COMBATING ANTIMICROBIAL RESISTANCE

University of Lille , Institut Pasteur de Lille and BioVersys have published, in "Science", their groundbreaking findings on small molecules that, are able to overcome resistance to ethionamide in *Mycobacterium tuberculosis*.

Basel (Switzerland), and Lille (France), March 17, 2017 – The Academic Institutions in Lille and BioVersys have published the discovery of a novel small molecule that allows the awakening of a new bioactivation pathway of ethionamide (ETH) , an important drug used in the treatment of tuberculosis caused by Multi-Drug-Resistant (MDR) *Mycobacterium tuberculosis* strains. SMARt420 (Small Molecules Aborting ResisTance) is able to overcome acquired resistance to ETH, thus improving activity and restoring efficacy of the drug for the treatment of tuberculosis.

Lead author Dr. Alain Baulard says: "Discovering that a small molecule could reroute the activation of ethionamide through an alternative pathway was very exciting in the context of drug resitance."

The WHO stressed the urgent need to develop new treatments against drug resistant Tuberculosis as recently as February this year, which will also be supported by the World TB Day 2017 on March 24. Our approach offers the possibility to re-activate drugs that have been working for more than 50 years in patients but have started to fail due to resistance. "The beauty of this approach is that by combining our SMARt molecule to an old drug, we not only reverse resistance but also potentiate the original activity of Ethionamide." states the medicinal chemistry project leader, Pr. Nicolas Willand.

Marc Gitzinger, CEO of BioVersys, says: "Fighting antimicrobial resistance requires novel approaches. We were able to demonstrate that through this truly novel approach, addressing the antibiotic resistance problem in Tuberculosis, can soon become a reality."

The team remains actively engaged in the exploitation and translation of these findings to move fast through pre-clinical activities and to the clinic. BioVersys and its partners in Lille have for this purpose an ongoing collaboration with GlaxoSmithKline in the Tuberculosis program.

Tuberculosis – a neglected disease, a global threat

Tuberculosis (TB) is the leading cause of death globally from a bacterial infectious disease. It is caused by Mycobacterium tuberculosis which is present (mostly in a latent form) in nearly two thirds of the world's population. The disease was believed to be on the decline for many years however, WHO reports show there are nine million new cases of active TB every year, and it is estimated that about 1.6 million people die annually from the disease. Moreover, poor compliance with existing treatments has led to the emergence of drug-resistance, which has been exacerbated by the lack of new treatments in the last 40 years.

About BioVersys
BioVersys focuses on research and development of small molecules acting on specific bacterial transcriptional regulators and thus either overcome resistance to an antibiotic class or prevent the bacteria of becoming virulent and thus harmful. With the company's award-winning TRIC technology, BioVersys addresses the high medical need for new treatments against life-threatening bacterial infections such as those caused by Gram-positive and Gram-negative pathogens in the hospital setting and tuberculosis. BioVersys' compounds will be used either prophylactically and/or in combination with existing antibiotics, thereby potentiating and renewing efficacy of the established drugs as in the case of the turberculosis program. In collaboration with GlaxoSmithKline (GSK) and a consortium of the University of Lille, BioVersys is currently developing a preclinical candidate for the treatment of multidrug-resistant tuberculosis.

For more information, please visit www.bioversys.com

About University of Lille consortium
The University of Lille consortium is led by expert scientists in TB research and drug discovery from the Institut Pasteur de Lille, Université de Lille, Institut National de la Santé et de la Recherche Médicale (INSERM) and Centre National de la Recherche Scientifique (CNRS). The teams of Dr Alain Baulard, Professors Nicolas Willand and Benoît Deprez have conceived the innovative strategy behind this project. They now share within this public-private partnership their expertise in design, synthesis and testing of the active compounds.

Media Contact
Marc Gitzinger, CEO BioVersys
Tel +41 61 633 22 50
info@bioversys.com
www.bioversys.com