



## **Mitologics to collaborate in a consortium project awarded by the European Innovative Medicines Initiative to develop new antibiotics**

An international consortium of 9 research groups has been established to search for new solutions in the fight against *Mycobacterium tuberculosis*, which causes Tuberculosis, and its related strains *M. avium* and *M. abscessus*. It will seek new targets for anti-mycobacterial compounds, identify and optimize novel inhibitors and move these into the First-in-Human trials. Bacterial energy supply and respiratory chain will be the central focus of the underlying RespiTB and RespiNTM projects. Mitologics is the only biotech within the consortium and will contribute its expertise obtained during more than a decade-long experience in the detection of mitochondrial alterations.

Romainville, November 26, 2019 – Mitologics SAS, a biotechnology company focusing on tracking and analysing mitochondrial response to drugs and chemicals, announces its participation in the consortium that was awarded an €18M grant by the European Innovative Medicines Initiative (IMI) and Janssen Pharmaceutica N.V., part of the Janssen Pharmaceutical Companies of Johnson & Johnson, during the summer of 2019 to develop the underlying RespiTB and RespiNTM projects. This international consortium will primarily focus on Tuberculosis (TB). It aims to advance the discovery and development of new antibiotics that could reduce treatment duration to minimize the likelihood of bacterial resistance development. As part of the RespiTB project, the partners will seek to advance early-stage development of new compounds with anti-*Mycobacterium tuberculosis* activity. In the complementary non-TB mycobacterial project – RespiNTM – the consortium will work on a pipeline to tackle *M. avium* and *M. abscessus*, which cause infections that are not adequately addressed by available treatments.

### **Key concepts: drain the energy supply and undermine bacterial protection mechanisms**

Like all biological organisms, mycobacteria need ATP for growth. Their energy metabolism – in particular that based on oxidative phosphorylation – will therefore be the consortium's first target for new drugs. Various functionalities of this pathway can be successfully targeted by small-molecule inhibitors to block ATP production or respiratory electron transport, thus breaking down the proton motive force. The new compounds that the consortium will identify from a range of drug classes are intended to be used in combination with each other, or with existing therapies such as bedaquiline (an ATP synthase inhibitor), one of the few new TB medicines developed over the last 50 years. Secondly, the consortium's researchers will target mycobacterial machinery to undermine pathogen-defence mechanisms.

### **Key players: the consortium taking on RespiTB and RespiNTM**

The consortium combines experts in mycobacterial disease, drug targeting investigation, and project management. It involves nine teams from five European countries: a pharmaceutical partner (Janssen – the pharmaceutical arm of Johnson & Johnson), five academic groups (Leiden University Medical Center and the University of Leiden (the Netherlands); University of Antwerp (Belgium); Sorbonne University (France); Medical University of Vienna (Austria); University of Copenhagen (Denmark)), and two commercial small and medium-sized enterprises partners (FFUND B.V. (the Netherlands) and Mitologics (France)) – of which Mitologics is the sole biotech. The study is scheduled to run for 6 years.

### **Mitologics' contribution to RespiTB and RespiNTM**

Mitologics brings its expertise to the consortium, garnered over more than 10 years working to detect mitochondrial alterations in mammalian models, for both predictive pharmacology and toxicology. The company will be involved in *in vitro* tests to optimize leads provided by the other partners, focusing on

toxicology activities to identify potential adverse effects of antibacterial compounds on mammalian respiratory chain activity.

*“Tuberculosis is not only the world’s deadliest infectious disease, but its drug-resistant forms are one of the biggest drivers of mortality due to antimicrobial resistance. We urgently need new and innovative therapies to tackle this disease,”* indicates Annie Borgne-Sanchez, PhD, CEO/CSO of Mitologics. *“I am delighted that Mitologics will be taking part in this major collaborative R&D project. We will be addressing safety issues on mammalian mitochondria, providing RespiTB and RespiNTM with one of most powerful worldwide mitochondria-focused platforms for early-stage drug discovery.”*

+++

### **About RespiTB / RespiNTM**

Europe’s Innovative Medicines Initiative announced the creation of the IMI Antimicrobial Resistance (AMR) Accelerator program in July 2018. The RespiTB and RespiNTM projects aim to support one of the pillars of the AMR Accelerator, which is to develop a portfolio of new drug candidates and improve the pipeline of drug development for TB and NTM diseases. The projects are scheduled to run for six years, concluding in 2025. Further details are available through: <http://www.imi.europa.eu> and <https://respiTBNTM.eu>.

### **About Mitologics**

Mitologics S.A.S. is a Paris region-based biotechnology company specializing in tracking and analysing mitochondrial response to drugs and chemicals. The company has developed several assays to screen for predictive mitochondrial toxicity or targeting of compounds, both on isolated mitochondria and on cultured cells. Since its launch in 2009, Mitologics has performed nearly 200 R&D studies for European, North American, and Asian pharmaceutical companies and biotech, as well as cosmetic and agro-chemistry companies.

**This project has received funding from the Innovative Medicines Initiative 2 Joint Undertaking under grant agreement No [853903 and 853932]. This Joint Undertaking receives support from the European Union’s Horizon 2020 research and innovation programme and the European Federation of Pharmaceutical Industries and Associations (EFPIA).**



### **Contact**

**Annie Borgne-Sanchez, PhD**  
**Mitologics CEO/CSO**  
**+33 (0)6 89 72 82 13**  
**[aborgne.sanchez@mitologics.com](mailto:aborgne.sanchez@mitologics.com)**  
**<http://www.mitologics.com>**