

## PRESS RELEASE

### New antibiotic against river blindness and lymphatic filariasis pathogens

Japanese fund supports research into the treatment of filarial infections at University Hospital Bonn

**Bonn, May 10, 2024 - Prof. Achim Hoerauf, Director of the Institute of Medical Microbiology, Immunology and Parasitology at the University Hospital Bonn (UKB), and his team have succeeded in collaborating with the Department of Pharmaceutical Technology and Biopharmacy at the University of Bonn and the Helmholtz Center for Infection Research (HZI), to enter into a partnership with the Japanese pharmaceutical company Eisai for the further development of the antibiotic corallopyronin A (CorA) as a treatment for the neglected tropical diseases river blindness and lymphatic filariasis and to raise a large amount of funding. The team's aim is to develop a safe and sustainably effective drug against these worm diseases, which are transmitted to humans by mosquitoes. The people affected mainly live in Africa and tropical regions and urgently need active ingredients that kill the long-lived adult worms. The project is now being funded with around €5.6 million by the Japanese Global Health Innovative Technology (GHIT) Fund.**

Infections with worms from the filarial group, also known as filariasis, can lead to river blindness and, if left untreated, to elephantiasis - a disease in which extremities become greatly enlarged due to destruction of the lymphatic vessels. The lives of those affected are severely impaired. More than 21 million people in Africa are infected with the nematode "Onchocerca volvulus", the causative agent of river blindness. Around one in ten of them go blind. In 2009, Prof. Achim Hoerauf and his team found an effective drug to combat the worms in the form of corallopyronin A. "This is a natural antibiotic that can be used successfully in patients, as it primarily targets the bacteria that live as symbionts in the worms and are responsible for their survival. As a result, the worms themselves are also destroyed," says Prof. Hoerauf.

#### Clinical testing imminent

Corallopyronin A, which is derived from an environmental bacterium, was recognized as an effective antibiotic against staphylococci by scientists at the Helmholtz Centre for Infection Research in the 1980s. As a result of the new findings on its effectiveness against filariae, research into its use

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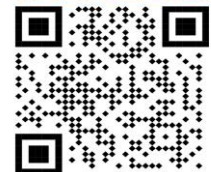
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in humans began. At the German Center for Infection Research (DZIF), Prof. Hoerauf's research teams are now developing the substance into a drug. The antibiotic is effective against the endosymbionts of worms from the filarial group and numerous other bacteria. Translational research is currently in the final phase of preclinical testing and the first clinical trials are scheduled for 2025/2026. In collaboration with the HZI, a biotechnological process has been established with which the active ingredient can be produced in sufficient quantities and purity for toxicity testing. A manufacturing company, which is the world market leader for some cancer therapeutics and can also produce the antibiotic on an industrial scale for clinical trials, was recently contracted.

### **Characterization of the active substance and dosage in humans**

"As part of the funding from the GHIT fund, the active ingredient is to be produced in accordance with the strict requirements of Good Manufacturing Practice (GMP) and the final tests for possible side effects are to be completed in order to identify an initial dose for treatment in humans. "The new findings and the upcoming clinical trial phase of our research for use in humans represent great hope for those affected who cannot avoid infection in their environment and have no access to effective medication," says Prof. Hoerauf. "I am very pleased that a global company like Eisai is also involved in the field of neglected tropical diseases and has entered into this cooperation with us." Academic cooperation partners of the University Hospital Bonn (UKB) in this project are the University of Bonn (Department of Pharmaceutical Technology and Biopharmacy, Prof. Karl G. Wagner), the HZI (Department of Microbial Drugs, Braunschweig, Prof. Marc Stadler) and the Helmholtz Institute for Pharmaceutical Research (Saarbrücken, Prof. Rolf Müller).

### **Image:**



**Caption:** Prof. Achim Hoerauf and his team have succeeded in acquiring a large amount of funding from the Japanese GHIT Fund for their research project on the active substance corallopyronin A (CorA) as a treatment for filarial infections.

**Image credit:** University Hospital Bonn (UKB)/R. Müller

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**About the University Hospital Bonn:** Around 500,000 patients are treated at the UKB every year, it employs around 9,500 staff and has a balance sheet total of 1.6 billion euros. In addition to the 3,500 medical and dental students, 550 people are trained in numerous healthcare professions each year. The UKB is ranked first among university hospitals in NRW in the Focus Clinic List and has the third-highest case mix index (case severity) in Germany. In 2022 and 2023, the F.A.Z. Institute recognized the UKB as Germany's most desirable employer and training champion among public hospitals in Germany.