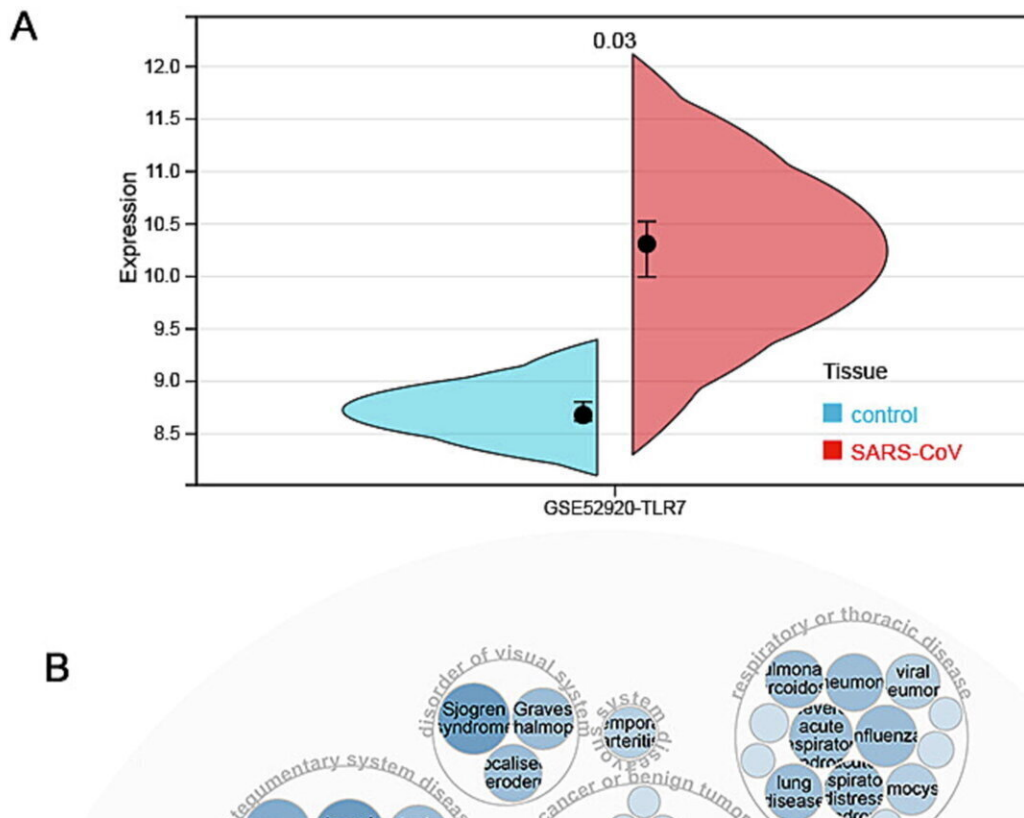


Revealing the roles of TLR7, a nucleic acid sensor for COVID-19, in pan-cancer

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Correlation between TLR7 and COVID-19. A) Changes of TLR7 expression in the lungs of mice infected with SARS-CoV (GSE52920); B) TLR7-related disease network chart using Opentargets. Abbreviations: TLR7, Toll-like receptor 7; COVID-19, coronavirus disease 2019; SARS-CoV, severe acute respiratory syndrome. Credit: *Biosafety and Health* (2023). DOI: 10.1016/j.bsheal.2023.05.004

Researchers have discovered toll-like receptor 7 (TLR7), a nucleic acid sensor within the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus, to be aberrantly expressed in many types of cancers. However, its expression pattern across cancers and association with COVID-19 (or its causing virus SARS-CoV-2) has not been systematically studied.

The paper is published in the journal *Biosafety and Health*.

Coronavirus disease 2019 (COVID-19) is a disease mainly characterized by damage to the respiratory system caused by [severe acute respiratory syndrome](#) coronavirus 2 (SARS-CoV-2). Recent studies suggest that cancer was a risk factor for coronavirus disease 2019 (COVID-19).

In this study, the authors of this article employed a computational framework to comprehensively study the roles of TLR7 in COVID-19 and pan-cancers at genetic, [gene expression](#), protein, epigenetic, and single-cell levels. As a result, they found TLR7 expression to be higher in the lungs of mice infected with SARS-CoV-2 than in those of the control group.

This study reveals the roles of TLR7, a nucleic acid sensor for COVID-19 in pan-cancer. These findings could be significant in efforts to prevent SARS-CoV-2 infection and alleviate cytokine storms in infected cancer patients.

More information: Zhijian Huang et al, Revealing the roles of TLR7, a nucleic acid sensor for COVID-19 in pan-cancer, *Biosafety and Health* (2023). [DOI: 10.1016/j.bsheal.2023.05.004](https://doi.org/10.1016/j.bsheal.2023.05.004)

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