BioJerusalem CASE STUDY

Targeted therapies for treatment of cancers

Jerusalem is rife with leading research institutes, championed by the Hebrew University, where 43% of Israeli biotech research is carried out, and by Hadassah and Shaare Zedek hospitals, which are responsible for approximately half of the clinical research in Israel. These leading establishments are responsible for Jerusalem's well developed R&D infrastructure and expert personnel, which has given rise to a vibrant life science industry comprising more than 110 biomed companies.

One successful brain child of the productive interactions between the Hebrew University, Hadassah Medical School and the city's biomed industry is BioCancell Therapeutics, a biopharmaceutical company specialising in the development of targeted therapies for the treatment of numerous types of cancer. BioCancell, located in Jerusalem's largest hi-tech park, was founded in 2004 by Professor Avraham Hochberg, from the department of Biological Chemistry at the Hebrew University of Jerusalem and Yissum, the technology transfer company at the University.

Professor Avraham Hochberg founded BioCancell in 2004 folowing extensive work on the H-19 gene at the Hebrew University of Jerusalem.

BioCancell's technology is based on H-19, a gene discovered by Prof Hochberg, which he has been studying over the past 15 years. The H-19 gene is expressed during human embryonic development and at high levels in over 30 types of human cancer tissues, thereby forming the basis for both diagnostic and therapeutic products. The company's lead product, a plasmid designated BC-819, comprises the H-19 gene regulatory sequences that drive the expression of Diphtheria Toxin A (DT-A), thereby killing cells in which it is expressed. BC-819 embodies a personalised medicine approach in that eligible patients are identified by testing the tumors for H-19 expression. The drug also enables targeted therapy since DT-A expression is triggered only in cells expressing H-19, namely, only in tumour cells, thus destroying the tumour without affecting normal cells.

Clinical trials in US and Israel

In 2008, BioCancell initiated an FDA-approved Phase IIb clinical trial for the treatment of bladder cancer, in medical centres in the US and Israel, including Jerusalem's Hadassah Medical Center. In January 2009, the company received approval from the FDA to commence Phase I/IIa clinical trials for the treatment of ovarian and pancreatic cancer, also to be conducted in the US and Israel. The trials follow a series of successful compassionate use trials with patients suffering from advanced bladder, colon or ovarian cancer, that were resistant to existing therapies.

BioCancell demonstrates how academic research and clinical development synergise with industry in Jerusalem's biocluster to create the next generation therapies. LSC

www.biojerusalem.org.il www.biocancell.com

FIZ CASE STUDY

Indian congolmerate establishes European beachhead in Frankfurt

The Frankfurt Biotechnology Innovation Center (FIZ) is a market-oriented research cluster, supporting small and medium sized companies in all relevant issues, providing customised office and laboratory space, and access to the life science community.

Through an interdisciplinary structure of young and established companies focusing on similar research areas, FIZ creates a powerful environment for the commercialisation of innovation. Central to this are knowledge transfer and mutual inspiration between successful companies, academic researchers, and experienced practitioners.

One of the international tenants is the Indian multinational conglomerate Evolvus. Evolvus operates in the entire spectrum of pre-clinical drug discovery and clinical drug development. From the global network and delivery centres in India, Evolvus services big pharmaceutical and biotechnology companies alike.

Zeroing in for a dynamic relationship

Five years ago Evolvus started looking for a suitable beachhead in Europe. The options covered from Scandinavia to the UK but the group finally zeroed in on Frankfurt am Main. Initially the decision was based more on strategic reasons concerning the geographic location and economic status of Frankfurt, but later on the interaction with FIZ evolved into more of a dynamic relationship.

Asking the managing director of Evolus about the added value of FIZ he said "The FIZ as a concept, which we learnt as we started working with them is much more than an incubation facility. We have experienced FIZ to be an interactive launchpad for international companies such as Evolvus. FIZ and Dr Christian Garbe, managing director of FIZ, have a deep and innate understanding of the nuances in the life sciences industry. This we feel is particularly relevant since product gestation periods in the pharmaceutical industry are relatively long and opportunity maximisation and realisation can only happen if market positioning is correct with relation to vendor value proposition."

Evolvus operating in the entire spectrum of pre-clinical drug discovery and clinical drug development, chose FIZ as its European base

Since its opening in 2004 FIZ has become a business location's platform for research and innovation. By providing the necessary framework for companies, FIZ clears their way, allowing them to focus on their core competencies. Start-up companies at FIZ have more than tripled their personnel and there have been no insolvency so far. Dr Garbe explains part of the success of the companies, "Within the innovation centre, we have created a strong community in which the companies support each other." LSC

www.fiz-biotech.de www.evolvus.com