



Balmes Transplantation raises €700,000 in seed funding

The funds will be used to develop drugs for kidney ischemia-reperfusion injury (IRI)

Innovative treatments to prevent cardiac surgery-associated acute kidney injury (CSA-AKI) and delayed graft function (DGF) in kidney transplantation (KTx)

Marseille, February 6, 2017 – Balmes Transplantation, an early stage innovative biotech company specializing in the fast development of combinations of repurposed drugs against kidney ischemia-reperfusion injury (IRI)¹, announces today that it raised 700,000 euros in seed funding from the company's top executives, Patrick Berna (founder and CEO) and Guillaume Demarne (CBDO), and from a group of angel investors. These funds, combined with the 900,000 euros previously raised by the company since its creation, will be used to perform *in vivo* proof-of-concept studies of Balmes Transplantation's first molecule combinations in two separate renal indications sharing IRI as a pathophysiological mechanism: cardiac surgery-associated acute kidney injury (CSA-AKI) and delayed graft function (DGF) in kidney transplantation (KTx).

Balmes Transplantation combines existing drugs to yield synergistic, innovative effects capable of acting simultaneously on different components of ischemia-reperfusion injuries. The pharmacological treatments of Balmes Transplantation can therefore address unmet needs by extracting the latent value of mature drugs in pathologies involving large numbers of patients as well as in orphan indications.

"Privation and subsequent restoration of blood flow to an organ triggers deleterious tissue reactions such as innate immunity activation or generation of oxidative stress, which result in kidney cell death through specific mechanisms (apoptosis, necroptosis, ferroptosis...). In contrast to monotherapies that only treat one element of the problem at a time and that have proven to be ineffective in humans to date, our combination drugs are able to simultaneously act on several biochemical cascades during ischemia/reperfusion, thus increasing their chances of success in patients in this complex pathophysiology," explains Patrick Berna, founder and Chief Executive Officer of Balmes Transplantation. *"The small molecules we use for our proprietary combinations are also proven drugs that are already marketed in other indications on the European and US markets, which allows us to shorten the development timeline of our products. Our subsequent ambition is to test one drug candidate in each indication in phase II clinical trials by 2020."*

The two indications on which the company is focusing are:

- Cardiac surgery-associated acute kidney injury (CSA-AKI)

A major factor of acute kidney injuries (AKI), kidney ischemia-reperfusion injuries (IRI) are caused by an interruption of blood flow and subsequent oxygen deprivation in the organ during heart surgeries, resulting in cellular death and tissue damage.

30% of patients undergoing heart surgery develop post-op kidney complications or cardiac surgery-associated acute kidney injuries (CSA-AKI). Six out of ten CSA-AKI patients require dialysis and the mortality rate for CSA-AKI patients is 8%. Each year, CSA-AKI affects approximately 500,000 patients in the United States and Europe. The care provided to CSA-AKI patients results in an increase in hospitalization costs of up to \$50,000 per patient.

¹The damage caused by the interruption and subsequent restoration of blood flow to an affected organ, including during surgical procedures such as organ transplants.

- Delayed graft function (DGF) in kidney transplantation (KTx)

Ischemia-reperfusion injuries (IRI) contemporaneous to kidney retrieval, preservation and transplantation induce delayed graft function in the short run, and a long-term, progressive loss of function up to graft failure and rejection. The transplanted patient must be put on dialysis again, awaiting possible retransplantation. These post-op complications are fraught with consequences for patients and account for longer waiting lists for future graft recipients. They add up to the already unsustainable and rising \$60 billion annual cost of care for US and European dialysis patients. More than 45,000 patients receive a kidney transplant each year in the United States and Europe.

Balmes Transplantation is currently working on five *in vitro*-validated combinations and on the *in vivo* translation of these results.

“The innovative treatments we are developing are intended for two indications in which there are currently no drug available on the market, despite the large population of patients they affect. For patients exposed to kidney ischemia-reperfusion injuries (IRI) after undergoing heart surgery, the combination drugs we develop will prevent acute kidney injuries (AKI). For kidney transplantation patients, our combination drugs will speed up the recovery of renal function and could improve long-term graft survival, while drastically reducing the costs of renal replacement therapy,” says Guillaume Demarne, Chief Business Development Officer of Balmes Transplantation.

About Balmes Transplantation

Founded in November 2015 by Patrick Berna in Marseille, France, Balmes Transplantation is a biotech company with fast development timelines focusing on the development of small-molecule drug combinations for the prevention of ischemia-reperfusion injuries (IRI), namely the damage caused by the interruption and subsequent restoration of blood flow to an organ during surgical procedures such as organ transplants. Balmes Transplantation is currently working on two indications with a similar pathophysiological mechanism: cardiac surgery-associated acute kidney injury (CSA-AKI) and delayed graft function (DGF) in kidney transplantation (KTx). The company has benefited from over €770,000 in financial support from Bpifrance, the French PACA Region and the French government. The company has eight full-time employees.

<https://balmestransplantation.com/>

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