

InnoMedica: Making drugs smart

■ An exclusive interview of Jonas Zeller, CFO of InnoMedica, by **Oliver T. ERNST**, Associate Editor, Point de Mire

InnoMedica, a Swiss nanomedicine company founded in 2000 and based in Bern, is developing a new nanocarrier platform to transport anti-cancer drugs directly to tumors – making the drugs more efficient and at the same time reducing their toxic effect on healthy tissues. The aim is to change the way therapeutics are used in the treatment of patients by improving the distribution of the drug in the body (bio distribution). InnoMedica is building a drug pipeline applying the patented drug delivery system not only in oncology, but also in other pharmaceutical areas e.g. neurodegenerative diseases, revealing the vast potential of this Swiss nanomedicine company. The strategy of InnoMedica is to develop, produce and market Talidox, a novel cancer therapy which targets tumor cells directly, reduces side effects to a minimum and has broad therapeutic application possibilities at reasonable costs.

1. Point de Mire: How did the medical decision-makers react to your product when it was initially presented to them and what are the new developments since we last met in April 2016?

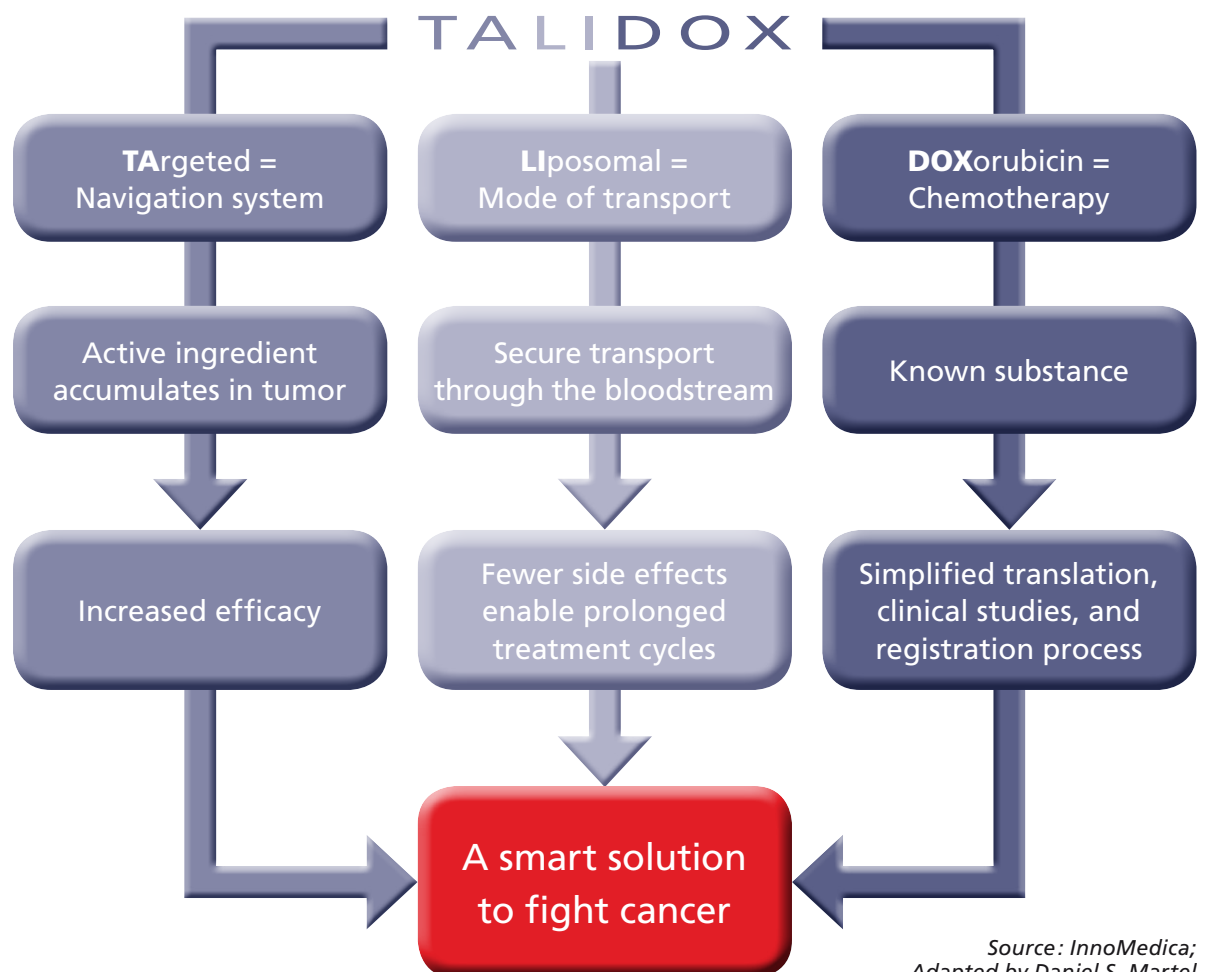
Dr. Jonas Zeller: We presented the results of our preclinical studies to the oncologists of the Swiss Group for Clinical Cancer Research (SAKK). Their reaction was very positive and they want to start the clinical trial phase with us this year. Thanks to the successful financing round of CHF 3.3 million in May 2016, the InnoMedica team was able to achieve important progress with Talidox in the past months. Its stable production was confirmed by consistent results in several preclinical studies and our therapy constantly achieves better effects than today's treatment standards - even when performing in a fast-growing, metastasizing tumor model. Further, we were successful in scaling up the production process allowing to manufacture the necessary quantities for the Swiss market. A promising research collaboration with an American university was initiated. First data show that InnoMedica's liposomal targeting technology allows the blood-brain barrier to be overcome, thus opening up applications for neurodegenerative diseases such as Parkinson's or Alzheimer's disease.

2. PdM: How did the first application of your technology become a cancer medication? And what else is in the pipeline?

Dr. J. Z.: InnoMedica is developing the targeting platform with a first application called Talidox. With the release of this drug, InnoMedica aims to improve the current chemotherapeutic treat-

ment of cancer patients. Based on the positive research results of preclinical studies, Talidox is now just about to begin the clinical trial with a phase I study in the Swiss hospitals. The first cancer patients should have access to Talidox most probably by fall 2017. The Swiss Federal Agency for Therapeutic Products, SWISS-MEDIC, approved a simplified

authorization process defining Talidox as "known substance with innovation". Our drug takes an already approved and well-known chemotherapeutic agent, doxorubicin, and alters its bio distribution using the liposomal drug delivery system. Our first product in the field of oncology provided hopeful results for an improved therapy of various



Source: InnoMedica;
Adapted by Daniel S. Martel

kinds of tumors. By successfully starting the translation process of bringing our product into the clinic, we have come closer to our goal of making this technology usable for patients. Furthermore, other promising applications of our patented technology are already waiting to be pushed forward in the pipeline, for example in the field of neurodegenerative diseases. In fact, this is the most recent project of our R&D department, and first preclinical studies revealed very convincing results. If confirmed in clinical tests, this could prove an entirely new treatment of neurodegenerative diseases.

3. PdM: What is your estimated market volume and where is your intellectual property (IP) registered?

Dr. J. Z.: Cancer is one of the most important health problems of our time. Every second man and every third woman suffers of cancer during their lives. The indications for our first product, Talidox, will be determined in the clinical studies, but we are confident that it will be applicable for multiple cancer types including the treatment of breast cancer. The average cost of our benchmark drug, Caelyx, is approximately USD 20'000 per year per patient. InnoMedica pursues a similar price for Talidox. This is a relatively moderate price compared to therapies with immunotherapeutic drugs. These also provide a real improvement already today. However, they are only beneficial for a small number of patients and are very expensive. The intellectual property of our drug delivery system is registered in Switzerland, Germany, France, United Kingdom, Holland, USA and Japan. Attempts to circumvent our patents by large established pharmaceutical companies have failed in the past.

4. PdM: Behind every product, there is a company. What makes InnoMedica unique in respect to other Swiss pharmaceutical start-ups?

Dr. J. Z.: Preservation of InnoMedica's independence through a broad public shareholder base supported by a stable shareholder core is key. Its main shareholders are the families Halbherr, Yamazaki, Früh and Bron. Together they

own 59% of company shares. Four successful financing rounds gained InnoMedica a broad shareholder community of more than 220 private investors. We also own our production facility and undergo clinical trials in Switzerland. SWISSMEDIC considers Talidox as known substance with innovation, which has a significant positive impact on the clinical trial process. As known substance with innovation, Talidox improves the bio distribution of a well-known active agent. SWISSMEDIC acknowledges that efficacy and side effect of this agent are already documented, thus simplifying the regulatory procedure. Therefore, the clinical trial is accelerated compared to the procedure when testing new drugs. If the clinical superiority of Talidox is already apparent from the results of the phase II study, InnoMedica may request a provisional authorization. In conclusion, with initiation of phase I clinical study in fall 2017, InnoMedica can expect to obtain market approval earliest in 2019. Another important characteristic is that we develop a platform technology, not just a single therapeutic substance. Not only



do we own the technology patents, but the inventor also is a member of the Board and a large shareholder. This is reflected in the company's current valuation of CHF 120 million.

5. PdM: What type of partners do you have?

Dr. J. Z.: The Swiss Group for Clinical Cancer Research (SAKK) is the association of the clinical oncology centers of Swiss hospitals. As an independent institution, SAKK has conducted multicenter clinical trials in major Swiss hospitals since 1965. Their network and experience makes them a strong partner for InnoMedica during the clinical trial process. The cooperation with leading Swiss oncologists of SAKK will considerably accelerate our market success. To expand the product pipeline, we established national and international research collaborations e.g. with the University of Bern (Institute of Anatomy), the Istituto di Ricerche Farmacologiche Mario Negri (Milano), and the John A. Burns School of Medicine (Hawaii). For example, preclinical trials demonstrated interesting



Dr. Jonas Zeller Dr. Jonas Zeller, Head of Finance and Administration, joined InnoMedica in 2013 and he is lecturer of Business Valuation at the University of Bern and the Bern-Rochester Executive MBA program.

results when using InnoMedica's technology in the context of atherosclerosis and showed a significant reduction in plaque size.

6. PdM: What are the next steps and your financial needs? Have you planned an IPO soon?

Dr. J. Z.: InnoMedica plans to carry out a further capital increase of CHF 7.7 million. The public offering starts on March 27th 2017 and ends on May 31st 2017. Interested investors have the opportunity to meet the InnoMedica Team at the roadshow events during the public offering of the capital increase 2017. We will have talks at the Swiss Biotech Day in the Analyst & Investors Track and at CLINAM, a congress about clinical nanomedicine in Basel. Events in Geneva, Bern and Zurich are open to the public. However, registration in advance is appreciated. This is our fifth round of financing and we intent to generate capital for the clinical trials. We are planning a public listing on the stock market following the successful human clinical trials of Talidox by 2019, most probably at SIX or Nasdaq. Already today, investors receive electronic shares with ISIN CH0011082366, which are traded OTC. This gets us in a comfortable position for a public listing in the near future.

"Drug delivery is poised to change the way doctors practice medicine" – The Scientist, August 2014 issue

New Share Capital available until May 31st, 2017

Roadshows:

Geneva: April 26th, 2017 @ 6:15 PM, Hôtel d'Angleterre

Bern: April 25th, 2017 & May 10th, 2017 @ 6:15 PM
Generationenhaus Burgerspittel, Bahnhofplatz

Basel: May 04th, 2017 @ 1:30 PM, Congress Center,
Swiss Biotech Day, "Analyst & Investors"-Track

May 10th, 2017 @ Congress Center, CLINAM,
Talk in "Late breaking and ongoing Trials 1"

Zurich: May 11th, 2017 @ 6:15 PM
OBC, Europaallee 41, next to the main station