



PBL NEWS



PBL News - Issue 12 - Jan 2008

PBL Patent Granted for Stationary Phase Expression (SPE) System in Streptomyces

PBL's European patent for **SPE Technology**, developed by Prof Keith Chater and co-workers at the John Innes Centre (JIC), has now been granted - EP1244799. The technology allows for the tightly controlled expression of heterologous genes in Streptomyces species without the need for chemical inducers to be added to fermentations; relying upon the triggering of a genetic cascade as cells enter stationary phase.

In collaboration with the JIC, PBL have also developed a suite of proprietary streptomyces expression vectors (**StrepX™**). These highly effective vectors have been specifically designed to be free of third-party IPR thereby streamlining their transfer from the laboratory into commercial production systems.

Annual non-exclusive commercial R&D licences are available for both the **SPE system** and the **StrepX™** vectors at an introductory rate valid until 1 March 2008.

For more information, please contact Dr Andrew Lee (andrew@pbltechnology.com).



John Innes Centre

IP protection

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The Financial Times - Procarta Biosystems Grabs Headlines

Procarta Biosystems Limited, the new company established by PBL and the John Innes Centre to combat antibiotic resistant "superbugs", has received front page attention in The Financial Times, 3 December 2007. Procarta is using a novel, patented technology platform to develop new therapies to fight antibiotic resistance in bacterial pathogens, both for new antibiotics as well as existing, widely used anti-infective products where resistance is already a massive problem. Procarta's scientific founders are Dr Michael McArthur and Professor Mervyn Bibb.



For more information contact, Dr Michael McArthur (mmcarthur@procartabio.com) and see www.procartabio.com.

Viral "Armour" for RNA Controls - Breakthrough for Diagnostics

Researchers at the JIC, in collaboration with the Institute of Animal Health, have developed a method of engineering synthetic sequence elements into a genomic fragment of the Cowpea Mosaic Virus (CPMV). The CPMV particles are highly resistant to degradation, even over periods of many months in contact with biological fluids, and therefore make an ideal protective environment for the RNA. The virus particles make ideal controls for molecular screening, as they can be added to a fresh sample prior to any processing and control for errors at all stages of the testing protocol. This is invaluable when screening for notifiable diseases, for instance, where a false-negative result can have serious implications for infection control. The technology is currently being evaluated in veterinary diagnostic applications, and attracting interest from commercial testing and reagent manufacturing companies.

Cowpea Mosaic Virus

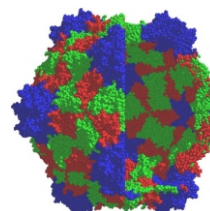


Image courtesy of Prof J E Johnson at The Scripps Research Institute (TSRI), La Jolla, USA

For more information, please contact Dr Martin Stocks (martin@pbltechnology.com).

PBL's Technology Development Programme Investments Reach £1.6m, Targets Exceeded

Since the launch of our DTI-funded Technology Development Programme in 2004, PBL has invested over £1.6m in developing and consolidating emerging public sector innovations. TDP projects have been conducted on 40 separate new technologies from 14 different research institutions and universities - including five BBSRC Institutes (John Innes Centre, The Institute of Food Research, Rothamsted Research, IGER and Babraham Institute). TDPs have directly led to many new patent applications, a new spin-out company (Procarta Biosystems Limited), an increasing number of licensing deals and several hundred thousand pounds of licensing revenues from commercial uptake of these technologies - proving the value that can be added with TDP investment. The PBL TDP programme continues under further awards from DTI during the 2006 PSRE round, and we always welcome enquiries and suggestions for development of new innovations.

For more information, please contact Dr Jan Chojecki (ajsc@pbltechnology.com).

Innovation in life sciences

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PBL Acquires Novel Adjuvant Technology

PBL has recently acquired an exciting new platform technology in the area of immunomodulation and adjuvant development from the Joint Biotechnology Laboratory in Finland and the Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russia. The researchers have used molecular display techniques to isolate peptide mimics of bacterial lipopeptides. The mimics have similar or even improved immunostimulatory properties when compared with the parent molecules, but show none of the unwanted side effects that have prevented bacterial lipopeptides being developed as adjuvants. Licensees are now being sought for both the peptide mimics and the method of production.

For more information, please contact Dr Martin Stocks (martin@pbltechnology.com).



TURUN YLIOPISTO
KEMIAN LAITOS

PBL Signs Agreement to Promote PBL Technologies in India and South East Asia



PBL has entered into an agreement with Sathguru Management Consultants for marketing PBL technologies in India and the Asian region. In order to best engage with the rapidly developing markets of South East Asia local representation is of vital importance. PBL has chosen to work with Sathguru (see www.sathguru.com) as they are a well established local organisation with excellent links into industry and government organisations. Sathguru has also established links with amongst others Cornell University and the US Department of Agriculture.

For more information, please contact Dr Lars von Borcke (lars@pbltechnology.com).



PBL Helps Researchers Win £422,000 for Developing Promising Innovations



In November, PBL partnered BBSRC Institute researchers in five successful bids for Follow-on Funding, worth a total of £422,000. The successful projects are with:

Prof Mike Gasson - IFR
Prof Mervyn Bibb - JIC
Dr Kay Denyer - JIC

Dr Graham Moores - Rothamsted (see below)
Dr Leif Skot - IGER

PBL is Building its Portfolio in Crop Pest Control: BBSRC Follow-on Fund Provides Further Support

Integrated pest management strategies including the use of natural pest control agents are of increasing importance to address both resistance in some crop pests and also to reduce the use of synthetic agro chemicals.

- 1) Building on earlier work on cis-jasmone at Rothamsted Research, PBL funded Graham Moores and Georgina Bingham to enhance the effects of cis-jasmone as a natural crop protection agent, through use of a synergist. The synergist approach gives near complete control of white fly on tomatoes. Impressive results have also been achieved with aphids and sweet peppers. A successful Follow-on Fund application between Rothamsted and PBL has now secured funding to build on these results and further tests (including field trials) will be carried out during 2008.
- 2) Jasmonic acid (JA) seed treatment developed by Nigel Paul, Mike Roberts and Jane Taylor at Lancaster University is another novel way to control insect pests. Plants grown from seeds treated with JA demonstrate prolonged resistance to insect pests. The technology has been successfully demonstrated with seeds from tomato, sweet pepper, wheat and maize with a range of pests, including caterpillars (of tobacco hornworm and Spooptera exempta), aphids and spider mite.
- 3) Nematodes are another important pest in agriculture and are notoriously difficult to control, causing dramatic crop losses. Rosane Curtis and co-workers at Rothamsted Research in collaboration with the Universities of Nottingham and Sheffield, have found cysteine proteinases derived from various plant extracts to be active against a range of plant parasitic nematodes. Significant nematocidal effects (up to 90-95% mortality) were observed in assays. PBL has filed patent applications and is funding further development of this technology.

For more information, please contact Dr Lars von Borcke (lars@pbltechnology.com).



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