Interview: Jan Smeitink â?? CEO, Khondrion, The Netherlands

17.11.2015

Tags:

pharma, pharmaceuticals, Jan Smeitink, Khondrion, The Netherlands, biotech, mitochondrial diseases, innovation, R&D, KH176, clinical trials, pre-clinical trials, Leigh Disease, MELAS, Leberâ??s Hereditary Optic Neuropathy, impaired cellular energy metabolism, live cell imaging, oxidative, redox pathologies,

Jan Smeitink, CEO of Khondrion, a young biotech company designing highly innovative solutions for people suffering from mitochondrial diseases, provides an overview of the latest developments regarding the companyâ??s lead compound and explains how its talented team and strategic partnership with the Radboud University Medical Centre will help Khondrion to fulfill its ambition to bring innovative treatments to patients in the coming years.

Khondrion, legally founded in 2007, became fully operational in 2012. Could you please give a brief history of the company and tell us what have been the main challenges that you have faced in moving the company forward?

Khondrion has been operating since November 2012, and in this short period of time we have already successfully completed clinical trials phase 1 for our lead compound KH176. Obviously, every step of the journey has been a challenge! More seriously, the main challenge may have occurred even before the proper launch of the company, as I had to convince the board of the Radboud University Medical Centre of the feasibility of the project, a process that took almost five years. The second most important challenge was then gathering the right people to build a team that would allow Khondrion to reach its objectives. I am pleased with the diverse international talent that we have been able to attract and the current structure of the organization, even given the many adjustments we had to make during the first years of the company.

We also faced various challenges related to the conception of our product, whilst always remaining attentive to cost management. During the pre-clinical and clinical phases, one has to be extremely attentive to time-management and encourage efficiencies to move forward as quickly as possible, all the while never neglecting the quality of the product. The Khondrion team is now entirely dedicated to repeating the same success we had in phase I for the phase II trials of our lead product KH176, in order to launch the product in the coming years or even sooner!

What types of therapies are being developed by Khondrion at the moment?

The primary focuses on our current developmental portfolio are therapies for inherited mitochondrial diseases such as Leigh Disease, MELAS, and Leberâ??s Hereditary Optic Neuropathy. We have an in-depth understanding of the clinical, biochemical, and biological consequences of impaired cellular energy metabolism, which is the driving force behind our development of superior drug candidates with novel activity in inherited mitochondrial diseases.

Our proprietary technology for human cell-based disease models for inherited mitochondrial diseases has been particularly useful in modelling and understanding the efficiency of our drug candidates. Having access to this technology is crucial as we are still in drug development phase and are constantly working on new form of assays to improve the platform. Our unique quantitative

live-cell imaging technologies and in-depth, characterised human cell panels also aid this developmental process.

Two months ago, Khondrion received orphan drug designation from the FDA and EMA for your lead compound KH176. What differentiates your compounds from other therapies which are already on the market or being developed at the moment?

KH176 is a member of a class of drugs essential for the control of oxidative and redox pathologies and is targeted at MELAS syndrome, a progressive neurodegenerative disorder, and other disorders affecting mitochondrial oxidative phosphorylation. Obviously, we cannot know so far the real impact that KH176 could have on patients, even if in vitro results were particularly convincing and promising. We will also be submitting in vivo studies before the end of 2015.

Furthermore, the compounds we are developing not only have the capacity to treat rare and orphan diseases, but also more common diseases associated with mitochondrial dysfunctions such as Parkinsonâ??s disease. In this regard, we are one of the companies chosen to be part of a Horizon 2020 consortium on Parkinsonâ??s disease granted by the European Commission. In a recently granted project from the Michael J. Fox Foundation the impact of KH176 on rats affected by Parkinson will be investigated. These two endorsements underscore that a product initially geared towards rare diseases can also provide solutions for more common diseases.

As a final ingredient to the success of our development pipeline, our team combines decades of expertise in mitochondrial medicines, and we have access to an international network of scientists and of patients, especially as I am also Professor at the Radboud University Medical Centre. The amazing spirit driving our team is probably our best asset to ensure the compound will emerge successful from the next round of clinical tests and offer a robust gain to patients once it has reached the market. We know what kind of challenges we are facing, and we are ready and eager to tackle them. Our team is extremely enthusiastic about our project, and our recent success and endorsements from the FDA and EMA can only further fuel this motivation.

What is your strategy for the upcoming years to make sure that patients gain access to your therapies?

Everything is open at the moment! Khondrion could continue to undertake product development completely on our own, as we have done so far, but we could also look for a partnership with either a company specialized in rare diseases or a big pharma company. We are also considering a private equity investment and have received a lot of interest from both Dutch and international VCs. Although undertaking an IPO seems perhaps too early today, the situation could change very quickly in the coming months or years. All these possibilities are being discussed within our team in the first instance. In a second instance, we exchange extensively with other biotech companies to learn from their experiences and ensure Khondrionâ??s solutions can reach patients in the most time efficient manner. The reactions to Khondrionâ??s profile and achievements have been extremely positive thus far, not only from Dutch but also international companies.

The most important objective for me to is to bring our compounds to the patient as soon as possible. I realize that reaching this objective would probably imply extra funding and that a partnership could be the best option if we want to move forward as fast as possible. Nevertheless, we are in the lucky position where we are able to choose our partner among many candidates.

We are ambitious, and we will do everything to ensure that over the next five years Khondrion will become the new Genzyme, but for mitochondrial diseases! Obviously, our next objective is to successfully complete phases II and III trials for KH176. Thanks to our close relationships with patients, we hope that we will be able to complete these trials faster than other companies. We are

also extremely careful in examining what other companies did in the past since we strive to not repeat the same mistakes. Our clear focus is to adopt the best designs for our studies.

The company has a strong partnership with Radboud University Nijmegen Medical Center. Could you please elaborate on the nature of this partnership?

This strategic partnership is part of the DNA of our company. The founding agreement of Khondrion stated that we would have access not only to universityâ??s facilities, but also to the amazing human knowledge available here. Our offices are located within the university, and we often undertake joint grant applications, especially given the increased prominence of public-private partnerships as the norm for grant applications. This collaboration in the grant sphere only serves as one piece of evidence, among many others, that the Radboud University benefits equally as much as Khondrion from this partnership. As another example, Khondrion welcomes students and researchers from the university to our team.

The Netherlands is renowned as a great innovator with a lot of excellent publications. Yet there seem to be a lot of challenges when it comes to translating this knowledge into successful business models and marketable products. What is your assessment of the situation?

I notice that even if there has always been a strong commitment towards fostering innovation in the Netherlands, we have only focused on translational medicine and concrete product developments in more recent years. For instance, when we started Khondrion, we were among the first Dutch companies to adopt a business model based on a strategic partnership with a research center to translate the strong fundamental research present into a practical product. In our case, the partner was the Nijmegen Centre for Mitochondrial Disorders, an internationally acknowledged center for patient care, diagnostics, counselling and research at the Radboud University Medical Center.

Given the increased emphasis on translational medicine, we can expect a lot of new products arriving on the market from Dutch biotechs in the coming years. To sustain this effort, however, funding is obviously crucial, and on this count, the Netherlands still lags behind countries like the United States. Nevertheless, the Netherlands remains a strong research and development hub on a global and European scale. Being a small country is clearly one of our main assets, as short distances naturally foster a closer collaboration between the different stakeholders from various disciplines.

Given your long experience in academia and research, and as the CEO of a promising biotech company, what type of advice would you give to young entrepreneurs in life sciences?

My most important message is probably: â??if you want to do it, go for itâ?•. This is also what I did, and I am really happy that I chose this path. Prior to embarking on the Khondrion journey, my perception was that despite contributing scientifically to numerous gene characterizations and to a substantial body of research on gene mutations, my patients were still dying! With Khondrion, I am now working to bring a more practical contribution in the field of mitochondrial diseases. This quest has become my main driver over the past five years and will indisputably remain my main source of motivation to drive Khondrion to new heights in the future.

Click here to read more articles and interviews from the Netherlands, and to download the latest free pharma report on the country.

See more interviews