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Understanding and Targeting Coronaviruses: exploring advanced cell culture models and host-directed antiviral strategies

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Stellingen behorend bij het proefschrift getiteld:
Understanding and targeting coronaviruses

1. Comparative studies on viruses should not only focus on pathways and factors that are upregulated but also on those that are suppressed during virus infection. (*This thesis, Chapter 3*)
2. The SARS-CoV-2 pandemic made clear that therapy needs to aim at not only inhibiting virus replication, but also suppressing pathogenic host responses (*This thesis, Chapter 4*).
3. Since blocking ER alpha-glucosidase II is sufficient for inhibiting SARS-CoV-2 replication, this strategy could be superior compared to the less-specific iminosugars that have been studied as antivirals over the past decades. (*This thesis, Chapter 5*)
4. It should be a priority to establish public-private partnerships to collect and provide knowledge about drug candidates for repurposing efforts, preferably stored in open-access databases. (*This thesis, Chapter 6; Minnich et al., 2020, J Chem Inf Model*)
5. To shorten the route from pre-clinical to clinical drug research, the use of advanced *in vitro* cell culture models is crucial. (*Y. Wang, 2022, Advanced Science and this thesis, Chapter 6*)
6. Successful drug discovery is like finding a star harboring safety and efficacy in a chemical and biological universe, which is especially true for the identification of host-directed antiviral drugs. (*J.W. Scannell, et al., 2022, Nature Reviews Drug Discovery*)
7. Even amid an outbreak, researchers need to conduct good science, using a well-founded rationale and good research practices.
8. The lessons learned from the SARS-CoV-2 pandemic have to be used to prepare us for the next pandemic, striving to have efficient vaccine and antiviral drug development platforms in place.
9. Now that the apparent risk of the pandemic is over, attention in research and health care has to focus on investigating and managing the long-term consequences of infection, such as the post-COVID-19 condition.
10. Due to the zoonotic potential of many viruses, the question is not if there will be a next virus outbreak, but when.
11. Our work in science is diverse, and so should our collaborations be.