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

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## List of Publications (in chronological order)

- Cyclic sulphate inhibitor of ER  $\alpha$ -glucosidase inhibits replication of SARS-CoV-2 and other coronaviruses  
**M. Thaler**, T. P. Ofman, K. Kok, J. J.A. Heming, El. Moran, A. A. Leijs, A. M. C. H. van den Nieuwendijk, R. J. B. H. N. van den Berg, G. Ruijgrok, Z. Armstrong, C. Salgado-Benvindo, D. K. Ninaber, E. J. Snijder, C. A. A. van Boeckel, M. Artola, G. J. Davies, H. S. Overkleef#, M. J. van Hemert# *Under review at ACS Central Science*
- SARS-CoV-2-infected human airway epithelial cell cultures uniquely lack interferon and immediate early gene responses caused by other coronaviruses  
**M. Thaler\***, Y. Wang\*, C. Salgado-Benvindo, N. Ly, A. A. Leijs, D. K. Ninaber, P. Hansbro, F. Boedijono, M. J. van Hemert, P. S. Hiemstra, A. M. van der Does#, A. Faiz#, *Clinical and Translational Immunology* 2024 Apr 15;13(4):e1503. doi: 10.1002/cti2.1503.
- Honokiol Inhibits SARS-CoV-2 Replication in Cell Culture at a Post-Entry Step  
C. Salgado-Benvindo, A. Leijs, **M. Thaler**, A. Tas, J. L. Arbiser, E. J. Snijder, M. J. van Hemert, *Microbiology Spectrum*. 2023 May 4; Vol. 11, No.3. doi:10.1128/spectrum.03273-22
- Impact of changes in human airway epithelial cellular composition and differentiation on SARS-CoV-2 infection biology  
**M. Thaler\***, Y. Wang\*, D. K. Ninaber, A. M. van der Does, N. S. Ogando, H. Beckert, C. Taube, C. Salgado-Benvindo, E. J. Snijder, P. J. Bredenbeek, P. S. Hiemstra#, M. J. van Hemert#, *Journal of Innate Immunity*. 2023 Mar 25;15(1):562-580. doi: 10.1159/000530374.
- R-Propranolol Has Broad-Spectrum Anti-Coronavirus Activity and Suppresses Factors Involved in Pathogenic Angiogenesis  
**M. Thaler**, C. Salgado-Benvindo, A. Leijs, A. Tas, D. K. Ninaber, J. L. Arbiser, E. J. Snijder, M. J. van Hemert#, *International Journal of Molecular Sciences*. 2023 Feb 27;24(5):4588. doi: 10.3390/ijms24054588.
- SARS-CoV-2-specific CD4+ and CD8+ T cell responses can originate from cross-reactive CMV-specific T cells  
C.R. Pothast, R.C. Dijkland, **M. Thaler**, R.S. Hagedoorn, M.G.D. Kester, A.K. Wouters, P.S. Hiemstra, M.J. van Hemert, S. Gras, J.H.F. Falkenburg, M.H.M. Heemskerck, *Elife*. 2022 Nov 21;11:e82050. doi: 10.7554/eLife.82050.

- Suramin Inhibits SARS-CoV-2 Infection in Cell Culture by Interfering with Early Steps of the Replication Cycle.  
C. Salgado-Benvindo \*, **M. Thaler**\*, A. Tas, N.S. Ogando, P.J. Bredenbeek, D.K. Ninaber, Y. Wang, P.S. Hiemstra, E.J. Snijder, M.J. van Hemert. *Antimicrob Agents Chemother.* 2020 Jul 22;64(8):e00900-20. doi:10.1128/AAC.00900-20.
- A piRNA-lncRNA regulatory network initiates responder and trailer piRNA formation during mosquito embryonic development.  
V. Betting, J. Joosten, R. Halbach, **M. Thaler**, P. Miesen, R.P. van Rij. *RNA.* 2021 Oct;27(10):1155-1172. doi: 10.1261/rna.078876.121. Epub 2021 Jul 1.
- Impact of flavivirus vaccine-induced immunity on primary Zika virus antibody response in humans  
S. Malafa, I. Medits, J.H. Aberle, S.W. Aberle, D. Haslwanter, G. Tsouchnikas, S. Wölfel, K.L. Huber, E. Percivalle, P. Cherpillod, **M. Thaler**, L. Roßbacher, M. Kundi, F.X. Heinz, K. Stiasny, *PLoS Negl Trop Dis.* 2020 Feb 4;14(2):e0008034. doi: 10.1371/journal.pntd.0008034.
- Effect of previous heterologous flavivirus vaccinations on human antibody responses in tick-borne encephalitis and dengue virus infections.  
L. Roßbacher, S. Malafa, K. Huber, **M. Thaler**, S. Aberle, J. Aberle, F.X. Heinz, K. Stiasny, *Journal of medical Virology*, 2023 Nov;95(11):e29245. doi: 10.1002/jmv.29245.

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## Curriculum Vitae

Melissa Thaler was born on 13 June 1994 in Klagenfurt am Wörthersee, Austria. In 2012 she moved to Vienna to study Biology at the University of Vienna. In 2015 she obtained her Bachelor degree in Biology, with specialization in Ecology. She continued with her Master's study in Molecular Microbiology, Microbial Ecology and Immunobiology at the University of Vienna, with specialization in Molecular Microbiology. In July 2016 she took part in the Biotechnology Summerschool at the University of Kent, Canterbury, the United Kingdom. In 2017 she performed an Erasmus Internship with Prof. Dr. Ronald van Rij, under the supervision of Dr. Rebecca Halbach, at the Radboud Institute for Molecular Life Sciences in Nijmegen, the Netherlands. From August 2017 until December 2018 she worked with Prof. Dr. Karin Stiasny at the Center for Virology at the Medical University of Vienna, where she conducted research for her Master thesis entitled "Generation and characterization of Zika and dengue virus antigens". In June 2019 she started her PhD research at the Medical Microbiology Department, Leiden University Medical Center (LUMC), the Netherlands, under the supervision of Dr. Martijn J. van Hemert and Prof. Dr. Eric J. Snijder. Initially, her PhD project was aimed towards accelerating academic drug development against emerging arboviruses. With the beginning of the SARS-CoV-2 pandemic, she switched projects to study drug development against coronaviruses. She also collaborated closely with then PhD candidate Ying Wang, Prof. Dr. Pieter S. Hiemstra and Dr. Anne M. van der Does from the PulmoScience Laboratory of the Department of Pulmonology, LUMC, on a number of projects.

