



LUXEMBOURG  
INSTITUTE  
OF HEALTH



Horizon Europe  
2021-2027



## PRESS RELEASE

For immediate release

Luxembourg, 30 March 2022

### LIH paves the way to revolutionise cancer immunotherapy through two EU funded projects

#### Joining forces to improve cancer immunotherapy in clinical practice

*In spite of its enormous therapeutic potential to treat cancer, immunotherapy remains successful only in limited number of patients. New strategies are required to define which patients may benefit from cancer immunotherapy and determine which innovative molecules, given in combination, could maximise its effectiveness. Two LIH collaborative projects, recently approved for EU funding, will tackle these aspects with the aim to bring innovative cancer immunotherapy to standard clinical practice, sooner.*

Despite the clinical use of various conventional treatments (such as chemotherapy, radiotherapy, and targeted therapy), cancer is still reported as the second cause of death in Europe, with more than 1.9 million deaths in 2020. Over the past few years, cancer immunotherapy has emerged as a revolutionary alternative treatment approach to treat highly aggressive cancers for which conventional therapies have failed. In contrast to conventional therapies, cancer immunotherapy uses the patient's own immune system to fight cancer by awakening specialized immune cells to attack cancer cells. Although immunotherapy has rapidly gained significant interest for cancer treatment, clinical data showed that the impressive long-term survival benefit, achieved by immunotherapy, is only present in a minority of patients, while the majority of them reaped a short-term benefit or no benefit at all.

To extend the benefit of cancer immunotherapies, many clinical trials have focused on combining them with other available cancer immunotherapies. Despite several clinical trials undertaken to assess such combinations, the therapeutic benefit of significant number of them was disappointing and did not meet clinical expectations (minimal survival benefit and heavy toxicities). Indeed, the combination of several immunotherapies to extensively boost the immune system has the potential to disrupt its finely tuned balance and enhance the risk of triggering autoimmune diseases. These side effects, combined with a lack of adequate biomarkers to predict the response to cancer immunotherapy, makes such combinatorial strategies questionable. In this context, **Dr Bassam Janji, head of the Tumor Immunotherapy and Microenvironment (TIME) research group** at the Department of Cancer Research of the Luxembourg Institute of Health, has teamed up with prominent biotech companies, **Cytovation in Norway**, and **AC BioScience in Switzerland**, as well as the leading European cancer centre **Gustave Roussy, France**, in two pioneering projects that aim to expand the versatility of cancer immunotherapy.

Based on promising phase 1 clinical data, and powered by the collaboration with **Cytovation**, the **PreCyse** project will test the therapeutic benefit of immunotherapy based on immune checkpoint inhibitors, agents that can help the body's immune system recognize and attack cancerous cells, in combination with an innovative molecule that can specifically target tumour cells. *"The net outcome of PreCyse project is to bring innovative combinatorial immunotherapy into clinical practice and define reliable biomarkers that guide the stratification of patients that would benefit from it," explained Dr Janji. "We hope that this pioneering combination will bring a turnaround in immunotherapy-based cancer treatment, which would create tremendous enthusiasm in anticancer care."*



LUXEMBOURG  
INSTITUTE  
OF HEALTH



Horizon Europe  
2021-2027



Similarly, **C2I project** aims to bring alternative anti-cancer molecules that could improve the effectiveness of immune checkpoint inhibitors to clinical trial stage. Based on synergistic cooperation between **AC BioScience**, **TIME group** and the leading European cancer treatment centre, **Gustave Roussy**, this project will establish the preclinical proof-of concept and assess novel immunotherapy approaches based on combining molecules allowing better presentation of cancer cells to the immune system. *“This combinatorial approach could lead to new therapeutic options, with the ultimate aim to expand the use of current immunotherapy treatments to a large number of cancer patients,” adds Dr Janji.*

*“At the LIH, we work to break the boundaries of traditional medicine. The success of immunotherapy in the treatment of patients with incurable and advanced tumors is in the process of revolutionizing the way we treat cancers. By establishing robust biomarkers, immunotherapy can provide personalised solutions instead of the traditional one-size-fits-all approach of standard medicine, and therefore encompass all the values of precision medicine,” concludes Dr Janji. “We hope that by combining our novel agents with available cancer immunotherapy, we will be able to simultaneously and specifically directly attack the tumour cells and activate the immune system. Our approach could finally make cancer immunotherapy available to a wider range of patients.”*

#### **About Cytovation**

*Cytovation is a Norwegian biotech company that builds on over 15 years of cutting-edge research from two leading Norwegian institutions; University of Bergen and Haukeland University Hospital. Led by a highly experienced management team and world-renowned experts in tumor biology, an extensive research program has focused on engineering synthetic peptides with unique, antitumoral properties. **CyPep-1**, the company’s lead candidate, is being developed as a first-in-class tumor membrane targeting agent for the treatment of solid tumors.*

#### **About AC BioScience**

*AC BioScience is a Swiss start-up biotech company with an innovative vision and business model. The company is dedicated to developing groundbreaking new therapies to fight a range of cancers. Two of the three lead molecules in oncology, developed in the company, will enter clinical stage in 2022. Founded by Andreas Schlöpfer and Professor Christian Auclair, the company is leading a paradigm shift in cancer therapeutics. AC BioScience is headquartered at the life sciences campus Biopôle near Lausanne, and celebrated its fifth year of existence in March 2022. The primary focus of AC BioScience is on developing personalized therapies for cancer. The company obtained patent protection for one ground-breaking cancer therapy and have filed patents for two others. AC BioScience has a subsidiary company – AC BioTech SAS – whose offices are located in the Villejuif Bio Park near Paris, in proximity to the main French cancer research institutions. AC BioTech serves as a connexion point and vehicle for clinical validation activities in France.*

#### **About Gustave Roussy**

*Leading Cancer Centre in Europe, Gustave Roussy is ranked #5 world's best oncology hospital according to Newsweek magazine and the first one outside the United States. The institute treats patients with all types of cancer at any age and is expert in the treatment of rare and complex tumours. Gustave Roussy places innovation at the heart of a human, scientific and technological revolution in the fight against cancer. Physicians and researchers working at Gustave Roussy respond to a continuing challenge aiming to benefit patients from of the most recent advances in cancer therapies. They devote their efforts and skills to this great challenge: to speed up progress in order to expand the limits of knowledge and offer patients continuing improvements of their treatment.*

#### **About the Luxembourg Institute of Health (LIH)**



LUXEMBOURG  
INSTITUTE  
OF HEALTH



Horizon Europe  
2021-2027



*The Luxembourg Institute of Health (LIH) is a public biomedical research organization focused on precision health and invested in becoming a leading reference in Europe for the translation of scientific excellence into meaningful benefits for patients.*

*LIH places the patient at the heart of all its activities, driven by a collective obligation towards society to use knowledge and technology arising from research on patient derived data to have a direct impact on people's health. Its dedicated teams of multidisciplinary researchers strive for excellence, generating relevant knowledge linked to immune related diseases and cancer.*

*The institute embraces collaborations, disruptive technology and process innovation as unique opportunities to improve the application of diagnostics and therapeutics with the long-term goal of preventing disease.*

#### **Scientific contact**

Dr Bassam Janji

Head of Tumor Immunotherapy and Microenvironment (TIME) group

Department of Cancer Research

Luxembourg Institute of Health

E-mail: [bassam.janji@lih.lu](mailto:bassam.janji@lih.lu)

#### **Press contact**

Arnaud D'Agostini

Head of Marketing and Communication

Luxembourg Institute of Health

Tel: +352 26970-524

E-mail: [arnaud.dagostini@lih.lu](mailto:arnaud.dagostini@lih.lu)