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Bacterial biodiversity as resource for novel antibiotics

Since the discovery of the bactericidal effect of penicillin by Alexander Fleming, micro-organisms play an important role as antibiotic producers. During the 40th to the 60th of the last century, these were particularly the actinomycetes isolated from soil samples which have dominated the golden age of the antibiotic research. Caused by the false assumption that with these active substances the problem of the infectious illnesses is solved, most pharmaceutical companies dropped their antibiotic research. The development of resistance of many germs, particularly in the hospitals as well as the return of presumed to be dead illnesses like the tuberculosis has moved the antibiotic research, however, just during the last years again in a new light. Helmholtz Centre for Infection Research in Braunschweig has dealt during the last years intensely with the search for new antibiotics and, besides, has laid its main focus on two groups of ground-living bacteria. These are on the one hand furthermore the *Actinobacteria*, the biggest class in the empire of the bacteria with still high potential, and on the other hand the *Myxobacteria*, a group of the gliding bacteria whose cultivation owns a long tradition in Braunschweig. The biology and active substance production of these both groups as well as the approach in the HZI with the search for new active substances is introduced.

Biography

Joachim Wink has completed his Ph.D in 1985 from Frankfurt University. He then went to the pharmaceutical industry and started his career at the Hoechst AG where he was responsible for the strain collection and specialized in the cultivation and taxonomic characterization of Actinobacteria and Myxobacteria. During the years he was responsible for the strain library within the pharmaceutical research and a number of screening projects with Hoechst Marion Russel, Aventis and Sanofi. In the year 2005 he did his habilitation at the Carolo Wilhelma University of Braunschweig and 2012 he went to the Helmholtz Centre for Infection Research in Braunschweig where he founded the working group of the strain collection with its focus on Myxobacteria. Here he is now working on the isolation and taxonomic characterization of Myxobacteria and Actinobacteria as well as the analysis of their secondary metabolites with a focus on the antibiotics active ones. The Compendium of Actinobacteria on the homepage of the German Culture Collection is a permanent actualized working tool for people working with Actinobacteria which is prepared by him. He has published more than 50 papers on secondary metabolites and the taxonomy of the producing microorganisms in reputed journals, a number of reviews as well as book chapters and more than 35 patents. He is member of the editorial board of a number of international journals.

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