Supplementary information to:

Review article:

THE ASSOCIATION OF *ACE1*, *ACE2*, *TMPRSS2*, *IFITM3* AND *VDR* POLYMORPHISMS WITH COVID-19 SEVERITY: A SYSTEMATIC REVIEW AND META-ANALYSIS

Zorana Dobrijević¹⁰, Dragana Robajac¹⁰, Nikola Gligorijević¹⁰, Miloš Šunderić¹⁰, Ana Penezić¹⁰, Goran Miljuš¹⁰, Olgica Nedić¹⁰

University of Belgrade – Institute for the Application of Nuclear Energy (INEP), Belgrade, Serbia

* Corresponding author: Zorana Dobrijević, Department for Metabolism, Institute for the Application of Nuclear Energy (INEP), University of Belgrade, Belgrade, Serbia Tel: +381 11 2618 666, E-mail: <u>zorana.dobrijevic@inep.co.rs</u>

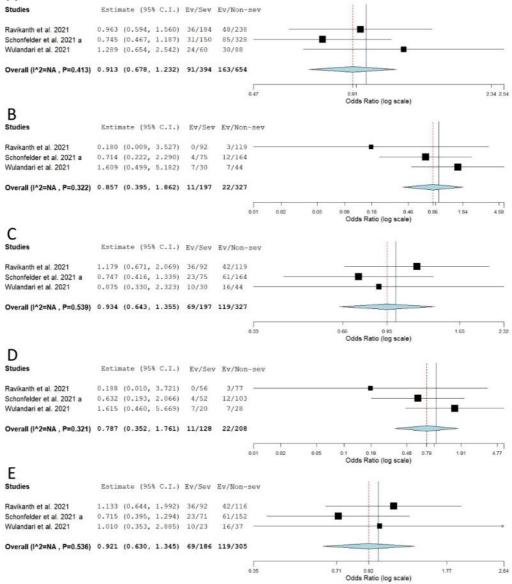
https://dx.doi.org/10.17179/excli2022-4976

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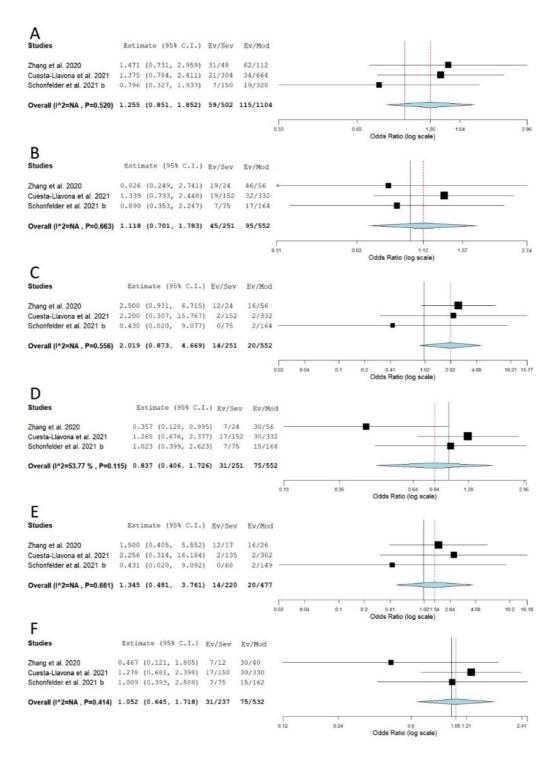
| Studies | Estima | ate (95% | C.I.) | Ev/Sev | Ev/Non-sev | | | | | | | | |
|--|--|---|--|--|---|---|-----------|-----------------|-----------------------|-------------------|-----------|-----------|----------------|
| Aladag et al. 2021 | 1.484 (| (0.625, | 3,5191 | 10/24 | 65/200 | | | | | _ | | | |
| | | 1 | | | 106/238 | _ | | | | | | | |
| Gunal et al. 2021 | | (0.408, | | 20/60 | 22/60 | | | | - | | | | |
| Mohlendick et al. 2021 | 0.994 (| (0.698, | 1.415) | 78/180 | 180/414 | | | | | | | | |
| Saad et al. 2021 | 0.625 (| (0.399, | 0.978) | 36/122 | 130/324 | | - | - | - | | | | |
| Overall (I^2=NA , P=0.373) | 0.856 (| (0.683, | 1.072) | 171/456 | 503/1236 | | | - | - | | | | |
| В | | | | | | 0.4 | | 0.8 | Odds Ratio | (log scale) | 2 | | 3.6 |
| Studies | Estin | mate (9 | 5% C.I.) | Ev/Sev | Ev/Non-se | ₽V | | | | | | | |
| Aladag et al. 2021 | 3.772 | (0.786, | 18.111) | 10/12 | 57/100 | | | - | | - | <u>.</u> | | |
| Karakas Celik et al. 2021 | 0.600 | (0.274, | 1.315) | 21/35 | 85/119 | - | | - | | | | | |
| Gunal et al. 2021 | | | 1.624) | 11/30 | 15/30 | - | | | | | | | |
| Mohlendick et al. 2021 | | | 1,780) | 59/90 | 133/207 | | | _ | | | | | |
| Saad et al. 2021 | 0.608 | (0.335, | 1.102) | 31/61 | 102/162 | | | - | _ | | | | |
| Overall (I^2=NA , P=0.158) | 0.834 | (0.606, | 1.146) | 132/220 | 8 392/618 | | | \langle | ٨ | | | | |
| С | | | | | 0 | 1.21 | 0.41 | 0.83 1 | | | 13 | 10.32 | 18.1 |
| Studies | Estim | ate (95 | % C.I.) | Ev/Sev | Ev/Non-sev | 7 | | | Odds Ratio (| log scale) | | | |
| Aladam et al. 2024 | 0.425 | 10.004 | 0.0101 | 0/10 | 0/1100 | | | | _ | | | | |
| Aladag et al. 2021 Karakas Celik et al. 2021 | | | 8.012) 2.618) | 0/12 | 8/100 4 | | | | | | | | |
| Karakas Celik et al. 2021 Gunal et al. 2021 | | | 4.453) | 6/35 9/30 | 21/119 7/30 | | | | | | | | |
| Gunal et al. 2021 Mohlendick et al. 2021 | | | 4.453) | | 47/207 | | | | | | | | |
| Saad et al. 2021 | | | 1.163) | 5/61 | 28/162 | | | - | - | - | | | |
| Overall (I^2=NA , P=0.573) | 0.803 | (0.530, | 1.218) | 39/228 | 111/618 | | | | V | 4 | | | |
| D | | | | | Г | | | - (| 1 | i | | | - 1 |
| D | | | | | 0.0 | 4 0 | 0.08 | 0.2 | 0.39 Odds Ratio (I | 0.79 og scale) | 1.97 | 3.93 | 7.87 |
| Studies | E | stimate | (95% C. | I.) Ev/Se | ev Ev/Non- | sev | | | | | | | |
| Aladag et al. 2021 | 5.2 | 04 (1.0 | 85, 24.9 | 64) 10/1 | 2 49/100 | 0 | | | | | - | | |
| Karakas Celik et al. 2021 | | | | 79) 15/3 | | | | _ | - | <u> </u> | | | |
| | | 96 (0.0 | 38 1 0 | | | | | | | | | | |
| Gunal et al. 2021 | | | 201 710 | 20) 2/3 | 0 8/30 | - | | | | | | | |
| Mohlendick et al. 2021 | 0.1 | 26 (0.6 | 83, 1.8 | 54) 40/9 | 86/207 | | | • | _ | | | | |
| Mohlendick et al. 2021 | 0.1 | 26 (0.6 | 83, 1.8 | | 86/207 | , | | • | _ | - | | | |
| Mohlendick et al. 2021 Saad et al. 2021 | 0.1 1.1 0.8 | 26 (0.6 83 (0.4 | 83, 1.8 88, 1.6 | 54) 40/9 00) 26/6 | 0 86/207 51 74/162 | 2 | | | - | | | | |
| Mohlendick et al. 2021 Saad et al. 2021 Overall (I^2=58.05 % , P=0.0 | 0.1 1.1 0.8 | 26 (0.6 83 (0.4 | 83, 1.8 88, 1.6 | 54) 40/9 00) 26/6 | 0 86/207 51 74/162 | 2 | 1 | 0.19 | 38 0.76 | 1.89 | 1 3.78 | 1 7.57 | 18.92 |
| | 0.1 1.1 0.8 049) 0.9 | 26 (0.6) 83 (0.4) 17 (0.5) | 83, 1.8 88, 1.6 15, 1.6 | 54) 40/9 00) 26/6 34) 93/2 | 0 86/207 51 74/162 | 2 3 0.04 | 0.06 | 0.19 | 038 076 Odds Ratio | | 1 3.78 | 7.57 | 18.92 |
| Mohlendick et al. 2021 Saad et al. 2021 Overall (I^2=58.05 % , P=0.0 E Studies | 0.1 1.1 0.8 049) 0.9 Estim | 26 (0.6) 83 (0.4) 17 (0.5) | 83, 1.8 88, 1.6 15, 1.6 % C.I.) | 54) 40/9 00) 26/6 34) 93/2 | 0 86/207 51 74/162 28 281/618 | 2 3 0.04 | 0.06 | 0.19 c | | | 1 3.78 | 1 7.57 | 18.92 |
| Mohlendick et al. 2021 Saad et al. 2021 Overall (I^2=58.05 % , P=0.0 E Studies Aladag et al. 2021 | 0.1 1.1 0.8 049) 0.9 Estim | 26 (0.6 83 (0.4) 17 (0.5) nate (95 (0.045, | 83, 1.8 88, 1.6 15, 1.6 % C.I.) 23.274) | 54) 40/9 00) 26/6 34) 93/2 Ev/Sev | 0 86/207 51 74/162 28 281/618 Ev/Non-sev | 2 3 0.04 | 0.08 | 1 0.19 c | | | 1 3.78 | 7.57 | 16.92 |
| Mohlendick et al. 2021 Saad et al. 2021 Overall (I^2=58.05 % , P=0.0 E Studies Aladag et al. 2021 | 0.1 1.1: 0.8 0.9 0.9 Estim 1.024 (0.694 (| 26 (0.6 83 (0.4) 17 (0.5) nate (95 (0.045, | 83, 1.8 88, 1.6 15, 1.6 % C.I.) 23.274) 2.085) | 54) 40/9 00) 26/6 34) 93/2 Ev/Sev 0/2 | 0 86/207 51 74/162 28 281/618 Ev/Non-sev 8/51 | 2 3 0.04 | 0.06 | 0.19 | | | 1 3.78 | 1 7.57 | 16.92 |
| Mohlendick et al. 2021 Saad et al. 2021 Overall (I^2=58.05 % , P=0.0 E Studies Aladag et al. 2021 Karakas Celik et al. 2021 Mohlendick et al. 2021 | 0.1 1.1: 0.8: 049) 0.9: Estim 1.024 (0.694 (1.015 (0.965 (| 26 (0.6) 83 (0.4) 17 (0.5) 17 (0.5) 10 (0.5) (0.045, (0.231, (0.307, (0.490, | 83, 1.8 88, 1.6 15, 1.6 % C.I.) 23.274) 2.085) 3.361) 1.901) | 54) 40/9 00) 26/6 34) 93/2 Ev/Sev 0/2 6/20 9/28 19/50 | 0 86/207 1 74/162 28 281/618 Ev/Non-sev 8/51 21/55 7/22 47/121 | 2 3 0.04 | 0.08 | 1 0.19 (| | | 3.78 | 7 57 | 18 92 |
| Mohlendick et al. 2021 Saad et al. 2021 Overall (I^2=58.05 % , P=0.0 E Studies Aladag et al. 2021 Karakas Celik et al. 2021 Mohlendick et al. 2021 | 0.1 1.1: 0.8: 049) 0.9: Estim 1.024 (0.694 (1.015 (0.965 (| 26 (0.6 83 (0.4) 17 (0.5) nate (95 (0.045, (0.231, (0.307, | 83, 1.8 88, 1.6 15, 1.6 % C.I.) 23.274) 2.085) 3.361) 1.901) | 54) 40/9 00) 26/6 34) 93/2 Ev/Sev 0/2 6/20 9/28 | 0 86/207 1 74/162 28 281/618 Ev/Non-sev 8/51 21/55 7/22 | 2 3 0.04 | 1 0.08 | 0.19 | | | 3.78 | 1 7.57 | 16.92 |
| Mohlendick et al. 2021 Saad et al. 2021 Overall (I^2=58.05 % , P=0.0 E Studies Aladag et al. 2021 Karakas Celik et al. 2021 Gunal et al. 2021 Mohlendick et al. 2021 Saad et al. 2021 | 0.1 1.1 0.8 649) 0.9 Estim 1.024 (0.694 (0.965 (0.357 (| 26 (0.6) 83 (0.4) 17 (0.5) mate (95 (0.045, (0.231, (0.307, (0.490, (0.125, | <pre>83, 1.8 88, 1.6 15, 1.6 % C.I.) 23.274) 2.085) 3.361) 1.901) 1.018)</pre> | 54) 40/9 00) 26/6 34) 93/2 Ev/Sev 0/2 6/20 9/28 19/50 5/35 | 0 86/207 11 74/162 28 281/618 Ev/Non-sev 8/51 21/55 7/22 47/121 28/88 | 2 3 0.04 | 0.06 | 0.19 | | | 3.78 | 7.57 | 18.92 |
| Mohlendick et al. 2021 Saad et al. 2021 Overall (I^2=58.05 % , P=0.0 E Studies Aladag et al. 2021 Karakas Celik et al. 2021 Gunal et al. 2021 Mohlendick et al. 2021 Saad et al. 2021 | 0.1 1.1 0.8 649) 0.9 Estim 1.024 (0.694 (0.965 (0.357 (| 26 (0.6) 83 (0.4) 17 (0.5) mate (95 (0.045, (0.231, (0.307, (0.490, (0.125, | <pre>83, 1.8 88, 1.6 15, 1.6 % C.I.) 23.274) 2.085) 3.361) 1.901) 1.018)</pre> | 54) 40/9 00) 26/6 34) 93/2 Ev/Sev 0/2 6/20 9/28 19/50 5/35 | 0 86/207 11 74/162 28 281/618 Ev/Non-sev 8/51 21/55 7/22 47/121 28/88 | 2 3 0.04 | 0.06 | 1 0.19 0 | Odds Ratio | (log scale) | 1 3.78 | | , |
| Mohlendick et al. 2021 Saad et al. 2021 Overall (I^2=58.05 % , P=0.0 E Studies Aladag et al. 2021 Karakas Celik et al. 2021 Gunal et al. 2021 Mohlendick et al. 2021 Saad et al. 2021 Overall (I^2=NA , P=0.592) F | 0.1 1.1: 0.8: 049) 0.9: Estim 1.024 (0.694 (1.015 (0.965 (0.357 (0.723 (| 26 (0.6) 83 (0.4) 17 (0.5) mate (95 (0.045, (0.231, (0.307, (0.307, (0.490, (0.125, (0.458, | <pre>83, 1.8 888, 1.6 15, 1.6 15, 1.6 14 C.I.) 23.274) 2.085) 3.361) 1.901) 1.018) 1.141)</pre> | 54) 40/9 00) 26/6 34) 93/2 Ev/Sev 0/2 6/20 9/28 19/50 5/35 39/135 | 0 86/207 11 74/162 28 281/618 Ev/Non-sev 8/51 21/55 7/22 47/121 28/88 | 7 2 3 0.04 7 | | - | Odds Ratio | (log scale) | | | , |
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| Mohlendick et al. 2021 Saad et al. 2021 Overall (I^2=58.05 % , P=0.0 E Studies Aladag et al. 2021 Karakas Celik et al. 2021 Gunal et al. 2021 Overall (I^2=NA , P=0.592) F Studies Aladag et al. 2021 Karakas Celik et al. 2021 Mohlendick et al. 2021 Mohlendick et al. 2021 | 0.11 1.11 0.89 Estim 1.024 (0.694 (1.015 (0.965 (0.965 (0.357 (0.723 (Estim 1.015 (0.965 (0.923 (0.723 (0.711 (0.911 (| 26 (0.6) 83 (0.4) 17 (0.5) 17 (0.5) 17 (0.5) (0.045, (0.231, (0.307, (0.490, (0.125, (0.458, stimate 88 (0.9) 69 (0.2) 97 (0.0) 10 (0.6) 03 (0.3) | <pre>83, 1.8 83, 1.8 888, 1.6 15, 1.6 15, 1.6 15, 1.6 15, 1.6 1,2085) 3.361) 1.901) 1.901) 1.141) (95% C. 11, 21.1 46, 1.3 36, 1.0 33, 1.9 76, 1.3</pre> | 54) 40/9 26/6 34) 93/2 Ev/Sev 0/2 6/20 9/28 19/50 5/35 39/135 I.) Ev/Si 42) 10/1 17) 15/2 71) 2/2 49) 40/7 14) 26/5 | 0 86/207 1 74/162 28 281/618 Ev/Non-sev 8/51 21/55 7/22 47/121 28/88 111/337 ev Ev/Non- 2 49/92 9 64/98 1 8/23 1 86/160 6 74/134 | , 2 3 004 , 005 | | 023 | Odds Ratio | (log scale) | | | 16.92 , 8.4 |

Supplementary Figure 1: Meta-analysis of the association between rs1799752 in *ACE1* and COVID-19 severity: comparison severe vs. non-severe. A) allelic model; B) dominant model; C) recessive model; D) overdominant model; E) II vs. DD; F) DI vs. DD. The results of the included studies presented as ORs, with 95 CI, and the overall effect with 95 % CI are shown in the forest plot. *P* values given are derived from heterogeneity tests.

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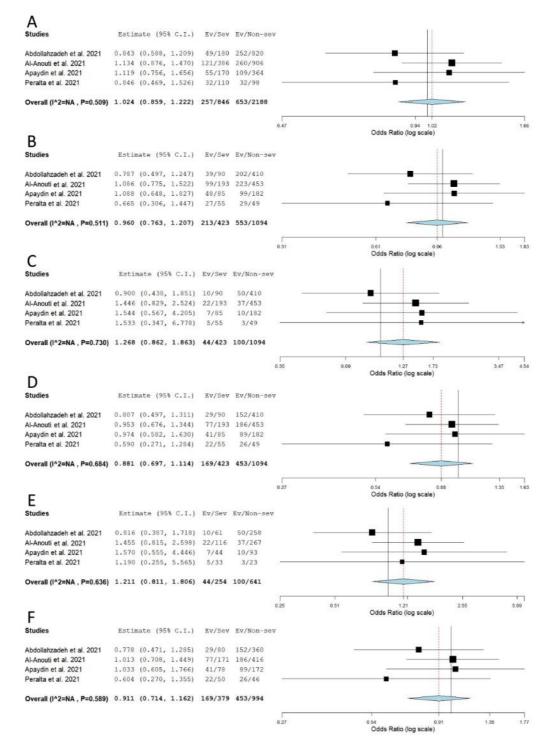
Supplementary Figure 2: Meta-analysis of the association between rs12329760 in *TMPRSS2* and COVID-19 severity, after the exclusion of asymptomatic SARS-CoV-2 infected participants: comparison severe vs. non-severe. **A**) allelic model; **B**) recessive model; **C**) overdominant model; **D**) AA vs. GG; **E**) GA vs. GG. The results of the included studies presented as ORs, with 95 % CI, and the overall effect with 95 % CI are shown in the forest plot. *P* values given are derived from heterogeneity tests.



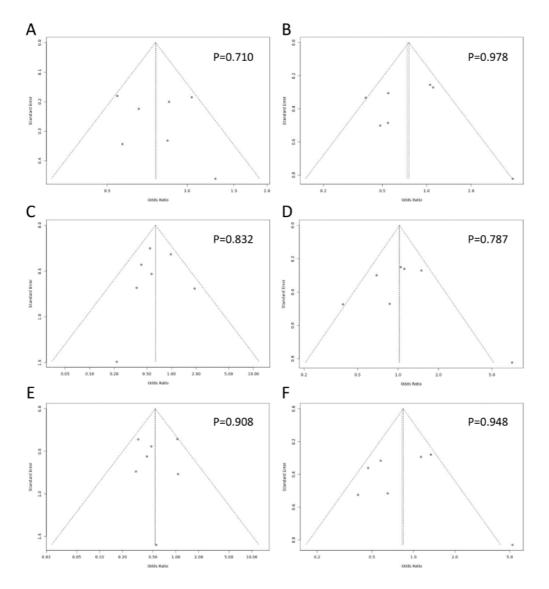
Supplementary Figure 3: Meta-analysis of the association between rs12252 in *IFITM3* and COVID-19 severity: comparison severe vs. moderate. A) allelic model; B) dominant model; C) recessive model; D) overdominant model; E) CC vs. TT; F) TC vs. TT. The results of the included studies presented as ORs, with 95 % CI, and the overall effect with 95 % CI are shown in the forest plot. *P* values given are derived from heterogeneity tests.

A Estimate (95% C.I.) Ev/Sev Ev/Non-sev Abdollahzadeh et a 1.354 (0.976, 1.878) 78/180 296/820 1.067 (0.718, 1.586) 52/170 107/366 Apaydin et al. Kotur et al. 0,945 (0,424, 2,106) 12/34 41/112 n (1^2=NA , P=0.548) 1.199 (0.943, 1.525) 142/384 444/1298 Subgroup C 0.751 (0.512, 1.101) 39/386 118/906 Subgroup Mixed (I^2=NA , P=NA) 0.751 (0.512, 1.101) 39/386 118/906 Overall (I^2=NA , P=0.149) 1.044 (0.853, 1.278) 181/770 562/2204 0.42 2.11 В Odds Ratio (log scale Studies Estimate (95% C.I.) Ev/Sev Ev/Non-sev 1.431 (0.885, 2.313) 60/90 239/410 Abdollahzadeh et al Apaydin et al. 1.167 (0.697, 1.954) 0.996 (0.330, 3.000) 92/183 33/56 46/85 . 10/17 Kotur et al Subgroup Caucasian (I^2=NA , P=0.768) 1.272 (0.911, 1.776) 116/192 364/649 0.803 (0.529, 1.217) 38/193 106/453 Al-Anouti Subgroup Mixed (I^2=NA , P=NA) 0.803 (0.529, 1.217) 38/193 106/453 Overall (I^2=NA . P=0.339) 1.060 (0.820, 1.371) 154/385 470/1102 0.33 0.66 1.65 C Odds Ratio (log sca Estimate (95% C.I.) Ev/Sev Ev/Non-set Abdollabzadeh et al 1.548 (0.860, 2.786) 18/90 57/410 0.851 (0.318, 2.275) Apaydin et al. 6/85 15/183 Kotur et al. 0.800 (0.153, 4.184) 2/17 8/56 casian (I^2=NA , P=0.502) Subgroup Ca 1.246 (0.770, 2.015) 26/192 80/649 AL-Anout 0.191 (0.025, 1.482) 1/193 12/453 Subgroup Mixed (I^2=NA , P=NA) 0.191 (0.025, 1.482) 1/193 12/453 Overall (I^2=NA , P=0.198) 1.035 (0.655, 1.637) 27/385 92/1102 4. 0.0 1.04 2.47 D Odds Ratio (log scale) Estimate (95% C.I.) Ev/Sev Ev/Non-sev Studies 1.096 (0.694, 1.732) 42/90 182/410 zadeh et al Apaydin et al. 1.224 (0.730, 2.053) 1.102 (0.371, 3.273) 40/85 77/183 Kotur et al 8/17 25/56 Subgroup Caucasian (I^2=NA , P=0.950) 1.146 (0.826, 1.589) 90/192 284/649 0.906 (0.593, 1.385) 37/193 Al-Anouti 94/453 Subgroup Mixed (I^2=NA , P=NA) 0.906 (0.593, 1.385) 37/193 94/453 Overall (I^2=NA , P=0.839) 1.049 (0.810, 1.358) 127/385 378/1102 0.5 2.23 E Odds Ratio (log scale) Studies Estimate (95% C.I.) Ev/Sev Ev/Non-set Abdoliahzadeh et al 1.800 (0.933, 3.471) 18/48 57/228 0.933 (0.337, 2.584) Apaydin et al. 6/45 15/106 Kotur et al. 0.821 (0.141, 4.800) 2/9 8/31 Subgroup Caucasian (I^2=NA , P=0.467) 1.388 (0.823, 2.339) 26/102 80/365 Al-Anout 0.187 (0.024, 1.447) 1/156 12/359 Subgroup Mixed (I^2=NA , P=NA) 0.187 (0.024, 1.447) 1/156 12/359 Overall (I^2=NA , P=0.155) 1.100 (0.675, 1.794) 27/258 92/724 4.8 F 0.04 2.4 Odds Ratio (log scale) Estimate (95% C.I.) Ev/Sev Ev/Non-sev Studie Abdollahzadeh et al 1,315 (0,788, 2,197) 42/72 182/353 1.212 (0.710, 2.070) Apaydin et al. 40/79 77/168 Kotur et al. 1.051 (0.329, 3.360) 8/15 25/48 roup Caucasian (I^2=NA , P=0.935) 1.244 (0.874, 1.770) 90/166 284/569 Subg Al-Anouti 0.881 (0.576, 1.348) 37/192 94/441 Subgroup Mixed (I^2=NA , P=NA) 0.881 (0.576, 1.348) 37/192 94/441 Overall (I^2=NA , P=0.653) 1.080 (0.825, 1.413) 127/358 378/1010 0.4 0.79 1.06 Odds Ratio (log scale) 1.98 2.95

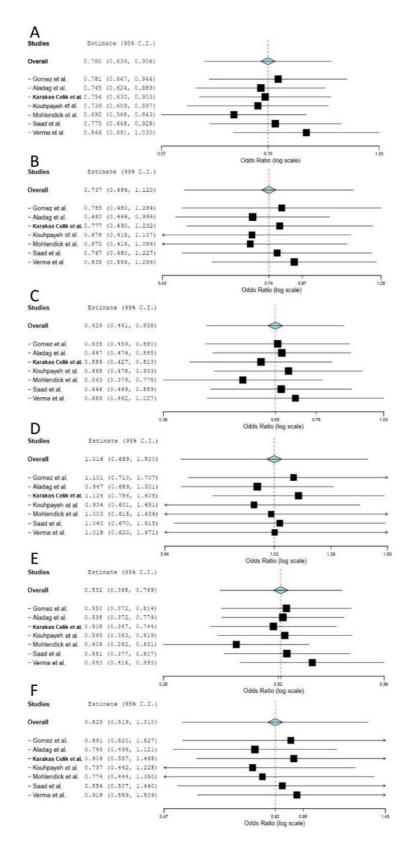
Supplementary Figure 4: Meta-analysis of the association between rs2228570 in *VDR* and COVID-19 severity: comparison severe vs. non-severe. **A**) allelic model; **B**) dominant model; **C**) recessive model; **D**) overdominant model; **E**) AA vs. GG; **F**) GA vs. GG. The results of the included studies presented as ORs, with 95 % CI, and the overall effect with 95 % CI are shown in the forest plot. *P* values given are derived from heterogeneity tests.



Supplementary Figure 5: Meta-analysis of the association between rs731236 in *VDR* and COVID-19 severity: comparison severe vs. non-severe. **A**) allelic model; **B**) dominant model; **C**) recessive model; **D**) overdominant model; **E**) GG vs. AA; **F**) AG vs. AA. The results of the included studies presented as ORs, with 95 % CI, and the overall effect with 95 % CI are shown in the forest plot. *P* values given are derived from heterogeneity tests.



Supplementary Figure 6: Funnel plots for meta-analyses of the association between rs1799752 in *ACE1* and COVID-19 severity: comparison severe vs. moderate. **A**) allelic model; **B**) dominant model; **C**) recessive model; **D**) overdominant model; **E**) II vs. DD; **F**) DI vs. DD. *P* values presented are derived from Egger's tests.



Supplementary Figure 7: Forest plots representing the results of sensitivity testing by leave-one-out meta-analysis of the association between rs1799752 in *ACE1* and COVID-19 severity: comparison severe vs. moderate. **A**) allelic model; **B**) dominant model; **C**) recessive model; **D**) overdominant model; **E**) II vs. DD; **F**) DI vs. DD. ORs with their 95 % CIs were used as risk estimates.

| Authors* | Year | Selection | | | | Comparability Outcome | | |) | Score |
|-----------------------|-------|-----------|--------|--------|--------|-----------------------|--------|--------|--------|-------|
| | | Item 1 | Item 2 | Item 3 | Item 4 | Item 5 | Item 6 | Item 7 | Item 8 | |
| Gómez et al. | 2020 | * | * | * | * | * | * | * | * | 8 |
| Zhang et al. | 2020 | * | * | * | * | * | * | * | * | 8 |
| Abdollahzadeh et al. | 2021 | * | * | * | | | * | * | * | 6 |
| Akin et al. | 2022 | * | * | * | * | * | * | * | * | 8 |
| Aladag et al. | 2021 | * | * | * | * | * | * | * | * | 8 |
| Al-Anouti et al. | 2021 | * | * | * | * | ** | * | * | * | 9 |
| Alghamdi et al. | 2021 | * | * | * | * | ** | * | * | * | 9 |
| Apaydin et al. | 2021 | * | * | * | * | * | * | * | * | 8 |
| Cafiero et al. | 2021 | * | * | * | * | * | * | * | * | 8 |
| Cuesta-Llavona et al. | 2021 | * | * | * | * | | * | * | * | 7 |
| Gómez et al. | 2021 | * | * | * | * | ** | * | * | * | 9 |
| Gunal et al. | 2021 | * | * | * | * | | * | * | * | 7 |
| Hubacek et al. | 2021 | * | * | * | * | | * | * | * | 7 |
| Íñiguez et al. | 2021 | * | * | * | * | ** | * | * | * | 9 |
| Karakaş Çelik et al. | 2021 | * | * | * | * | | * | * | * | 7 |
| Kotur et al. (adults) | 2021 | * | * | * | * | ** | * | * | * | 9 |
| Kouhpayeh et al. | 2021 | * | * | * | * | ** | * | * | * | 9 |
| Mir et al. | 2021 | * | * | * | * | | * | * | * | 7 |
| Möhlendick et al. | 2021 | * | * | * | * | | * | * | * | 7 |
| Monticelli et al. | 2021 | * | * | * | | | * | * | * | 6 |
| Peralta et al. | 2021 | * | * | * | * | | * | * | * | 7 |
| Ravikanth et al. | 2021 | * | * | * | * | ** | * | * | * | 9 |
| Saad et al. | 2021 | * | * | * | * | ** | * | * | * | 9 |
| Schönfelder et al. | 2021a | * | * | * | * | | * | * | * | 7 |
| Schönfelder et al. | 2021b | * | * | * | * | | * | * | * | 7 |
| Verma et al. | 2021 | * | * | * | * | ** | * | * | * | 9 |
| Wulandari et al. | 2021 | * | * | * | * | | * | * | * | 7 |
| Akbari et al. | 2022 | * | * | * | * | ** | * | * | * | 9 |
| Akin et al. | 2022 | * | * | * | * | * | * | * | * | 8 |
| Wang et al. | 2022 | * | * | * | * | | * | * | * | 7 |

Supplementary Table 1: Newcastle-Ottawa scale quality assessment of the studies included in the qualitative synthesis

* References see main document