

Coronavirus – the black swan of 2020



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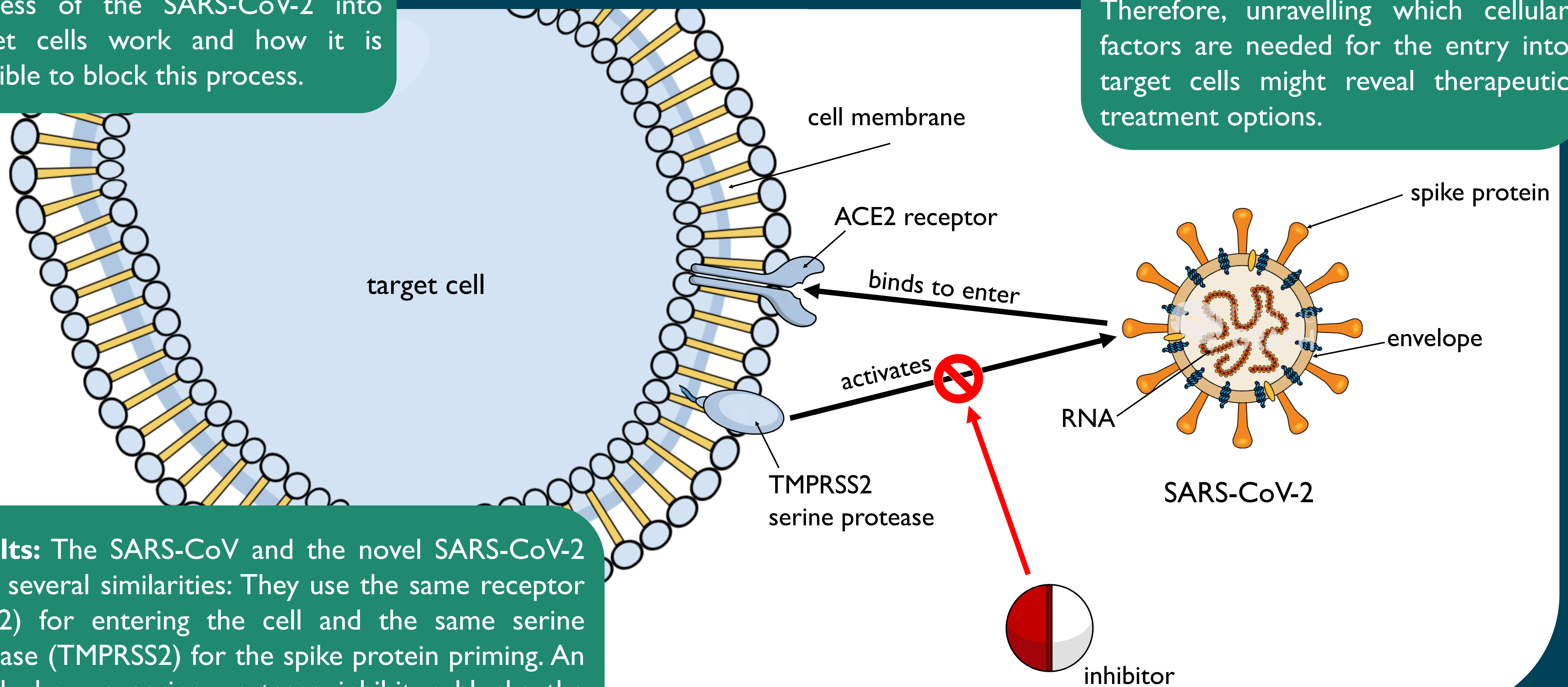
6 SPF Biology/ 08.03.2020

Goal:

This study shows how the entering process of the SARS-CoV-2 into target cells work and how it is possible to block this process.

Relevance:

The recent outbreak of the novel coronavirus and its rapid international spread pose a global health emergency. Therefore, unravelling which cellular factors are needed for the entry into target cells might reveal therapeutic treatment options.



Results: The SARS-CoV and the novel SARS-CoV-2 show several similarities: They use the same receptor (ACE2) for entering the cell and the same serine protease (TMPRSS2) for the spike protein priming. An already known serine protease inhibitor blocks the virus' entry and might express a treatment option. Because of their commonality, antibodies against the old virus offer some protection against the new one.

Paper:

cell, 16.04.2020, SARS-CoV-2 Cell Entry Depends on ACE2 and TMPRSS2 and Is Blocked by a Clinically Proven Protease Inhibitor, Markus Hoffmann, Hannah Kleine-Weber et al.
<https://doi.org/10.1016/j.cell.2020.02.052>