



Myrtil Biotechnologies – innovating drug discovery for patients with dilated cardiomyopathy

Strasbourg, France and Göttingen, Germany

July 6th, 2022

The association Ksilink and myriamed GmbH founded Myrtil Biotechnologies, a company with its seat in Strasbourg, France, developing next generation therapeutics to treat dilated cardiomyopathy.

In a long-term collaboration, Ksilink and myriamed jointly established and validated an induced pluripotent stem cell (iPSC)-derived model of dilated cardiomyopathy (DCM), which will now be exploited by the newly created joint venture 'Myrtil Biotechnologies'.

DCM is a life-threatening disease in which the heart becomes enlarged and cannot pump blood effectively anymore. About 1 in 2,500 people are affected with an onset most often in middle age and a poor five-year survival rate of only 50%. Familial forms of DCM are caused by a number of disease-causing mutations, the most frequent being C-terminal truncations in the *TTN* gene, so called titin-truncating variants (TTNtv). Despite tremendous efforts in research and development, there is currently no disease-modifying treatment option available in the clinics. In fact, traditional drug discovery based on biochemical assays and animal models that are not correctly reflecting the human physiology has reached its limits. With new technologies in human stem cell biology, cell differentiation techniques, tissue engineering, and high-content imaging coupled to artificial intelligence (AI)-driven image and data analyses, there is a huge opportunity to reinvent drug discovery that Ksilink and myriamed have taken.

Thus, with the ambition to revolutionize therapeutic options for DCM patients, myriamed and Ksilink have embarked in a precision medicine approach, implementing human iPSC-derived cardiomyocytes, engineered to express a *TTNtv* mutation in 2D and 3D cardiac models. Titin (TTN) is the largest human protein with a pivotal role in heart muscle function. Heterozygous *TTNtv* mutations are commonly found in DCM patients. Myrtil Biotechnologies combines myriamed's expertise in cardiac disease modelling and Ksilink's ability to functionalize complex cellular models for drug discovery purposes, leveraging on state-of-the-art high-content imaging coupled to AI-assisted image and data analysis tools, with the ambition of identifying innovative drug candidates, and to develop them into disease modifying therapies.

"We are very proud of this productive partnership" says Alain Beretz, president of the Ksilink Association. "Patient-based disease modeling for drug discovery purposes, empowered by AI-driven image analysis, is a strategic bet of Ksilink since its creation in 2014. The young company will benefit from the strong network of excellence of our French-German Association with outstanding capacities to generate most valuable compounds for next generation medicine".

"We are excited that our competences and capacities to emulate dilated cardiomyopathy in our innovative cardiomyocyte and engineered heart muscle models will now be explored to identify precision medicines to combat heart failure" states Gunther Zimmermann, CEO of myriamed GmbH.



“With Myrtil Biotechnologies, the two partners Ksilink and myriamed want to accelerate the project and set the ground for the entry of investors.” says Antoine de Lacombe, Managing Director at Ksilink. “Investors and Pharma are awaiting new approaches to enable the development of drugs that eventually significantly improve patient’s life. Myrtil Biotechnologies enters the court with an excellent scientific and strategic background.

About myriamed GmbH: myriamed GmbH, with its headquarter in Göttingen, was founded in 2012 as spin-off from the University Medical Center Göttingen to exploit innovative cell and tissue models for drug discovery. myriamed integrates unique proprietary heart, skeletal, brain, and connective tissue cell (myrCell) and tissue (myrTissue) models in versatile disease modelling platforms (myrDisease) to enable phenotypic high-throughput and high-content screens (myrScreen) in powerful patient-in-the-dish models. At myriamed, we are convinced, that the next generation cures with predictable safety and efficacy profiles will be discovered and developed in human disease models. With its world-class expertise and offerings of disruptive cell and tissue technologies myriamed strives to be a premium partner for ambitious drug developers. www.myriamed.com

About Ksilink: Ksilink is a French-German association of renowned industrial and academic players with the aim to provide innovative patient-based, translational tools for phenotypic drug discovery and the development of next generation medicine. Ksilink was founded in 2014 in Strasbourg, France, with its own, in the meantime affiliated, platform and team. The association provides a network of excellence with unique capacities for disease modelling, phenotypic screening and preclinical drug development. Its affiliated platform, Ksilink Services SAS, combines outstanding expertise in high-throughput, high-content screening (HTS-HCS) with AI-driven image analysis and data mining in an industrialized surrounding. Since its creation, Ksilink benefits from a strong support from its founding members and the French “Programme d'Investissement d’Avenir”. It currently counts 12 members from academia, hospitals, biotech and pharma, acting together to bridge the gap between academic excellence and industrial expectations, and conducts a pipeline of drug discovery programs in the field of oncology, muscular and neurologic disorders. www.ksilink.com