Interview: Matias Vial, Executive Vice President â?? Maroun Khoury, Chief Scientific Officer, Cells for Cells, Chile

02.07.2014

Cells for Cells is the first Chilean biotechnology company engaged in the research, development and commercialization of innovative cell therapies based on adult stem cells. In line with the companyâ??s international ambition it has succeeded to appoint Maroun Khoury as Chief Scientific Officer. Khoury

has prior experience at the Singapore-MIT Alliance (SMART) Labs in Singapore and is determined to turn Cells for Cells into a Chilean success story.

Mr Vial, could you start by giving an introduction to Cells for Cells?

The company is a spin-off of the University of the Andes, and seeks to innovate in basic research on stem cells, as a way to lead to new therapies that address highly prevalent degenerative diseases. We also aim to provide effective and proven treatments for patients Chilean and Latin American through clinical trials in hospitals and health centers that have the necessary infrastructure. Our strategy is to move along with clinical studies, focusing on phase 1 and phase 2 studies.

Located at the University of the Andes, Cells for Cells has advanced GMP facilities and modern and functional infrastructure that has been built to meet the highest quality standards to ensure the process of research and development of innovative and reliable cell therapies. Currently we are in the process of building our second GMP Lab within the Universidad de los Andes Hospital. From there we will be able to take studies to proof of concept, and produce therapies with the aim to bring to the market. Cells for Cells is the first biotech company in Chile with such value proposition.

Chile has taken significant steps to incorporate biotechnology into its economy. Through a series of powerful initiatives, including a new regulatory framework and economic incentives, it seeks to develop a world-class biotechnology sector. The company has opened the door to a new industry in Chile with the goal to be competitive on an international level.

In order to illustrate our international ambitions we have named the company Cells for Cells instead of â??*CÃ©lula*s para las *CÃ©lula*sâ?• in Spanish; we are thinking worldwide. We are pleased with the appointment of our Chief Scientific Officer who has prior experience at the Singapore-MIT Alliance (SMART) Labs in Singapore. SMART is a major research enterprise established by the Massachusetts Institute of Technology (MIT) in partnership with the National Research Foundation of Singapore (NRF) in 2007. His appointment has led the way for a cadre of top notch researchers to join this initiative in Chile.

What does Chile has to offer for a company such as Cells for Cells?

In a world of constant change, Chile is a beacon of economic and institutional stability. In international comparisons of competitiveness and economic freedom, Chile is at the forefront of South America, and despite its emerging status, itÂ´s in a very good competitive position. I was in Spain earlier this month and I realized that Chile has huge credibility abroad. In the last few years, Chile has emerged as a pole of innovation that is spoken about throughout the world.

Our research aims to move â??from bench to bedsideâ?• or from laboratory experiments through clinical trials to point-of-care patient applications. When I am speaking about the term, â??bench to bedsideâ?• I refer to the concept of translational medical research. This concept aims to â??translateâ?• findings in basic research into medical practice and meaningful health outcomes. In order to achieve this we have established partnerships with Chilean hospitals and research centers abroad. Chile provides the opportunity to reach patients faster and cheaper compared to developed markets

We hear substantial hurdles on way to further growth for biotech companies, among others lack of capital. For you, what have been the challenges in raising capital?

We have been extremely fortunate with three private investors who founded Cells for Cells three years ago. The company started with USD 3 million in private equity, and 3 years after we received another USD 10 million from the same investors. In addition we have obtained USD 2 million from CORFO and Conicyt, a Chileangovernmental organization overseeing a variety of programs aimed at generating the economic development of Chile.

Chileâ??s biotechnology sector is very young and as a result lacks a platform, framework or policy. For that reason we applied for another CORFO funding, with the objective to create a platform for open innovation to scale clinical, technical, commercial and regulatory part. Together with Clinica Davila, the largest private clinic in Chile, we obtained through competitive funding by CORFO USD 10 million for a period of 10 years to create a new company, REGENERO, that will be focused in the develop of allogenic stem cells therapies (lupus, diabetes, skin ulcers and chronic renal failure)

Together with the University of the Andes, the public and the private sector Cells for Cells is forming a new cluster for stem cells. And, as a result the Ministry of Education awarded us a grant for USD 10 million six months ago. In total we have therefore received more than USD 40 million in grants and private funding for stem cell therapies.

Cells for Cells has obtained more than 15 projects in the sphere of stem cell therapy and we expect to have more than 100 people working here. Having that said, this will be an important hub for biotechnology in Chile.

Furthermore, we expect the world market for stem cell technologies to grow significantly. Interest has grown significantly owing to their potential in providing complement cures for diseases. This potential gives opportunity for stem cell-based treatments to reach multiple end markets.

What are the most important partnerships / collaborations you want to highlight?

We have managed to conclude agreements with several institutes both local and international. Considering the fact that Cells for Cells is a first Chilean of its kind it is imperative to have a strong network. Therefore we have established partnerships with universities and research centers that include Inserm and Montpellier University (France), Wake Forest University (USA), National University of Singapore, and University of Queensland (Australia) among others.

How do you rate the commitment of the Chilean government of fostering the right environment for the biotech industry?

The country remains overwhelmingly reliant on copper and therefore highly vulnerable to fluctuating commodity prices. As a result, the outlook has encouraged Chile to diversify its mining based economy. And biotechnology is a great opportunity.

To bring our work under the attention of the government I believe that it is necessary to demonstrate quick success; that as an industry we are building something substantial. It would be a major achievement if we could cure a patient disease with Chilean technology.

As Cells for Cells we have invited government officials at our facilities in order to show the potential we have here. Furthermore we have managed to attract USD 40 million in funding and several great researchers; showcasing our progress.

Looking at yourself, do you consider yourself a business man or an academic?

Prior to coming to the university I worked at VTR, a large player in telecommunications and also for LAN, a Chilean airline. Therefore I do not see myself as an academic. I am a person who believes that Chileans are able to provide solutions also applicable abroad. I am a realist and think that Chile needs less politics and more action.

Logically on the long term, Cells for Cells has the ambition to close the cycle of R&D and innovation in order to sell a product. Today my efforts are focused on establishing a dialogue between Universities, government and the private sector; to create a platform to turn this into a reality.

Mr. Khoury, could you please begin with a brief introduction of yourself?

Prior to arriving at Cells for Cells two and a half a year ago I was a junior Group Leaderat the Singapore-MIT Alliance for Research and Technology (SMART) in Singapore. I obtained my Master and Ph.D. in Gene Therapy at the University of Montpellier, France, and completed a postdoctoral in Stem Cells at the Massachusetts Institute of Technology (MIT), USA.

How did you experience Cells for Cellsâ?? early beginnings?

When we started at this lab I was working with two researchers and virtually no governmental funding. The combination of good science and our commercial efforts has been key to success. Naturally true success is bringing a product or a therapy into the market. Nevertheless, the road to this success has been paved. Additionally we have established collaborations on all the continents with the most prestigious universities.

Cells for Cells was among the very few labs that has managed to attract long term funding. Short term funding gives short term ideas and we are therefore pleased to have received five to ten year funding.

Does Chile have the human resources available for such an ambitious project like Cells for Cells?

Chile suffered from a brain drain but spurred local innovation and reversed this into brain gain. There are many Chileans with good positions overseas in the US or Germany who are looking to come back to their country. In fact, a recent paper published on research in Latin America revealed that Chile has one of the highest patent applications per capita.

Although itâ??s still quite unusual to see foreign researchers, such as myself, working in Chile I do see this changing. From that perspective, Cells for Cells is a frontrunner with twelve different nationalities working in the lab. We have people from India, Argentina, the Netherlands and USA.

Naturally every researcher has an ambition to go to the US or Germany but I believe that sometimes one has to look for other opportunities that are less known. Personally, I consider Chile as a hidden gem; a country with major opportunities.

What project are you most excited about?

We are conducting translational research with the aim to treat patients. Any project that can be translated to the clinic is something exciting. Having that said, some researchers live all their life seeing that one project reaching the clinic.

The projects that I am personally most excited about are these already in clinical trials because you get to see patients. One of these projects is the transplantation of limbo corneal stem cells, an eye treatment, which was not our innovation but something we brought to Chile. As a result Chileans have the opportunity to be treated within their own country and not having to travel abroad.

When your own technology is translated to the clinical is naturally even more exciting. One of these projects is a stem cell project isolated from menstrual fluids, which started from scratch here in the lab. Initially we thought it was just a lab idea that perhaps would be published but nothing more. However this project is starting to take form because we discovered that these cells have different properties. Currently we are looking at their effect to treat cancer, inflammation and regeneration of tissues. A major milestone is the ethical approval to start clinical studies.

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