

**MoD SPIN-OUT RECEIVES FUNDING FOR TECHNOLOGY THAT PROMISES
IMPROVED EARLIER DETECTION AND TREATMENT OF CANCER**

November 29, 2012: ProKyma, a spin-out from the Defence Science and Technology Laboratory (Dstl), today announces a £482k award from the National Institute for Health Research (NIHR) Invention for Innovation (i4i) programme to apply its technology to improve the detection of cancer and monitor its change during treatment.

The KymaSep system is the result of six years' development at ProKyma that started from Dstl's work to develop continuous detection systems for biothreat agents. Funded by investment from Midven's Rainbow Seed Fund, Merseyside Special Investment Fund's Liverpool Seed Fund and the National Endowment for Science, Technology and the Arts (NESTA), KymaSep is a small, portable system that is based around an injection-moulded device, providing simple operation at low cost, making it ideal for clinic or point-of-care use.

The NIHR support will allow ProKyma to apply its 'KymaSep' technology to purify and concentrate very low numbers of Circulating Tumour Cells (CTCs) through automated manipulation of magnetic particles in a blood sample. Once purified, the cancer cells can be sequenced to find the patient's specific cancer mutation. The information produced will allow for the cost-effective measurement of the numbers of CTCs during initial diagnosis, as well as monitor their potential reduction during treatment, allowing the oncologist to have a unique tool to adapt and change therapy if the CTC numbers do not decrease.

ProKyma is working with a world-class multidisciplinary team in Merseyside to meet the technical challenges in this project. A long-standing collaboration with the UK Centre for Tissue Engineering at the University of Liverpool will lead to the optimisation of a unique cell-capture technology, licensed from CellCap Technologies, to enable the capture of the very low numbers of cells needed for CTC detection (5 CTC cells per test-tube of blood). The NIHR Liverpool Pancreatic Biomedical Research Unit will use the method for the capture, sequencing and enumeration of CTCs. The optimised method will be translated by ProKyma into a device for routine use and

tested against samples from the Liverpool Cancer Trials Unit to measure the usefulness on real patient samples.

With the funding and support of NIHR, ProKyma will be looking to develop its technology to a point where it can raise a Series B funding round by the end of 2014 to begin manufacture of the CTC monitoring product in Merseyside.

Professor John Hunt, Head of UKCTE in Clinical Engineering, University of Liverpool, said:

“It’s an obvious broadening of our scientific objective now we can pull rare cells from mixed complex populations, to aim to derive rare cells from human tissue beyond stem cells. On the way to providing the right cells for cell therapies and regenerative medicine; deriving cells as the indicators in assays for diagnosis and prognosis is in its own right a valuable and life changing medical goal. The translation of the science will benefit cancer research as well as stem cell research. It’s a very exciting project.”

Professor Dame Sally Davies, Chief Medical Officer and Chief Scientific Adviser at the Department of Health, said:

“The NHS needs inventive medical technologies to improve the diagnosis, treatment and prevention of disease for its patients.

“I want to transform research in the NHS. The NIHR i4i programme provides a route for researchers to develop innovative ideas into a reality that could have a significant impact on patients.

Damian Bond, chief executive of ProKyma, added:

“The NIHR support has come at a very good time for us and builds on six years of expertise and development. We are excited to collaborate with the teams from CellCap and the University of Liverpool to develop this much needed, but challenging technology.”

Notes to the editor:

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ProKyma Technologies Ltd **www.prokyma.com**

ProKyma is a spinout from Dstl. Founded by Ploughshare Innovations in 2006 with initial investment from the Rainbow Seed Fund, it has developed novel approaches in sample handling to enhance diagnostic technologies to provide improved information and simplified handling.

CellCap **www.cell-capture.com**

CellCap is an early stage business developing products to harvest adult stem cells from body tissues for research and cellular therapies. Supported by grants from the Technology Strategy Board and investment from the NWFund Biomedical LP, its lead product is due to start external evaluation in 2013.

Dstl **www.dstl.gov.uk**

The Defence Science and Technology Laboratory (Dstl) maximises the impact of science and technology (S&T) for the defence and security of the UK, supplying sensitive and specialist S&T services for the Ministry of Defence (MOD) and wider government. It starts from the presumption that work should be conducted by external suppliers unless there is a clear reason for it to be done or led by Dstl. At present, around sixty percent of the approximately £400 million MOD non-nuclear defence research programme, managed through Dstl, goes to industry and academia to deliver. Dstl is a trading fund of the MOD, run along commercial lines. It is one of the principal government organisations dedicated to S&T in the defence and security field, with around 3,700 staff at its three main sites: Porton Down, near Salisbury, Portsmouth West, near Portsmouth, and Fort Halstead, near Sevenoaks.

Ploughshare Innovations Ltd **www.ploughshareinnovations.com**

Ploughshare is wholly owned by the Secretary of State for Defence. Ploughshare was formed to commercialise Dstl defence technologies in non-defence markets and thereby deliver value to Dstl, the MOD and the UK tax payer. Subsequently, Ploughshare has expanded its portfolio to include wider Dstl IP and has been invited to undertake similar commercialisation activities for other parts of the MOD.

The National Institute for Health Research **www.nihr.ac.uk**

The National Institute for Health Research (NIHR) is funded by the Department of Health to improve the health and wealth of the nation through research. Since its establishment in April 2006, the NIHR has transformed research in the NHS. It has increased the volume of applied health research for the benefit of patients and the public, driven faster translation of basic science discoveries into tangible benefits for

patients and the economy, and developed and supported the people who conduct and contribute to applied health research. The NIHR plays a key role in the Government's strategy for economic growth, attracting investment by the life-

sciences industries through its world-class infrastructure for health research. Together, the NIHR people, programmes, centres of excellence and systems represent the most integrated health research system in the world.

The Liverpool Seed Fund

www.MSIF.co.uk

Merseyside Special Investment Funds (MSIF) Liverpool Seed Fund was a 27m fund established in 2004. It was part funded by ERDF which invested in companies with new ideas, innovations and intellectual property. The fund closed in 2008, during its 4 year investment cycle it supported 74 companies.

Although MSIF no longer makes seed investments, it continues to support SMEs in the Merseyside area via two other funds The Merseyside Small Loans for Business and The Merseyside Loan and Equity Fund. Combined, these funds can provide loan and equity finance between 3,000 to 2million+. Finance can be used to support start ups, early stage, expansions, management buy outs/buy ins, mergers and acquisitions. For full details visit www.msis.co.uk

About Midven Limited/Rainbow Seed Fund

Midven Limited is a privately owned commercial fund manager with a successful track record of investing in small and medium-sized enterprises in the Midlands. Midven launched the Rainbow Seed Fund in May 2002 and comprises a partnership of public research laboratories with funding of £13 million provided by the Department of Business and Skills, the Science & Technology Facilities Council (STFC) and the Biotechnology and Biological Sciences Research Council (BBSRC). It has offices in Birmingham, Nottingham and Oxford.

The Rainbow Seed Fund provides investment to support the early stages of business formation out of research in the public sector science base. In addition to STFC and BBSRC, the partnership includes Defence Science and Technology Laboratory (Dstl), Natural Environment Research Council (NERC), The Culham Centre for Fusion Energy (CCFE), the National Physical Laboratory (NPL), the Food & Environment Research Agency (FERA), the Veterinary Laboratories Agency (VLA), and the Health Protection Agency (HPA). From this wide base of research Rainbow will make individual investments of up to £500,000 in promising spin-out companies.

NESTA

www.nesta.org.uk

Nesta is a leading investor in innovation, from technology start-ups and public policy, to social enterprise and backing creative individuals. We are an independent charity and our work is enabled by an endowment from the National Lottery.



ProKyma