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Dundee Cell Products to commercialise proteomics research

Dundee Cell Products (DCP), which develops novel products and services to enhance drug and medical research, has completed an investment round comprising a six figure equity investment from Discovery Investment Fund, a SMART award, and an RSA grant of £87k.

The company was founded in July 2006 by Professor Angus Lamond and Dr Paul Ajuh from The University of Dundee. DCP is targeting customers in life science research, including pharmaceutical firms and university and hospital based researchers.

DCP consists of two core operational areas: manufacturing and sales of research reagents, and a quantitative proteomics service, using innovative technology to interpret and analyse cell proteins.

Background

The formation of DCP is in part an outcome of the Proof of Concept programme undertaken by Professor Lamond's department, and the RSE Enterprise Fellowship awarded to Dr Ajuh in 2004.

The Proof of Concept project, funded by Scottish Enterprise's POC programme, was intended to demonstrate the practicality of anti-fungal drug discovery from novel messenger RNA processing (splicing) protein targets. Messenger RNA processing is

an important step in the gene expression pathway in all living things and a lot of viruses, except bacteria. Laboratory research has shown that this step can be blocked using small biological molecules with species specificity. The project was intended to focus on identifying and developing drugs for treating human fungal infections because of the market opportunities in this area; there is urgent need for new antifungals because of the increasing incidence of severe fungal infections and emergence of drug resistance.

Dr Ajuh's Enterprise Fellowship took this further. The team had identified many novel protein factors in the RNA splicing process that are essential for cell viability, both in humans and in a wide variety of pathogens. A functional analysis of these new splicing factors had resulted in the design of several small peptides that can inhibit splicing with species specificity, and these splicing factors were used to develop HTS (high throughput screening) assays to identify chemical compounds that can block splicing. The Fellowship was aimed at developing these compounds as well as the inhibitory peptides into new drug leads, with the prospect of new medicines that have few of the drawbacks of the commonly used fungicides and with potential applications in cancer and some viral therapies.

It was found that the materials required to industrialise the necessary processes for drug production were not available, and with the help of the University of Dundee's Business Ventures Fund and Scottish Enterprise Tayside, the project moved from its drug discovery focus towards developing the manufacturing technology required to realise the promise of the RNA splicing research. This manufacturing expertise has its own considerable commercial market, and combined with proteomics services and consultancy is the basis of Dundee Cell Products.

The drug discovery programme has not disappeared, as the techniques and materials developed by DCP will make it possible, but a drug discovery company will require more investment than DCP. That said, reagents and service ventures, like drug discovery enterprises, can generate substantial companies of critical mass and sustainability.

Company structure

DCP has two main aspects to its business:

- Manufacturing and sales of research reagents to companies in pharmaceutical and biotechnology sector and academic life science research groups. The core range, including many products not otherwise commercially available, is centred on reagents used in cell biology research and research services, particularly the large scale analysis of proteins.

- A service business, providing state of the art analysis procedures in quantitative proteomics. This targets both industrial and academic customers who require the latest technology to study how cell proteins respond to drug treatments and other perturbations. The service covers project and experimental design, contract research, and data analysis, and uses SILAC techniques (stable isotope labeling of amino acids in culture) to prepare reagents for the quantitative proteomics approach in the analysis of protein complexes and cellular organelles.
  The overall service provided by DCP is named SILAQ™.

DCP will be based at the Dundee University Incubator and will use the recent investment to establish manufacturing and research facilities, and for the recruitment of expert technical staff to expand its product portfolio and sales staff to build its business and marketing presence.

The University of Dundee and DCP have signed a licensing agreement allowing the company to commercialise new products developed by researchers in the university.

Building the company

Professor Lamond is a Wellcome Trust Principal Research Fellow and head of the Division of Gene Regulation and Expression at the University of Dundee. He said: "The areas of cell biology, RNA biochemistry and proteomics are all at the cutting edge of biomedical science and offer important opportunities for the pharmaceutical industry to discover new drug targets in multiple human diseases. Dundee Cell Products provides an exciting way to harness the reputation and excellence of bioscience research in Dundee University in a commercial venture."

Dr Howard Marriage joined the company as chairman in September 2006. He has more than 27 years in the biotech and pharma industry, and in 2004 founded Biotech Innovation & Future Health, a company dedicated to building commercial ventures from academic life science research. He commented: "The university sector has a wealth of leading edge research, and Dundee University is a prime example of the excellent opportunities in Scotland. I look forward to working with the team to build a sustainable manufacturing, sales and service business."

John Beaton of Discovery Investment Fund said: "I was excited by the potential of the business proposition of a manufacturing and sales company exploiting the world leading science from Prof Angus Lamond and Dr Paul Ajuh and the technical and management skills of the team. I look forward to seeing the company build its reputation in the academic and pharmaceutical sector."

James Houston, director of Research and Innovation Services at Dundee University, added: "We are delighted with the announcement of this deal between our latest spin out company, Dundee Cell Products and local investors Discovery Investment Fund. Research and Innovation Services and the DCP directors have worked long, hard and very closely to make this happen."

"One of the most valuable elements of the application of our Dundee pre-incubation model is the communications channel which it opens between all of the interested parties thereby building a team approach to the business at a very early stage. We look forward to having a continued contribution towards the company's future development and ultimate success."

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