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DELLE MARCHE

RESEARCH AREA: EPIDEMIOLOGY

TITLE: Expression and co-expression analyses of TMPRSS2, a key element in COVID-19

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UNIVPM Research Group: Biologia Applicata

Research activity description: The ACE2 receptor is, so far, the best-known host factor for SARS-CoV-2 entry, but another essential element, the TMPRSS2 protease, has recently been identified. Here, we have analysed TMPRSS2 expression data in the lung correlating them with age, sex, diabetes, smoking habits, exposure to pollutant and other stimuli, in order to highlight which factors might alter TMPRSS2 expression, and thus impact the susceptibility to infection and COVID-19 prognosis. Moreover, we reported TMPRSS2 polymorphisms affecting its expression and suggested the ethnic groups more prone to COVID-19. Finally, we also highlighted a gender-specific co-expression between TMPRSS2 and other genes related to SARS-CoV-2 entry, maybe explaining the higher observed susceptibility of infection in men. Our results could be useful in designing potential prevention and treatment strategies regarding the COVID-19.

Link: <https://pubmed.ncbi.nlm.nih.gov/33245471/>

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