**Table S1.** A set of SNPs selected for the association analysis of COVID-19-related phenotypes in the present study.

| SNP | Gene Name | Chr:position (GRCh37) | EA/NEA | Proxy GWAS SNP | HWE $p$-value | EA/NEA GWAS | Phenotype | Reference |
|---|---|---|---|---|---|---|---|---|
| rs1405655 | NR1H2 | 19:50882619 | C/T | - | 0.80 | C/T | Hospitalized, AD | [1,2] |
| rs2109069 | DPP9 | 19:4719443 | A/G | - | 0.46 | A/G | dementia | [1,3] |
| rs35705950 | MUC5B | 11:1241221 | T/G | - | 0.22 | T/G | Hospitalized, AD | [1,2] |
| rs505922 | ABO | 9:136149229 | C/T | - | 0.80 | T/C | dementia | [1] |
| rs10735079 | OAS3 | 12:113380008 | G/A | - | 1 | G/A | dementia | [3] |
| rs2304256 | TYK2 | 19:10475652 | A/C | rs11085727 | 1 | T/C | dementia | [3] |
| rs114067890 | SMRR1 | 1:24999518 | G/A | rs111972040 | 1 | G/A | dementia | [3] |
| rs12329760 | TMPRSS2 | 21:42852497 | T/C | - | 0.31 | T/C | dementia | [3] |
| rs112640945 | CCHCR1 | 6:31117673 | T/C | rs143334143 | 0.11 | A/G | dementia | [3] |
| rs4290734 | TMPRSS2 | 21:42853083 | G/A | rs17854725 | 0.10 | A/G | dementia | [3] |
| rs3131294 | NOTCH4 | 6:32180146 | A/G | - | 0.27 | A/G | dementia | [3] |
| rs769449 | APOE | 19:45410002 | A/G | rs429358 | 0.53 | C/T | dementia | [3] |
| rs61735789 | TMPRSS2 | 21:42852435 | A/G | - | 0.01 | A/G | dementia | [3] |
| rs117696554 | TMPRSS2 | 21:42860532 | A/G | rs61735794 | <0.01 | T/C | dementia | [3] |
| rs1894401 | FURIN | 15:91429042 | G/A | rs6226 | 1 | G/C | dementia | [3] |
| rs4766664 | OAS1 | 12:113362997 | T/G | rs6489867 | 0.75 | C/T | dementia | [3] |
| rs657152 | ABO | 9:136139265 | A/C | - | 0.04 | A/C | dementia | [3] |
| rs10911734 | IVNS1ABP, SWT1 | 1:185422424 | T/C | rs6668622 | 0.49 | C/T | dementia | [3] |
| rs17078348 | LZTFL1 | 3:45847241 | G/A | rs71325088 | 0.73 | C/T | dementia | [3] |
| rs7412 | APOE | 19:45412079 | T/C | - | 0.08 | T/C | dementia | [3] |
| rs2838046 | TMPRSS2 | 21:42898366 | G/A | rs75603675 | <0.01 | A/C | dementia | [3] |
| rs9380142 | HLA-G | 6:29798794 | G/A | - | 0.19 | G/A | dementia | [3] |
| rs2531743 | SLC6A20 | 3:45838300 | A/G | - | 0.06 | A/G | Hospitalized, AD | [2] |
| rs45524632 | KEAP1 | 19:10596988 | A/C | - | 0.39 | A/C | critical Illness, AD | [2] |

| rs635634 | *ABO* | 9:136155000 | T/C | - | <0.01 | T/C | critical Illness, AD | [2] |

EA/NEA – effect (minor) allele/non-effect (major) allele; AD – Alzheimer's disease.

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