DE | Specialist screening site

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

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„We are happy to be part of EU-OPENSCREEN, 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-OPENSCREEN 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
- Close cooperation with clinical experts
- Member of the German Centre for Infection Research (DZIF)

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
- 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 LAByrinthopeptins 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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