

Supplementary Information

COVID-GWAB: a web-based prediction of COVID-19 host genes via network boosting of genome-wide association data

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Supplementary Table S1. Single-cell RNA-seq datasets used for COVID-GWAB validation

Supplementary Table S2. Top GWAB predictions with Release 6 of COVID-19 HGI GWAS data (B2).

Supplementary Table S1. Single-cell RNA-seq datasets used for COVID-GWAB validation

Dataset	Tissue	Source	COVID	Control
GSE145926_BALF_10X	BALF	M. Liao <i>et al.</i> , <i>Nat Med</i> (2020)	9	4
EGAS4571_PBMC_10X	PBMC	J. Schulte-Schrepping <i>et al.</i> , <i>Cell</i> (2020)	27	22
EGAS4571_PBMC_Rhap	PBMC		50	13
EGAS4571_WB_Rhap	Whole Blood		17	16
GSE158055_PBMC_10X	PBMC	X. Ren <i>et al.</i> , <i>Cell</i> (2021)	152	20
EGAS5465_PBMC_10X	PBMC	E. Stephenson <i>et al.</i> , <i>Nat Med</i> (2021)	90	24
GSE171524_Lung_10X	Lung	J. Melms <i>et al.</i> , <i>Nature</i> (2021)	19	7

Supplementary Table S2. Top GWAB predictions with Release 6 of COVID-19 HGI GWAS data (B2).

Gene	GWAB Score	GWAS Score	GWAS significance	GWAB rank	GWAS rank	Library Freq.	Rank Diff	Between centrality	Degree centrality	Category
<i>CCR9</i>	92.73512	88.21526	sig	1	1	8	0	102	19	Chemokine receptors
<i>CXCR6</i>	52.47783	48.105	sig	5	5	5	0	11	18	Chemokine receptors
<i>CCR1</i>	40.08533	34.90946	sig	7	7	54	0	340	19	Chemokine receptors
<i>CCR3</i>	38.40936	34.90946	sig	8	7	16	-1	11	17	Chemokine receptors
<i>CCR5</i>	28.17372	24.3163	sig	9	9	51	0	11	17	Chemokine receptors
<i>CCR2</i>	28.13037	24.3163	sig	10	9	25	-1	98	18	Chemokine receptors
<i>HNRNPL</i>	16.66227	3.405287	insig	21	3166	8	3145	1566	22	RNA-protein interactome
<i>APP</i>	16.14434	3.161768	insig	24	4621	26	4597	2944	24	Neurodegenerative Disease
<i>LRRK2</i>	16.07606	3.527185	insig	25	2629	20	2604	1425	20	Neurodegenerative Disease
<i>NTRK1</i>	14.07656	2.588768	insig	29	10495	14	10466	837	16	Kinase
<i>STAT1</i>	13.89319	1.622202	insig	32	21435	136	21403	654	16	interferon
<i>ESR2</i>	13.77369	2.784177	insig	33	8117	6	8084	1377	20	interaction with ACE2
<i>TRIM25</i>	13.67487	2.091912	insig	34	17506	80	17472	2094	23	innate immunity
<i>IRF9</i>	13.45149	3.561173	insig	36	2455	91	2419	213	12	Interferon axis
<i>STAT2</i>	12.87742	2.347502	insig	38	14012	89	13974	702	16	RNA-protein interactome, interferon
<i>MOV10</i>	12.20608	2.137261	insig	41	16917	44	16876	1642	19	RNA-protein interactome
<i>CXCR4</i>	11.9392	3.595765	insig	42	2337	35	2295	787	22	non chr3 chemokine Receptor
<i>CCL5</i>	11.85323	3.096812	insig	43	5142	47	5099	146	19	non chr3 chemokine
<i>EGLN3</i>	11.76585	2.770011	insig	45	8284	12	8239	979	17	Hypoxia inducible factor
<i>FYN</i>	11.75447	3.269282	insig	46	3902	17	3856	486	13	Kinase
<i>SRC</i>	11.31846	2.704631	insig	56	8965	52	8909	829	17	Kinase
<i>ABL1</i>	10.62772	2.861098	insig	91	7261	19	7170	304	12	Kinase
<i>CXCL9</i>	10.47801	3.254168	insig	96	3981	39	3885	300	21	non chr3 chemokine
<i>EGFR</i>	9.761761	2.063879	insig	134	17798	40	17664	NA	NA	RNA-protein interactome
<i>ANXA1</i>	8.416143	2.465492	insig	302	12269	39	11967	NA	NA	RNA-protein interactome