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Post-doctoral scientist in Herpes Virology and Immunology at the Julius Maximilians University (JMU) of Würzburg

Applications are invited for a postdoctoral position funded by the German Research Foundation (DFG) to study cell type-specific viral gene expression of human cytomegalovirus (HCMV) and its consequences for the MHC-I immunopeptidome in the Dölken lab at the University of Würzburg in Germany.

Activities and responsibilities

The Dölken lab (https://www.virologie.uni-wuerzburg.de/virologie/ags-virologie/ag-doelken/research/) focuses on host cell modulation and immune evasion by HCMV, HSV-1 and other herpesviruses. In the frame of the DFG Research Unit FOR 2830 (Advanced Concept of Immune Control in Cytomegalovirus Infection: https://www.virologie.uni-wuerzburg.de/forschungsverbuende/for2830/home/), we study the interplay between cytomegalovirus infected antigen presenting cells, T cells and NK cells [1–3]. In this project, we aim to define and characterize the molecular basis of cell type-specific viral gene expression in lytic HCMV infection employing an array of well-established omics technologies [2,4]. Moreover, in close collaboration with other FOR2830 members, we will characterize presentation of viral antigens on MHC-I molecules at the cell surface as well as viral manipulation thereof. This will not only provide exciting insights into the biology of an important human pathogen but also help to decipher the functional importance of cryptic viral genetic elements [5] in productive infection, latency and reactivation. Our long-term goal is to identify new cellular and viral targets for novel therapeutic interventions.

Qualification profile

What we are looking for: Candidates should have a strong interest in molecular biology, infection biology and immunology. Prior experience with mammalian tissue culture and standard molecular techniques, such as cloning, immunoblotting, RT-PCR and immunofluorescence, is expected. Knowledge regarding virus biology and immunology would be appreciated. The successful

candidate will have excellent communication and writing skills and a curiosity-driven attitude.

We offer

Work environment: The University of Würzburg is a leading institution in the Life-Sciences in Germany with a strong focus in infection biology and RNA biology of infection. It provides a structured and collaborative research environment for postdoctoral researchers to start a successful career in science. The successful candidate will join a young and dynamic international team of dedicated scientists and will benefit from a highly collaborative environment and personalized training and support in the daily lab work. Specifically, the FOR 2830 Junior Faculty provides exciting opportunities for networking and personal development. We encourage all lab members to get involved in the supervision and guidance of Ph.D., master and bachelor students, in order to build personal teaching and leadership skills.

The position is funded for a total of three years but may be extended as required. The salary for this temporary position is commensurate with training and experience according to Collective Agreement for the Public Service of German Federal States TV-L E13. Female scientists are particularly encouraged to apply. Disabled applicants will be preferentially considered in case of equivalent qualification.

Applications including cover letter, detailed CV, copies of certificates, description of their scientific background and contact information of two referees, should be sent as a single pdf file (no more than 10 MB) via email to Lars.Doelken@uni-wuerzburg.de

References:

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2. Jürges, C.S.; Lodha, M.; Thuy, V.; Le-Trilling, K.; Bhandare, P.; Wolf, E.; Zimmermann, A.; Trilling, M.; Prusty, B.; Dölken, L.; et al. Multi-omics reveals principles of gene regulation and pervasive non-productive transcription in the human cytomegalovirus genome. *bioRxiv* **2022**, 2022.01.07.472583, doi:10.1101/2022.01.07.472583.
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4. Erhard, F.; Baptista, M.A.P.; Krammer, T.; Hennig, T.; Lange, M.; Arampatzi, P.; Jürges, C.S.; Theis, F.J.; Saliba, A.-E.; Dölken, L. scSLAM-seq reveals core features of transcription dynamics in single cells. *Nature* **2019**, *571*, 419–423, doi:10.1038/s41586-019-1369-y.
5. Erhard, F.; Halenius, A.; Zimmermann, C.; L'Hernault, A.; Kowalewski, D.J.; Weekes, M.P.; Stevanovic, S.; Zimmer, R.; Dölken, L. Improved Ribo-seq enables identification of cryptic translation events. *Nat. Methods* **2018**, *15*, 363–366, doi:10.1038/nmeth.4631.