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Press Release
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French multidisciplinary consortium ARPEGE awarded public funding of close to €9 million to fight antibiotic resistance

- ARPEGE designed to achieve solutions to antibiotic resistance by combining preventive, diagnostic, therapeutic and economic approaches for the first time.
- Led by the French biotech company Antabio, the ARPEGE consortium is acting jointly with bioMérieux, Hospices Civils de Lyon, and Toulouse School of Economics.
- ARPEGE is of major importance for public health, using a ground-breaking model to provide a framework for innovation and to strengthen the ability of healthcare systems.



Labège – Toulouse - Marcy l’Etoile - Lyon, January 6, 2022. The ARPEGE¹ project aims to develop a set of solutions to strengthen the ability of healthcare institutions to fight antibiotic resistance. The consortium, led by Antabio, has been awarded close to €9 million in public funding under the "PSPC" call for projects conducted on behalf of the French government by Bpifrance.

In recent decades, the emergence of pathogens resistant to antibiotics has become a growing threat to global public health and carries three major risks to society:

- A strong epidemiological risk, which already results in 700,000 deaths per year worldwide. Projections suggest that by 2050, antibiotic resistance could result in up to 10 million deaths per year².

¹ ARPEGE - AppRoche théraPeutique Economique & diaGnostique de l'antibiorésistancE (Economic, diagnostic and therapeutic approach to antibiotic resistance)

² Tackling drug-resistant infections globally: Final report and recommendations, The Review on Antimicrobial Resistance, Chaired by Jim O’Neill, May 2016.

- A risk to modern medical practice in particular: chemotherapy, surgery, transplants, and other procedures all depend on the availability of effective antibiotics.
- A risk to the world economy, as additional costs for health systems of approximately 100,000 billion dollars per year¹ result from antibiotic resistance.

In this context, France is actively taking part in the fight against antibiotic resistance alongside other countries such as Germany, the UK, and the USA. **The four-year ARPEGE project has been funded by the French government with nearly €9 million** out of a total estimated budget of €17 million.

This pioneering French initiative is coordinated by a consortium of four partners committed to tackling antibiotic resistance: **Antabio**, the leading partner, is a French SME dedicated to developing therapeutic solutions for infections identified as priorities by the World Health Organization (WHO); **bioMérieux**, is a world leader in microbiological *in vitro* diagnostics that develops solutions to improve patient health and consumer safety; **Hospices Civils de Lyon (HCL)**, is the second largest French university hospital, jointly with the **International Centre for Infectious Disease Research (CIRI)**, which focuses on understanding, prevention, and treatment of infectious diseases; **Toulouse School of Economics (TSE)**, is one of the world's top 10 research and teaching centers in economics, with 150 researchers working alongside Jean Tirole, winner of the 2014 Nobel Prize in Economics.

The ARPEGE consortium offers a unique multisectoral approach in four priority areas:

Expanding the arsenal of effective antibiotics, which is urgently needed to ensure improved patient care. Through its drug candidate ANT3310 Antabio aims to offer an innovative treatment option for infections caused by pathogens identified by the WHO as priority pathogens. According to **Marc Lemonnier, CEO of Antabio**: *“As we face a historic pandemic, ARPEGE is creating the synergies needed for a coordinated and effective French response to another imminent global challenge: antibiotic resistance. The €5.5 million public funding for Antabio will allow us to continue the development of ANT3310 towards clinical studies and reach crucial milestones such as the clinical demonstration of its safety and tolerability in humans.”*

- **Improving diagnostic through a targeted and informed approach to antibiotic prescription**, thanks to a sequencing-based software solution enabling new-generation susceptibility testing to obtain the resistance profile of a specific pathogen. **François Lacoste, Executive Vice President, R&D, bioMérieux**: *“The fight against antibiotic resistance is a strategic focus for our company and represents 75% of our R&D activities. With ARPEGE, bioMérieux is committed to the development of diagnostic solutions that are able to simultaneously process a very large amount of data by using artificial intelligence. This type of diagnostic solution with high medical and economic value will optimize patient care and reduce associated costs for healthcare systems.”*
- **Preventing bacterial transmission in hospitals** through early and automated detection of epidemics and potential at-risk situations (the EpiTrack solution by HCL and bioMérieux). According to **Jean-Philippe Rasigade, a bacteriologist at HCL’s Infective Agents Institute**: *“The Covid-19 pandemic has shown that it is essential to detect epidemic outbreaks early on to enable control strategies. This need for surveillance and rapid detection is equally crucial to combat the spread of resistant bacteria. By accelerating the development of EpiTrack, a fully automated real-time epidemic surveillance system, ARPEGE and its industrial partners are giving HCL and CIRI a major opportunity to strengthen the fight against antibiotic resistance, for the safety and wellbeing of our patients.”*

- **Developing new economic models** capable of sustainably enhancing the value of innovations that are needed in the fight against antibiotic resistance. According to **Jean Tirole, Honorary President of TSE and winner of the 2014 Nobel Prize in Economics**: “Antibiotic resistance is a major problem for society, and my colleagues and I are excited to place economic science in support of ARPEGE in order to offer long-term solutions that will deliver improved global health.”

Media Contacts:

ARPEGE
Marc Lemonnier
 media@arpege-amr.com
Sylvie Berrebi
 sylvie.berrebi@medistrava.com

Bpifrance
Sophie Santandrea
 Tel: +33 (0)1 45 65 51 62
 sophie.santandrea@bpifrance.fr

General Secretariat for Investment
 Tel: +33 (0)1 42 75 64 58
 presse.sgpi@pm.gouv.fr

About Antabio

Antabio is a private biopharmaceutical company specialized in the development of new therapies for severe and life-threatening multidrug-resistant infections. Antabio's portfolio consists of three highly differentiated development programs targeting WHO priority pathogens:

- **ANT3310-MEM** is a novel best-in-class serine β -lactamase inhibitor combined with meropenem (MEM) for the treatment of infections caused by Gram-negative pathogens including carbapenemase-producing *Acinetobacter baumannii* (WHO priority number 1). Ready to enter Phase 1, ANT3310-MEM was granted QIDP (Qualified Infectious Disease Product) status by the FDA in 2020.
- **ANT2681-MEM** is a novel metallo β -lactamase (MBL) inhibitor combined with meropenem for the treatment of infections caused by carbapenem-resistant Enterobacterales (CRE) that produce MBLs such as the New Delhi metallo β -lactamase (NDM). Ready to enter Phase 1, ANT2681-MEM was granted QIDP status by the FDA in 2019.
- **ANT3273** is a first-in-class elastase inhibitor targeting a key virulence factor of *Pseudomonas aeruginosa* for the treatment of pulmonary infections.

For more information, visit Antabio's website www.antabio.com, [LinkedIn](#) and [Twitter](#).

About bioMérieux

Pioneering Diagnostics

A world leader in the field of *in vitro* diagnostics for over 55 years, bioMérieux is present in 44 countries and serves more than 160 countries through a large network of distributors. In 2020, bioMérieux generated sales of €3.1 billion, more than 90% of which were generated outside France.

bioMérieux provides diagnostic solutions (systems, reagents, software and services) that determine the origin of a disease or contamination to improve patient health and ensure consumer safety. Its products are used primarily for the diagnosis of infectious diseases. They are also used for the detection of microorganisms in food, pharmaceutical and cosmetic products.



bioMérieux is listed on Euronext Paris.
 Code: BIM - Code ISIN : FR0013280286
 Reuters: BIOX.PA / Bloomberg : BIM.FP

Website: www.biomerieux.com

Section dedicated to investors: www.biomerieux.com/en/finance

About HCL

Hospices Civils de Lyon is a group of 13 public hospitals, all of which are driven by a triple mission: care, research and teaching.

Together, we form a community of 24,000 women and men, medical and non-medical workers, who share a single vocation: To care for each patient, whatever their situation and pathologies, throughout their lives.

From the management to the treatment of diseases (from the most benign to the rarest), and in collaboration with all healthcare professionals in Lyon, we place research at the heart of our approach in order to respond to the latest medical advances and anticipate the therapeutic challenges of tomorrow. As the second largest university hospital in France, we support and train the medical and non-medical staff of tomorrow through our 11 schools and institutes.

www.chu-lyon.fr

About TSE

Toulouse School of Economics (TSE) is a world-renowned research and training center with over 150 faculty members, including Jean Tirole, winner of the 2014 Nobel Prize in Economics. Over the past four decades, TSE has established itself as one of the top economics institutions in Europe, ranking among the top three recipients of prestigious European Research Council (ERC) grants in economics. TSE is now ranked ninth in the world among economics institutions according to the RePEc ranking.

www.tse-fr.eu

About Bpifrance

Bpifrance is the French national investment bank: it finances businesses – at every stage of their development – through loans, guarantees, equity investments and export insurances. Bpifrance also provides extra-financial services (training, consultancy.) to help entrepreneurs meet their challenges (innovation, export...).

More information on: www.Bpifrance.fr

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About Programme d'investissements d'avenir (PIA)

Created 10 years ago and directed by the General Secretariat for Investment under the Prime Minister, PIA finances innovative projects that contribute to the transformation of the country, sustainable growth, and the creation of jobs for the future. From the emergence of an idea to the dissemination of a new product or service, PIA supports the entire life cycle of innovation, between public and private sectors, alongside economic, academic, territorial, and European partners. These investments are based on demanding criteria, open selection procedures, and principles of co-financing or return on investment for the State.

The fourth PIA, known as PIA4, with €20 billion in commitments over the period 2021-2025, will provide long-term support for innovation in all its forms, so that our country can strengthen its position in the sectors of the future, in the service of competitiveness, the ecological transition, and the independence of our economy and our organizations.

More information on: [@SGPI_avenir](http://www.gouvernement.fr/secretariat-general-pour-l-investissement-sgpi)

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