Translocation workshop

Helmholtz Centre for Infection Research, Braunschweig, 21st - 23rd June, 2017

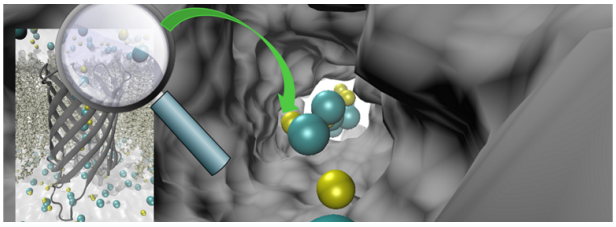
ND4BB TRANSLOCATION

HELMHOLTZ ZENTRUM FÜR INFEKTIONSFORSCHUNG

Molecular basis of antibiotic permeability in Gram-negative bacteria
Solving a new question within a private-public partnership

Background

Gram-negative bacteria are surrounded by a cellular envelope that comprises outer and inner membranes with distinct properties and provides a potent physical barrier to antibacterial agents. The discovery of new agents to treat drug-resistant Gram-negative infections generally relies on the agent's ability to penetrate at one or both envelope membranes.



Furthermore, even if an agent penetrates these membranes it can be rapidly transported out of the cell by numerous broadly acting efflux pumps, rendering the agent ineffective. The combination of this intrinsic dual-penetration barrier with the potential for rapid efflux often leads to situations in which compounds with intrinsic activity against intracellular or periplasmic targets display poor antibacterial activity. At present, there are no reliable methods for measuring these penetration and efflux processes in Gram-negative bacteria, a bottleneck that substantially hinders the ability of scientists to optimize antimicrobial activity in intact bacterial cells.

Confirmed Speakers

• Prof. Robert Hancock (Director, Center for Microbial Diseases and Immunology Research, University of British Columbia, Vancouver, Canada)
• Hiroshi Nikaido (Professor of the Graduate School Division of Biochemistry, Biophysics and Structural Biology, UC Berkeley, USA)

Whole cell assays:
• Prof. Mark Brönstrup (Helmholtz Zentrum Braunschweig, Germany)
• Prof. Muriel Masi and Prof. Jean-Marie Pagès (Aix-Marseille University, France)
• Dr. Aurelie Vassort (Sanofi-Aventis Lyon, France)
• Prof. Mattieu Refrigiers (Synchrotron Soleil, Paris, France)
Characterization of the bacterial cell wall:
• Prof. Dirk Bumann (Biozentrum Basel, Swizerland)
• Prof. Heike Broetz-Oesterhelt (Eberhard Karls Universität Tübingen, Germany)
Porins as possible pathway to enter the cell:
• Prof. Bert Van den Berg (University of Newcastle, UK)
• Prof. Wompil Im (Lehigh University, USA)
• Prof. Ulrich Kleinekathöfer (Jacobs University Bremen, Germany)
Identification of specific uptake systems:
• Prof. Thilo Köhler (Université de Geneve-Hopital, Switzerland)
• Prof. James Naismith (University of St. Andrews, UK)
• Prof. Isabelle Schalk (University of Strasbourg, France)
• Prof. Matteo Ceccarelli (University of Cagliari, Italy)

Efflux systems:
• Prof. Herbert Schweizer (University Florida, USA)
• Prof. Laura Piddock (University of Birmingham, UK)
• Prof. Martin Pos (Universität Frankfurt, Germany)
• Prof. Paolo Ruggerone (University of Cagliari, Italy)
• Prof. Martin Picard (CNRS Paris, France)
• Prof. Ben Luisi (University of Cambridge, UK)
• Prof. Helen Zgurskaya (University of Oklahoma, USA)
• Dr. Olga Lomovskaya (The Medicines Company, USA)
• Dr. Aled Edwards (Structural Genomics Consortium, UK)
ND4BB Information Center:
• Dr. Philip Gribbon (Fraunhofer Hamburg, Germany)
• Prof. Malcolm Page (Jacobs University Bremen, Germany)
• Prof. Mathias Winterhalter (Jacobs University Bremen, Germany)
• Dr. Robert A. Stavenger (GlaxoSmithKline, Collegeville, PA, USA)

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Organizing Committee

• Dr. Robert A. Stavenger
(GlaxoSmithKline, Collegeville, PS, USA)
• Prof. Mathias Winterhalter
(Jacobs University Bremen, Germany)
• Prof. Mark Brönstrup
(Helmholtz Zentrum Braunschweig, Germany)

Registration

For application details please visit:
http://winterhalter.user.jacobs-university.de/imi-translocation-2017/
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