NutraHacker

COVID-19 Novel Coronavirus Free Genetics Report for Customer: 47ebe0c3-c768-49a8-a763-f4f270a663a3

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ACE2 has been shown to be the receptor for COVID-19 (1). This is the same receptor identified and used by the closely related viruses SARS and H1N1 (2,3). It follows that higher levels of ACE2 would be implicated in poorer disease outcomes, however no SNPs in the ACE2 have been shown to have an effect in the severity of SARS (4).

ACE2 is cleaved (cut) by two different enzymes. Cleavage by one enzyme in particular, TMPRSS2, appears to make the protein susceptible to viral attack (5). TMPRSS2 and ACE2 colocalize (6). Blocking TMPRSS2 appears to be a treatment modality (7).

Polymorphisms in TMPRSS2 affect severity of H1N1 (8) by increasing infectivity of the virus. Hence, it is likely that related viruses using the same entry path will have a similar response to these polymorphisms. Rs2070788 (G overrepresented in high severity cases, GG 2-fold risk of high severity disease), this polymorphism is probably tagging to rs383510. Higher expression of gene is higher severity of H1N1. rs38310 T allele enhances activity of the gene. These polymorphisms are not independent, so just one is needed to assess the activity of TMPRSS2.

Gender of customer: Male

RSID	Risk Allele	Your Genotype
rs2070788	G	AG: 1/2

Nicotine seems to affect this disease process negatively (9) while Chloroquine is a valid therapeutic modality (10).

Citations:

(1) https://www.ncbi.nlm.nih.gov/pubmed/32169119
(2) https://www.ncbi.nlm.nih.gov/pubmed/15549175
(3) https://www.ncbi.nlm.nih.gov/pubmed/25391767
(4) https://academic.oup.com/clinchem/article/50/9/1683/5640134
(5) https://www.ncbi.nlm.nih.gov/pubmed/24227843
(6) https://jvi.asm.org/content/85/2/873
(7) https://www.ncbi.nlm.nih.gov/pubmed/22496216
(8) https://www.ncbi.nlm.nih.gov/pubmed/25904605
(9) https://www.ncbi.nlm.nih.gov/pubmed/32189428
(10) https://www.ncbi.nlm.nih.gov/pubmed/16115318
(11) https://www.ncbi.nlm.nih.gov/pubmed/32226946