BIOPHARMICA LIMITED
Bridging Biotechnology Borders

Level 2, 30 Hasler Road,
Osborne Park, Western Australia 6017
PO Box 1534,
Osborne Park, Western Australia 6916
Telephone +61 (08) 9244 9631
Facsimile +61 (08) 9244 9782
Email admin@biopharmica.com.au
Internet www.biopharmica.com.au

ACN 095 912 002

Press Release
2 December 2004

New Anaesthesia Monitoring Trial at Royal Melbourne Hospital

Patients undergoing surgery may benefit from ground breaking Australian research into more effective and accurate methods of monitoring the effects of anaesthesia.

Leading specialists Dr David Liley and Associate Professor Kate Leslie will collaborate in a trial to test the sensitivity of a new method in quantifying the effect that various levels of nitrous oxide have on measures of anaesthetic depth.

The trial will begin on the 3rd of December at Royal Melbourne Hospital. Recognising the potential importance of the trial the Australian and New Zealand College of Anaesthetists has provided funding support.

The trial will involve sixty patients who have consented to being involved in the study as part of their elective surgery. While being anaesthetised patients will have the electrical activity of their brain recorded from a set of electrodes placed on the forehead.

Dr David Liley is a researcher and senior lecturer in Biophysics and deputy director of the Centre for Intelligent Systems and Complex Processes at Swinburne University of Technology.

The method is to be incorporated into a new device called the Brain Anaesthesia Response (BAR) monitor. The BAR monitor is designed to detect and record the electrical activity of the human brain in order to assist anaesthetists and intensive care staff in keeping patients optimally sedated or anaesthetised.

While there are a number of devices on the market claiming similar abilities, the new approach taken by Dr Liley is predicted to be significantly more sensitive to the effects of certain commonly used anaesthetic agents that include nitrous oxide and ketamine.

Nitrous oxide or "laughing gas" is frequently used as a vehicle to deliver a more potent inhaled anaesthetic, and in Australia is currently used in well over 50% of all general anaesthetics. While nitrous oxide is well known to augment the effects of the primary inhalational agent, it does so at the cost of making it more difficult to monitor the depth of anaesthesia using existing brain wave based approaches.

Participants will be randomly allocated to one of three groups in which they will be anaesthetised with the common potent inhalational agent sevoflurane, carried in 0%, 33% or 66% nitrous oxide.

The data from these recordings will then be analysed using sophisticated algorithms that are based on a biological understanding of the dynamics of human brain electrical activity developed by Dr Liley.

The results of this independent trial will contribute towards validation of the Brain Anaesthesia Response monitor scheduled to be marketed in 2005. Cortical Dynamics Pty Ltd and ASX listed biomedical business BioPharmica Ltd are commercialising Dr Liley's research.

Swinburne University of Technology and Dr Liley have recently been recognised for their work with the Australian Research Council awarding them with a $243,000 grant to extend their research into brain electrical activity.

Dr Liley said, "By developing comprehensive and accurate theories of the dynamics of human brain electrical activity entirely new vistas on understanding human brain function will emerge."

Media Enquiries:
Dr David Liley, Swinburne University of Technology
Ph: +61 3 9214 8812 Email: dtl@marr.bsee.swin.edu.au