

MEDIA RELEASE



CARB-X IS FUNDING FRENCH BIOTECH MUTABILIS TO DEVELOP A NEW CLASS OF ANTIBACTERIALS TO TREAT INFECTIONS CAUSED BY CARBAPENEM-RESISTANT ENTEROBACTERIALES (CRE) BACTERIA

Mutabilis' new drug aims to treat deadly 'nightmare bacteria' infections safely and effectively

CARB-X is awarding Mutabilis, a biopharmaceutical firm based in Romainville, France, up to US\$6.4 million to develop a new drug to treat infections caused by Carbapenem-resistant Enterobacterales (CRE) bacteria. CRE has been dubbed the 'nightmare bacteria' by health officials because they cause deadly infections – often in healthcare settings - that cannot be effectively treated with existing antibiotics. Under the award agreement, Mutabilis will be eligible for an additional \$5.8 million in further funding if certain project milestones are met, subject to available funds.

“New treatments are urgently needed to address serious life-threatening antibiotic-resistant bacterial infections, like those caused by CRE and other Gram-negative bacteria for which there are few treatment options,” said **Erin Duffy, Chief of Research and Development at CARB-X**, a global non-profit partnership based at Boston University School of Law, dedicated to funding and supporting the development of new antibiotics, vaccines, diagnostics and other products to address antibiotic-resistant bacteria. “The novel inhibitor of penicillin-binding proteins designed and optimized by Mutabilis is an achievement in this area of antibacterial drug discovery. If it progresses through clinical development, it will be an important new antibiotic for patients suffering from infections caused by drug-resistant Enterobacterales.”

“The support from CARB-X is a great achievement for the Mutabilis team and our EBL-1463 program. We are very proud to have been selected by CARB-X which recognizes the potential of our dabocins family for the treatment of Gram-negative resistant infections. Following the support received from ENABLE (ND4BB/IMI) and the Novo Holdings Repair Impact Fund, this award from CARB-X is new evidence of the ability of our team to advance innovative scientific programs and fund them. We want to thank all of them for their investment in combating AMR,” said **Wandrille Ract-Madoux, CEO of Mutabilis**.

Mutabilis' new intravenous drug, EBL-1463, is a novel class of non-beta-lactam inhibitor of penicillin binding proteins (PBPs) called dabocins. It kills bacteria in the same efficient way as beta-lactams – by interfering with the cell wall synthesis of the bacteria. Contrary to beta-lactams, however, EBL-1463 shows unmatched stability to class A, B, C and D beta-lactamases. The project is in the preclinical phase.

ANTIBACTERIAL INNOVATION NEEDED TO ADDRESS DRUG RESISTANCE

The rise of antibiotic resistance is one of the greatest threats to global health, according to the World Health Organization (WHO). An estimated 700,000 people die each year from drug-resistant infections, including 35,000 in the US and 33,000 in Europe. The WHO and the US Centers for Disease Control and Prevention (CDC) rank CRE at the top of their lists of most urgent and critical bacteria, respectively.

Despite the urgent unmet medical need for new antibiotics, vaccines, diagnostics and other products, investment in antibacterial R&D has waned in recent decades because it is not profitable, even for those companies that succeed in getting new products approved and launched onto the market. CARB-X was launched in 2016 to provide funding for innovation until a sustainable solution could be implemented to fix the broken market.

The CARB-X portfolio has grown to become the world's largest and most diverse antibacterial R&D portfolio with 52 active projects focused exclusively on drug-resistant bacteria. CARB-X is investing up to \$480 million in non-dilutive funding between 2016-2022 to support the early development of new antibiotics, vaccines, rapid diagnostics and other life-saving products. The goal is to support projects through the early phases of development so that they will attract additional private or public support for further clinical development and regulatory approval for use in patients.

Since its launch, CARB-X has announced 78 awards worth more than \$284.8 million, with the potential of additional funds if project milestones are met. These funds are in addition to investments made by the companies themselves. The CARB-X pipeline will continuously evolve, as projects progress and others fail for a variety of reasons.

CARB-X funds only projects that target drug-resistant bacteria highlighted on the Priority Bacterial Pathogens list published by the WHO, or on the CDC's Antibiotic Resistant Threats list, with a priority on those pathogens deemed Serious or Urgent on the CDC list or Critical or High on the WHO list.

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About CARB-X

Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X) is a global non-profit partnership dedicated to accelerating early development antibacterial R&D to address the rising global threat of drug-resistant bacteria. CARB-X is led by Boston University and funding is provided by the Biomedical Advanced Research and Development Authority (BARDA), part of the Office of the Assistant Secretary for Preparedness and Response (ASPR) in the US Department of Health and Human Services, the Wellcome Trust, a global charity based in the UK working to improve health globally, Germany's Federal Ministry of Education and Research (BMBF), the UK Department of Health and Social Care's Global Antimicrobial Resistance Innovation Fund (GAMRIF), the Bill & Melinda Gates Foundation, and with in-kind support from National Institute of Allergy and Infectious Diseases (NIAID), part of the US National Institutes of Health (NIH). CARB-X is investing up to \$480 million from 2016-2022 to support innovative antibiotics and other therapeutics, vaccines, and rapid diagnostics. CARB-X supports the world's largest and most innovative pipeline of preclinical products against drug-resistant infections. CARB-X is headquartered at Boston University School of Law. carb-x.org/. Follow us on Twitter @CARB_X.

About Mutabilis

Mutabilis is a privately-held French biopharmaceutical company developing novel non-beta-lactam PBP-targeting antibacterial drugs called dabocins to treat the most difficult-to-treat Gram-negative bacterial infections. Dabocins are derived from the non-natural diazabicyclooctane scaffold and show a remarkable stability to beta-lactamase hydrolysis. Mutabilis' team has unique expertise in the derivatization and characterization of this scaffold. Mutabilis' pipeline includes EBL-1463, a novel single-agent intravenous antibiotic against carbapenem-resistant Enterobacterales also supported by ENABLE (ND4BB/IMI), and 2G-DAB, a 2nd generation dabocin program supported by the Repair Impact Fund and which aims to discover the next generation dabocin covering both Enterobacterales and non-fermenters. For more information, please visit <https://mutabilis.fr/>.

About BARDA and NIAID

The US Department of Health and Human Services works to enhance and protect the health and well-being of all Americans, providing for effective health and human services and fostering advances in medicine, public health, and social services. Within HHS, ASPR's mission is to save lives and protect Americans from 21st century health security threats. ASPR leads the nation's medical and public health preparedness for, response to, and recovery from disasters and public health emergencies. BARDA provides a comprehensive, integrated, portfolio approach to the advanced research and development, innovation, acquisition, and manufacturing of medical countermeasures – vaccines, drugs, therapeutics, diagnostic tools, and non-pharmaceutical products for public health emergency threats. These threats include chemical, biological, radiological, and nuclear agents, pandemic influenza, and emerging infectious diseases. NIH is the primary US federal agency conducting and supporting basic, clinical, and translational medical research, and is investigating the causes, treatments, and cures for both common and rare diseases. NIAID conducts and supports research – at NIH, throughout the United States, and worldwide – to study the causes of infectious and immune-mediated diseases, and to develop better means of preventing, diagnosing and treating these illnesses.

About Wellcome Trust

Wellcome exists to improve health for everyone by helping great ideas to thrive. We're a global charitable foundation, both politically and financially independent. We support scientists and researchers, take on big problems, fuel imaginations and spark debate. The Wellcome Trust is a charity registered in England and Wales, no. 210183. Its sole trustee is The Wellcome Trust Limited, a company registered in England and Wales, no. 2711000 (whose registered office is at 215 Euston Road, London NW1 2BE, UK).

About BMBF

Education and research are the foundations for our future. The promotion of education, science and research by the German Federal Ministry of Education and Research (BMBF) represents an important contribution to securing Germany's prosperity. Education and research are a Federal Government policy priority, which is reflected in the development of the funding it is making available to these fields.

About Boston University

Founded in 1839, Boston University is an internationally recognized institution of higher education and research. With more than 33,000 students, it is the fourth-largest independent university in the United States. BU consists of 17 schools and colleges, along with a number of multi-disciplinary centers and institutes integral to the University's research and teaching mission. In 2012, BU joined the Association of American Universities (AAU), a consortium of 62 leading research universities in the United States and Canada. For further information, please contact Jeremy Thompson at jeremy22@bu.edu. www.bu.edu.