

DE High-capacity screening site

Helmholtz Centre for Infection Research (HZI) – Chemical Biology Department

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„We are happy to be part of EU-OPENSREEN, as it provides a perfect setting for combining our expertise in chemical biology with innovative approaches to tackle infectious diseases across Europe.“

At a glance

- Screening site with access to the EU-OPENSREEN European Chemical Biology Library and the European Academic Compound Library
- Focused on viral and bacterial infectious diseases including host defense reactions
- Cell-culture based infection models
- Screens and animal infection models with Biosafety level (BSL) -3 pathogens
- *In vivo* pharmacokinetic and - dynamic studies
- Medicinal chemistry facility and expertise for hit selection and compound optimization
- Chemical biology facility and expertise for mode of action studies
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Infrastructure and technical focus

- Fully equipped microbiological and cell culture laboratories up to biosafety level 3, including real-time cell culture monitoring and semi- (BSL3) and fully automated screening platforms (BSL2) supporting all major optical detection technologies
- Assay development and adaptation
- State of the art mass spectrometry for metabolomics, compound uptake and PK / PD studies
- Modern, and fully equipped (prep HPLC, LC/MS, NMR, etc) chemistry labs
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- Access to NGS, Proteomics, FACS, electron microscopy



Projects past and present

- 2021 | **DZIF** Antiinfective screening and hit identification [➔ Link](#)
- 2021 | **COFONI** Corona Research in Lower Saxony
- 2021 | Breitbandwirkstoffe gegen SARS-CoV-2 (Lower Saxony)
- 2020 | **CARB-X** Optimization of Hla-Inhibitors [➔ Link](#)
- 2020 | **LABoVIR** LAByrintheptins against VIRal infections
- 2020 | **IMI-GNANOW** Novel Gram-negative antibiotics now [➔ Link](#)

Our science in selected publications

Synthetic studies of cystobactamids as antibiotics and bacterial imaging carriers lead to compounds with high *in vivo* efficacy

[➔ Chemical Science \(2020\), 11, 1316-1334](#)

Multivalent Siderophore DOTAM Conjugates as Theranostics for Imaging and Treatment of Bacterial Infections

[➔ Angewandte Chemie Int. Ed. \(2017\), 56, 8272-8276](#)

Inhibition of type IV secretion activity and growth of *Helicobacter pylori* by cisplatin and other platinum complexes

[➔ Frontiers in Cellular and Infection Microbiology \(2020\), 10:602958](#)

Labyrinthopeptins exert broad-spectrum antiviral activity through lipid-binding-mediated virolysis

[➔ Journal of Virology \(2020\), 94, e01471-19](#)

Further info and site-contact

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