Aligning Translational Infection Research in Germany

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German Center for Infection Research – Numbers and Facts

The German Center for Infection Research (DZIF) was established in 2012 as an extensive collaborative network of researchers and clinicians. DZIF’s mission is to support scientists in driving the development of biomedical discoveries to novel preventive, diagnostic and therapeutic methods for treating infectious diseases.

DZIF scientists and clinicians are working closely together to overcome the translational gap between basic research and clinical applications in infectious diseases - United against infections!

Today, more than 500 researchers from 35 member institutions at 7 German partner sites and 15 associated partner institutions are working together in an integrative approach comprising 9 research areas and 10 translational infrastructures.

**DZIF Projects: Filling the Translational Gap**

**DZIF’s drug development news**
- Small molecules
  - Identification of new agents, improvement of bioavailability, ADME studies and screening of natural compounds are the main focuses of DZIF researchers in the fields of TB and Novel Antibiotics
- New broad spectrum antibiotics
  - Recently discovered myxobacterial topoisomerase inhibitors and biosynthetic engineered compounds exhibit potent antibacterial activity and fill the DZIF drug pipeline with new potential drugs.

**DZIF Principal Investigators**
- M. Hoelscher, Klinikum der Univ. München; C. Hölscher, Research Center Borstel; A. Hoerauf, Univ. of Bonn
- R. Müller, Helmholtz Centre for Infection Research, Braunschweig

**S. aureus - Fighting the bad bug**
- Passive and active vaccination
  - With humanized antibodies and their respective epitopes DZIF scientists show a significant protective effect in the *S. aureus* infection model.
- Decolonization from nasal habitats
  - Bacteriophage-derived lytic proteins are only one example for the development of specific eradication agents within DZIF.

**DZIF Principal Investigators:**
- A. Klimka and M. Krönke, Univ. of Köln
- A. Peschel, Univ. of Tübingen; K. Becker, Univ. of Münster; G. Winter, LMU München
- **Industrial Partners:**
  - HYpharm GmbH, Bernried; Coriolis Pharma GmbH, München

**Working together internationally**
- African Partner Institutions
  - In close collaboration with scientists from four renowned African research institutions in Burkina Faso, Gabon, Ghana and Tanzania, the DZIF explores infectious diseases like Aids, tuberculosis, malaria and Ebola locally.

**DZIF Coordinators:**
- J. May, Bernhard Nocht Institute for Tropical Medicine, Hamburg; C. Drosten, Charité – Universitätsmedizin Berlin

**The long journey to approval**
- Well supported, from idea to product
  - Experts from four German Federal Research Institutions strengthen the DZIF key profile areas in translational infection research.
  - The Federal Institute for Drugs and Medical Devices (BfArM) and the Paul-Ehrlich-Institute (PEI) cover the expertise in the field of product development. The Federal Robert Koch Institute for Health Protection (RKI) and the Friedrich-Loeffler-Institute for Animal Health (FLI) provide an important link to public health, epidemiological issues and zoonotic infectious diseases.

**DZIF Principal Investigators:**
- K. Chichutek, PEI Langen; K. Broich, BfArM Bonn; L. Wieler, RKI Berlin; T. Mettenleiter, FLI Riems

**New tools for antibiotic stewardship**
- Prevention and therapy
  - Healthcare-associated infections (HCAI) and multi-drug resistant organisms (MDRO) often originate from hospitalized patients. To optimize antimicrobial therapy strategies, new measures and programs will be developed in DZIF.
  - Management of MDRO – The DZIF MDRO Network: R-Net
  - This new network structure of dedicated DZIF research groups will provide a unique opportunity to study questions in the field of infection control using the established local study infrastructure for specific experimental and clinical trials.

**DZIF Principal Investigators:**
- H. Seifert and A. Hamprecht, Univ. of Köln; T. Chakraborty, Univ. of Giessen; E. Tacconelli, Univ. of Tübingen; W. Kern, Univ. of Freiburg; P. Gastmeier, Charité – Universitätsmedizin Berlin

Ask for the Experts at the DZIF Booth #132