.0	10204	2.5	133	0.0	703	51.2	298	0.0

Supplementary Table S5. List of the significantly associated variants used for PRS calculation based on the A2_ALL dataset of "very severe respiratory confirmed covid" (n=2,972) vs. population (n=284,472).

CHR	POS	REF	ALT	rsid	Meta Effect Size	Meta P-value	Meta AF	Portuguese population Cohort AF
1	26504654	G	A	rs185041400	4.8613	3.55E-06	0.001845	0.00196
1	44377503	G	A	rs4314918	-0.19251	1.64E-06	0.7941	0.76932
1	112764378	C	T	rs2919285	-0.19459	2.15E-07	0.8032	0.78099
1	112785942	C	G	rs7538140	0.16488	9.57E-06	0.2219	0.21499
1	203954605	T	C	rs188564545	2.4201	4.13E-06	0.00984	0.00158
1	231996139	A	C	rs75711735	0.58372	5.52E-06	0.0374	0.02181
2	43251821	G	A	rs56186825	1.6652	3.27E-06	0.008928	0.00517
2	130431716	C	T	rs10210034	-0.14541	5.68E-06	0.5131	0.48767
2	137341234	A	T	rs531390248	3.36	7.77E-06	0.002369	0.00016
2	217725954	C	T	rs6722107	0.90977	7.93E-06	0.008955	0.01814
3	38579153	A	G	rs112661205	2.2515	8.46E-06	0.003901	0.00245
3	39204989	C	T	rs148889878	1.3637	1.70E-06	0.00486	0.00941
3	45889921	A	T	rs35081325	0.70561	3.82E-39	0.09694	0.05894
3	45908859	G	A	rs75826707	0.71416	4.54E-13	0.04609	0.0089
3	46032388	G	C	NA	-0.18152	9.03E-08	0.6364	0.68145
3	46049765	T	C	rs13433997	0.42141	3.66E-20	0.1564	0.10061
3	46119791	T	C	rs13434336	0.20352	1.81E-09	0.3334	0.39426
3	46222037	A	G	rs115102354	0.50009	3.25E-13	0.07706	0.02963
3	46227171	T	G	rs13062450	0.28632	6.78E-08	0.1518	0.08022
3	46306474	T	C	rs7631853	0.34086	2.20E-09	0.1289	0.06356
3	69056121	G	A	rs76821671	0.24803	5.41E-06	0.08798	0.07825
3	112914296	A	G	rs182721950	1.8166	6.32E-06	0.001878	0.01382
3	143251664	A	G	rs62269771	0.33933	7.46E-06	0.08874	0.1556
3	145864511	G	A	rs965032	-0.16202	2.04E-06	0.6111	0.65497
3	159270026	G	C	rs113427422	0.48165	2.85E-06	0.0559	0.0693
3	165154092	C	A	NA	-0.14427	7.20E-06	0.4587	0.40861
4	25475602	A	G	rs4697099	-0.23761	8.97E-06	0.1697	0.12552
4	36530269	C	G	rs61796478	1.5601	2.62E-06	0.008746	0.01632
4	122910410	G	A	rs7686809	-0.50162	1.74E-07	0.9453	0.88729
5	7505930	C	T	rs192229354	3.5975	4.20E-06	0.002109	0.00484
5	17130850	T	C	rs790210	0.54784	5.30E-06	0.03515	5.00E-05
5	17142133	G	T	rs645922	0.58518	4.78E-06	0.03495	0.02149
5	24843084	A	G	rs141962254	2.9487	6.74E-06	0.001148	0.0015
5	58786782	G	T	rs146410305	0.67245	2.24E-06	0.02408	0.0062
5	79070021	C	T	rs114128029	1.1891	1.60E-06	0.01538	0.00427
5	131740656	A	C	rs13168774	-0.19091	6.61E-06	0.8634	0.83698
5	154604690	C	G	NA	0.2305	8.22E-06	0.1513	0.07799
5	164850943	G	A	rs6880269	-0.2311	4.99E-06	0.5075	0.50703
6	7549628	C	T	rs2299036	0.29664	9.19E-07	0.1795	0.17953
6	31121426	G	A	rs143334143	0.45345	5.60E-17	0.1437	0.12398
6	32667171	A	T	rs1794280	-0.30549	1.71E-08	0.1002	0.09167
6	33055355	A	G	NA	0.27651	2.76E-07	0.07587	0.09132
6	41719110	T	C	NA	-0.56103	7.10E-06	0.976	0.96753
6	88576981	T	C	rs6935448	-0.22002	5.42E-06	0.8219	0.83752
6	98715160	G	A	rs117937941	0.47232	2.25E-06	0.005898	0.04364
7	37831003	A	G	rs183729083	1.8366	9.03E-06	0.005809	0.00277
7	54647894	A	C	rs622568	0.27338	2.83E-10	0.1608	0.07366
7	88639135	T	C	rs78211246	-0.19717	6.19E-06	0.1759	0.17091
7	107607902	C	T	rs2237698	0.22516	6.99E-06	0.09765	0.1192
7	113317708	T	C	rs12705891	0.16763	6.31E-07	0.3918	0.41102
8	1779298	C	T	rs180717749	0.69669	4.98E-06	0.002375	0.00724
8	71700365	C	T	rs147667474	2.0373	2.89E-06	0.01164	0.00431
8	141857912	A	G	rs149938155	0.43195	5.95E-06	0.01057	0.0238
9	123550027	G	A	NA	0.28206	9.25E-06	0.7073	0.7653
10	33178246	A	C	NA	-0.21564	6.72E-06	0.8609	0.86629
10	44340072	T	A	rs118052809	0.55026	2.60E-06	0.01048	0.01291
10	97252761	A	T	rs117098321	1.0297	3.69E-07	0.008664	0.01872
11	22828273	C	T	rs78594643	-0.54047	9.33E-06	0.01995	0.02303
11	35402078	T	C	rs1923302	-0.17211	9.34E-06	0.2239	0.21984
11	44727667	A	G	rs4450162	0.46666	3.97E-06	0.04025	0.06024
11	125792416	T	C	rs662722	-0.24615	5.55E-06	0.7416	0.67452

CHR	POS	REF	ALT	rsid	Meta Effect Size	Meta P-value	Meta AF	Portuguese population Cohort AF
12	29229856	G	A	NA	-0.19661	2.75E-06	0.8177	0.81272
12	103014757	C	A	NA	-0.37565	1.98E-14	0.8746	0.86556
12	113381956	C	T	rs2269899	0.21454	8.55E-10	0.72	0.62316
12	113385375	T	C	rs10850104	0.19459	2.36E-07	0.3694	0.19024
13	44342409	A	G	rs9533610	-0.20652	7.76E-06	0.8439	0.81248
13	44604709	C	G	NA	0.47437	2.01E-06	0.007279	0.02136
13	67940439	A	T	rs9592514	2.5513	5.71E-06	0.00228	0.00378
14	81096699	C	T	rs8016670	-0.27455	3.96E-06	0.9602	0.91986
15	37079890	A	G	rs149402468	1.9556	6.47E-06	0.003407	0.0086
15	79766794	G	A	NA	-0.1936	1.42E-06	0.2287	0.23173
15	99973286	T	G	rs74035732	-0.35901	7.65E-06	0.04311	0.05008
17	10101496	C	T	rs149399480	1.8031	8.46E-07	0.006129	0.00804
17	17462512	C	T	rs568997551	2.2931	3.45E-06	0.01207	0.00343
17	33976296	C	T	NA	-0.18834	7.91E-06	0.7955	0.80944
17	76252183	G	A	NA	0.36136	2.62E-06	0.1979	0.14406
18	36300243	A	G	rs142354687	3.8192	5.03E-06	0.002618	0.00375
19	4723670	C	A	NA	0.25516	6.69E-13	0.3364	0.27724
19	10427721	T	A	NA	0.38141	1.31E-07	0.03602	0.03906
19	10466123	C	T	rs11085727	0.18858	1.23E-07	0.267	0.30801
19	10596988	C	A	rs45524632	0.51705	8.67E-07	0.01571	0.01407
19	17505834	G	C	NA	0.30266	3.32E-06	0.7688	0.82365
19	43266536	C	G	rs112599803	0.66574	2.48E-06	0.06424	0.04464
19	43905258	C	T	rs75028208	1.3477	2.23E-06	0.01459	0.03103
19	56456647	G	A	rs141789023	0.56968	2.89E-06	0.1156	0.03703
20	24479907	C	T	rs547278572	2.8651	5.12E-06	0.002402	0.00149
20	32781699	G	C	rs546079703	2.4138	1.72E-07	0.004147	0.00014
20	37563008	T	C	rs186431128	2.7074	5.59E-06	0.002141	0.00028
20	57549023	C	T	rs150240336	1.4451	5.30E-06	0.0143	0.01093
21	34615210	T	C	rs13050728	-0.19739	1.84E-08	0.6114	0.69188
22	41252291	T	C	rs192261735	0.63286	3.12E-06	0.006277	0.0072

Supplementary Table S6. List of the significantly associated variants used for PRS calculation based on the B2_ALL dataset of "hospitalised covid" (n=6,492) vs. population (n=1,012,809).

CHR	POS	REF	ALT	rsid	Meta Effect Size	Meta P-value	Meta AF	Portuguese population Cohort AF
1	53771860	G	A	rs115038483	-0.42964	6.43E-06	0.01405	0.01063
1	65449821	G	A	rs4454580	0.18513	2.22E-06	0.1157	0.13099
1	91208514	A	C	rs2166172	0.10713	8.63E-06	0.4079	0.35832
1	237277098	A	C	rs9287218	-0.24463	2.82E-06	0.05047	0.04674
2	162936216	C	T	rs117888248	0.6907	2.37E-06	0.01038	0.02342
2	182809457	C	G	rs74799459	0.30726	9.18E-06	0.03178	0.04498
2	195035942	A	G	rs62186769	0.61202	8.87E-06	0.008733	0.00035
3	7794348	C	T	NA	-0.14468	9.44E-06	0.2636	0.24427
3	27526516	C	T	rs6771541	0.14359	1.17E-06	0.3799	0.44167
3	45553090	G	A	rs79939301	0.25641	5.57E-07	0.08346	0.02906
3	45798226	C	T	rs17213127	0.38764	7.66E-08	0.04395	0.0246
3	45818880	G	C	NA	0.21697	3.02E-06	0.1237	0.11258
3	45822010	T	C	rs73062378	0.18408	8.04E-06	0.2093	0.15026
3	45889921	A	T	rs35081325	0.59959	9.52E-50	0.08054	0.05894
3	45908859	G	A	rs75826707	0.64829	3.59E-16	0.03148	0.0089
3	45910870	G	A	rs2191031	0.21	2.31E-09	0.2034	0.18051
3	46042413	A	T	NA	-0.15672	7.31E-11	0.5993	0.66127
3	46047767	G	C	rs4234452	-0.10771	7.36E-06	0.4014	0.38653
3	46049765	T	C	rs13433997	0.37339	1.66E-29	0.1322	0.10061
3	46093858	G	A	rs13098271	0.15548	2.01E-10	0.3283	0.37582
3	46194589	C	A	rs71327036	0.28439	8.85E-14	0.1052	0.06948
3	46222037	A	G	rs115102354	0.45004	1.97E-18	0.06527	0.02963
3	46301423	T	A	rs11919884	0.27677	5.95E-12	0.09721	0.07677
3	46464017	A	C	rs34671664	0.19128	3.12E-07	0.1241	0.06349
4	36530269	C	G	rs61796478	1.0631	1.66E-06	0.005496	0.01632

CHR	POS	REF	ALT	rsid	Meta Effect Size	Meta P-value	Meta AF	Portuguese population Cohort AF
4	142430667	A	T	NA	0.4692	1.54E-06	0.02485	0.02312
5	56485892	G	A	rs55737726	0.59065	3.43E-06	0.01254	0.00438
5	58786782	G	T	rs146410305	0.54762	1.08E-06	0.01726	0.0062
5	65066483	C	T	rs114969787	0.26622	6.51E-06	0.03846	0.06299
5	71698763	T	C	rs187920931	1.857	1.43E-06	0.004279	0.00035
5	71763420	A	G	rs139478596	2.0038	5.83E-07	0.004027	5.10E-04
5	71893271	G	A	rs191971874	2.0461	7.90E-07	0.003874	0.00239
5	131740656	A	C	rs13168774	-0.14334	2.62E-06	0.8344	0.83698
5	162727453	C	T	rs79833209	0.37801	2.64E-06	0.02819	0.01345
6	31121426	G	A	rs143334143	0.2646	3.45E-11	0.08689	0.12398
6	33055355	A	G	NA	0.18117	3.58E-06	0.08416	0.09132
6	41497035	C	A	NA	0.26593	8.86E-10	0.1251	0.09466
6	41501834	G	A	rs12175265	0.43782	4.55E-09	0.03502	0.01744
6	108279068	G	A	rs200955319	1.0422	6.61E-07	0.006912	0.00534
6	157867030	C	T	rs9364501	-0.12713	6.96E-06	0.4899	0.45094
7	53493705	G	A	rs12718791	-0.17468	3.32E-06	0.7783	0.84959
7	54647894	A	C	rs622568	0.16634	2.77E-07	0.1477	0.07366
7	107607902	C	T	rs2237698	0.16851	2.69E-06	0.09467	0.1192
8	9875204	T	C	rs1396186	0.16268	2.64E-06	0.2264	0.20498
8	10010765	G	C	NA	0.15341	7.41E-06	0.1962	0.18969
8	15343283	T	C	rs114717629	1.1699	9.23E-06	0.00655	0.00713
8	59903271	T	C	rs7823862	-0.20454	1.65E-06	0.06634	0.08014
8	110059637	A	C	rs189378134	1.0541	7.28E-07	0.007647	0.0043
8	110339840	T	A	rs144837205	0.96534	3.58E-06	0.007712	0.00424
9	15397969	A	C	rs2798716	-0.18197	6.51E-06	0.9302	0.87977
9	26974745	C	T	rs150788916	1.4433	3.49E-06	0.004252	0.00346
10	12667474	C	G	rs4310517	-0.1396	6.65E-06	0.7521	0.6526
10	20642449	T	C	NA	1.5167	6.14E-06	0.004527	0.00035
10	44340072	T	A	rs118052809	0.45242	1.31E-06	0.02222	0.01291
10	70172332	G	A	NA	0.35143	5.77E-06	0.02673	0.02881
10	121010105	A	C	rs112969140	0.20563	8.00E-06	0.08061	0.05773
11	1005506	A	G	rs147685259	1.2734	4.82E-06	0.006075	0.00526
11	113106528	G	T	NA	-0.27335	2.90E-06	0.05598	0.04889
12	31392117	C	T	rs75594480	0.90255	4.16E-06	0.01692	0.01057
12	103014757	C	A	NA	-0.18231	5.17E-07	0.886	0.86556
12	113362997	T	G	NA	0.14763	5.74E-09	0.6768	0.61171
12	129582079	T	C	rs116993182	0.33965	1.80E-06	0.01796	0.02046
13	73889735	T	C	rs2325521	0.28856	9.99E-06	0.03812	0.01865
14	38848003	A	G	rs1754680	-0.11565	1.90E-06	0.3974	0.39369
15	26780764	T	G	NA	0.49562	5.17E-06	0.04097	0.01152
15	55197554	G	T	NA	1.1663	9.95E-06	0.009457	0.00387
15	95579943	A	G	rs145572293	0.61208	2.99E-06	0.01468	0.01191
17	2846004	G	A	rs55818593	0.18055	1.50E-06	0.3504	0.33101
17	61954669	G	A	rs145032579	0.65208	6.12E-06	0.009317	0.00884
18	25179662	A	G	rs146116110	0.69167	3.65E-06	0.01124	0.00729
19	4723670	C	A	NA	0.18122	2.31E-12	0.315	0.27724
19	10423815	G	A	rs8101195	-0.13932	7.99E-06	0.8307	0.80739
19	10427721	T	A	NA	0.32939	4.50E-09	0.0506	0.03906
19	10596988	C	A	rs45524632	0.47598	4.62E-09	0.02362	0.01407
21	25507072	G	C	rs190545393	1.4221	4.45E-06	0.004305	0.00712
21	34610487	T	C	rs1131964	0.13008	5.50E-08	0.5761	0.51179
21	34615210	T	C	rs13050728	-0.17812	8.83E-13	0.6515	0.69188
21	34620801	A	G	rs2073362	0.2271	3.81E-08	0.08026	0.07966
22	19568533	C	T	rs9604980	0.18951	2.19E-07	0.1053	0.07951

Supplementary Table S7. PRS score values for the "very severe respiratory confirmed covid" and "hospitalised covid" phenotypes in the patient and individuals from the Portuguese cohort.

ID	"very severe respiratory confirmed covid"	"hospitalised covid"
Patient	-4.87655	-0.03313
Control_1	-4.90E+00	-1.97551
Control_2	-5.16E+00	-1.89236
Control_3	-7.15E+00	-0.54649
Control_4	-4.89E+00	-1.71186
Control_5	-6.21E+00	-0.68627
Control_6	-3.59E+00	-1.72808
Control_7	2.68E-01	1.37396
Control_8	-5.00E+00	-0.4512
Control_9	-3.28E+00	-0.24699
Control_10	-5.32E+00	-1.14481
Control_11	-4.04E+00	-1.56374
Control_12	-2.56E+00	-0.64326
Control_13	-4.67E-01	0.62717
Control_14	-5.08E+00	-1.36083
Control_15	-4.77E+00	-0.51723
Control_16	-5.29E+00	-0.59627
Control_17	-3.30E+00	-0.64868
Control_18	-4.98E+00	0.18003
Control_19	-5.35E+00	-0.09047
Control_20	-5.00E+00	-1.34065
Control_21	-3.38E+00	-0.32906
Control_22	-2.80E+00	-1.0804
Control_23	-4.50E+00	-0.59643
Control_24	-1.03E+00	-0.39641
Control_25	-4.99E+00	1.67317
Control_26	-4.36E+00	-0.57461
Control_27	-4.04E+00	0.22938
Control_28	-4.70E+00	-0.18751
Control_29	-5.64E+00	0.14805
Control_30	-4.89E+00	0.60239
Control_31	-4.69E+00	-1.2565
Control_32	-2.93E+00	1.90648
Control_33	-4.09E+00	0.69502
Control_34	-6.03E+00	-2.02994
Control_35	-9.81E-01	-1.1441
Control_36	-3.89E+00	-0.97245
Control_37	-4.96E+00	-0.34381
Control_38	-5.23E+00	-0.97005
Control_39	-5.39E+00	0.94992
Control_40	-4.90E+00	-1.05645
Control_41	-3.18E+00	0.21109
Control_42	-5.11E-01	0.85563
Control_43	-4.98E+00	-1.45702
Control_44	-4.27E+00	0.3355
Control_45	-6.39E+00	-1.62096
Control_46	-3.61E+00	-1.34278
Control_47	-7.10E+00	-0.84061
Control_48	-4.59E+00	-0.6492
Control_49	-4.75E+00	-2.19425
Control_50	-2.00E+00	0.68209
Control_51	-2.90E+00	0.75568
Control_52	-4.35E+00	-0.85561
Control_53	-4.19E+00	0.33753
Control_54	-3.04E+00	-0.08448
Control_55	-5.70E+00	1.603
Control_56	-6.32E+00	-1.5768
Control_57	-6.29E+00	-0.7849
Control_58	-5.36E+00	0.25457
Control_59	-5.56E+00	-1.21327
Control_60	-3.79E+00	-0.07656
Control_61	-5.41E+00	-0.10805
Control_62	-4.54E+00	-0.31598

ID	“very severe respiratory confirmed covid”	“hospitalised covid”
Control_63	-3.18E+00	1.7555
Control_64	-4.35E+00	-0.67707
Control_65	-3.89E+00	0.66665
Control_66	-4.08E+00	-0.62997
Control_67	-3.23E+00	-0.17569
Control_68	-4.96E+00	-0.05921
Control_69	-4.50E+00	0.30167
Control_70	-4.09E+00	-0.61154
Control_71	-5.43E+00	-1.2121
Control_72	-1.56E+00	3.75514
Control_73	-4.86E+00	-1.09983
Control_74	-4.61E+00	0.20464
Control_75	-4.76E+00	-1.63796
Control_76	-3.79E+00	0.8922
Control_77	-2.17E+00	3.44269
Control_78	-4.49E+00	-0.05917
Control_79	-4.28E+00	-0.52001
Control_80	-3.55E+00	-1.62611
Control_81	-4.43E+00	-1.15316
Control_82	-5.01E+00	0.56405
Control_83	-3.23E+00	-1.33503
Control_84	-1.77E+00	2.4039
Control_85	-5.38E+00	-0.09866
Control_86	-2.50E+00	0.87392
Control_87	-2.11E+00	-0.56459
Control_88	-1.73E+00	0.06622
Control_89	-2.95E+00	0.2116
Control_90	-6.24E+00	-1.60651
Control_91	-2.30E+00	-1.53324
Control_92	-6.99933	-1.61907
Control_93	-2.45405	1.48303
Control_94	-4.34987	1.67316
Control_95	-4.72626	0.38721
Control_96	-4.80856	-0.0857
Control_97	-3.04659	0.82665
Control_98	-2.38563	0.20145
Control_99	-2.43129	-1.40496
Control_100	-5.86669	0.14784
Control_101	-1.35701	0.68653
Control_102	-1.23382	-1.78844
Control_103	-4.10605	-0.09449
Control_104	-0.39854	1.65477
Control_105	-3.63653	0.12011
Control_106	-4.61694	-0.25435
Control_107	-4.68681	-0.63197
Control_108	-3.23328	-0.08327
Control_109	-2.97989	0.92944
Control_110	-4.43776	-0.95831
Control_111	-2.198	1.2198
Control_112	2.42573	3.37488
Control_113	-4.404	-0.21011
Control_114	-2.81878	0.12863
Control_115	-6.21434	0.26661
Control_116	-3.78205	-1.04036
Control_117	-4.66823	-0.25966
Control_118	-4.38954	-0.68852
Control_119	0.30253	0.48275
Control_120	-6.90608	-1.78801
Control_121	-4.67019	-1.55847
Control_122	-5.11919	1.00139
Control_123	-5.31657	-0.20587
Control_124	-2.34435	-0.87753
Control_125	-3.97191	0.56356
Control_126	-5.72312	-1.35796
Control_127	-4.12922	-0.98348
Control_128	-1.64077	-0.44908
Control_129	-5.41002	-1.11184
Control_130	-0.49236	-1.32733
Control_131	-4.5782	-0.15519

ID	“very severe respiratory confirmed covid”	“hospitalised covid”
Control_132	-5.70871	0.34212
Control_133	-4.67043	-0.68724
Control_134	-3.25457	-0.45825
Control_135	-6.27244	-2.13391
Control_136	-3.55693	-0.02005
Control_137	-2.1284	-1.45675
Control_138	-3.72811	-0.22451
Control_139	-0.47755	-0.6321
Control_140	-4.73245	0.13417
Control_141	-5.72684	-0.78091
Control_142	-3.63986	-0.04767
Control_143	-3.32291	-1.64979
Control_144	-3.42449	-0.85886
Control_145	-4.63228	0.18671
Control_146	-4.94364	-0.26755
Control_147	-6.41413	-1.58766
Control_148	-3.53471	-0.61872
Control_149	-5.57549	-1.11323
Control_150	-4.74915	-0.87604
Control_151	-4.09005	0.18534
Control_152	-5.56207	-1.43691
Control_153	-4.68608	-1.04662
Control_154	-3.91342	0.93384
Control_155	-7.52479	-2.15656
Control_156	-4.82207	-1.29347
Control_157	-3.18609	-1.0193
Control_158	-4.86976	-2.02661
Control_159	-2.87761	-0.26275
Control_160	-4.93477	-0.12399
Control_161	-3.21235	1.42861
Control_162	-2.77394	0.4151
Control_163	-1.9014	0.94125
Control_164	-1.97826	0.78863
Control_165	-4.09434	-0.14756
Control_166	-4.74327	-1.01587
Control_167	-4.39397	-0.76348
Control_168	-4.45865	-0.8555
Control_169	-3.41697	1.12599
Control_170	-2.99592	1.23925
Control_171	-4.68866	0.27114
Control_172	-5.49796	-0.28772
Control_173	-4.87907	1.22099
Control_174	-4.09014	-1.58057
Control_175	-5.75143	-0.33986
Control_176	-3.40585	0.07098
Control_177	-5.17761	-0.7763
Control_178	-4.0947	-0.68351
Control_179	-5.09591	0.17281
Control_180	-4.41746	1.55421
Control_181	-6.23705	-0.33483
Control_182	-5.67844	-0.31867
Control_183	-4.6586	-0.42976
Control_184	-5.43925	-0.65352
Control_185	-3.61809	0.00716
Control_186	-5.14192	0.20938
Control_187	-3.33742	-0.53662
Control_188	-4.92869	0.53324
Control_189	-3.41719	0.165
Control_190	-3.15799	-0.58069
Control_191	-4.90514	-0.88877
Control_192	-4.80698	-1.24858
Control_193	-4.67025	1.04502
Control_194	-1.87099	0.61465
Control_195	-4.43074	0.39739
Control_196	-3.47731	0.58579
Control_197	-4.36153	0.31097
Control_198	-5.80403	-0.2157