apn australian phenomics network

phenomena

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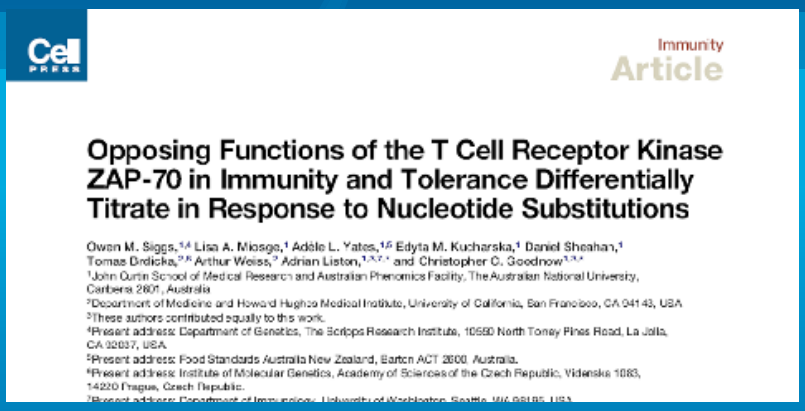
Latest APN Research Success


Cell PRESS

Immunity
Article

Opposing Functions of the T Cell Receptor Kinase ZAP-70 in Immunity and Tolerance Differentially Titrate in Response to Nucleotide Substitutions

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Immunity Publication - Opposing Functions of T-cell receptor kinase

Siggs et al (2007) Immunity 27, 912–926

Welcome to the new look Phenomena!

Welcome to the new look Phenomena! Phenomena is the quarterly newsletter for the Australian Phenomics Network, enabling us to let you know what we are doing, and what sort of services and models are available for the interested researcher.

The APN consists of nine organisations which contribute to a range of Mouse Model Services provided by the Australian Phenomics Network. These institutions are: Monash University, The Australian National University, the Centenary Institute, the Walter and Eliza Hall Institute, the Queensland Institute of Medical Research, the Menzies Research Institute, the University of Melbourne, the Institute of Medical and Veterinary Sceince and the Animal Resources Centre.

As part of our continuing development, we have developed a logo, and a new presentation format for this newsletter.

A website is currently under construction – it will be up and running by the next issue, so watch this space!

If you have any questions about anything you find in the newsletter, or just general enquiries about the Australian Phenomics Network, contact us via email: contact@australianphenomics.org.au or call Rebecca on +61 2 6125 0596.

MONASH University
ANU THE AUSTRALIAN NATIONAL UNIVERSITY
CENTENARY INSTITUTE
FIAT LUX The Walter and Eliza Hall Institute of Medical Research
Queensland Institute of Medical Research
Menzies Research Institute
THE UNIVERSITY OF MELBOURNE
IMVS
Animal Resources Centre

Press Release: Australia and China establish new joint centre for Phenomics Research

A team of researchers from The Australian National University will lead a new joint research centre with China conducting leading-edge research into treatments for Avian Influenza (Bird Flu).

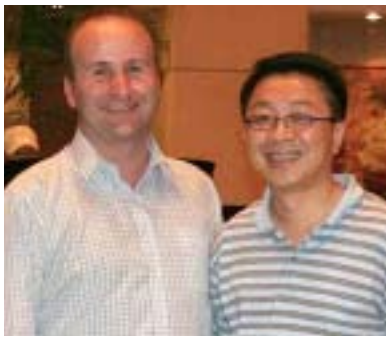
The joint undertaking – thought to be the largest funded program in biosciences between China and Australia – was instigated by Dr Bertram following his involvement in a China-Australia exchange program supported by Australian Technological Sciences and Engineering and the Australian Academy of Science.

The new Australia-China Centre for Phenomics Research, funded by the Chinese and Australian Governments, and will be located in the John Curtin School for Medical Research at the ANU.

"The funding will be used to study alterations in the genome code that lead to increased resistance to Avian Influenza," said Dr Bertram. "It's hoped that this work will help us to identify targets for designing new treatments to boost the immune system against Avian Influenza."

The Australian program be lead by ANU researchers Dr Edward Bertram, Dr Steve Winslade and Professor Chris Goodnow, but will also involve some of Australia's top immunologists including Nobel Prize winner Professor Peter Doherty, Dr Stephen Turner from the University of Melbourne, Professor Doug Hilton from the Walter and Eliza Hall Institute of Medical Research and Professor Paul Hertzog from the Monash Institute of Medical Research.

"THE RESEARCH CENTRE IS A VERY SIGNIFICANT DEVELOPMENT IN THE RELATIONSHIP BETWEEN AUSTRALIA AND CHINA."



Dr Edward Bertram and Prof Hong Tang

The Chinese team will be led by Professor Hong Tang, Director of the Centre for Infection and Immunity, Institute of Biophysics, Chinese Academy of Sciences in Beijing and Professor Hualen Chen, Director of the National Avian Influenza Reference Laboratory in Harbin.

Dr Winslade, CEO of the Australian Phenomics Network, said this collaboration with China could pave the way for future joint research. "There will be many more opportunities to expand and strengthen our bioscience connection with China over the next few years and the new joint research centre could lead the way for Australia." he said. "The research centre is a very significant development in the relationship between Australia and China." The Australian funding of $1,536,200 comes from the China-Australia International Scientific Linkages Fund from the Department of Innovation, Industry, Science and Research and matches funds from the Chinese Ministry of Science and Technology and support from the Australian Phenomics Facility.

For more questions about this collaboration, contact Ed Bertram, Edward.bertram@anu.edu.au.
Released by ANU media centre, 4th February, 2008.

APF hosts Muscle Phenomics Workshop

The APF hosted a Muscle Phenomics Workshop in February attended by 12 (Interstate and International) researchers wanting to find out about the APF, and the possibility of undertaking a collaborative project(s) using the APF ENU mutagenesis program.

Collaborative projects undertaken through the APF are currently partially supported by NCRIS funding which makes the production of mouse models much more affordable to Australian researchers.

APF Muscle Phenomics Workshop Dinner
L-R: Ed Bertram, Miranda Grounds, Teresa Morgan, Hutton Oddy, Steve Winslade, Jason White

It was a very enjoyable and productive day. Thank you to all who participated.

For enquiries or further information please contact Dr Teresa Morgan on Teresa.Morgan@anu.edu.au.

Manitoba signs agreement with Monash/APN

On the 25th of February several major milestones were announced for Monash University, the Australian Phenomics Network and indeed the whole Australian medical research community.

The first was that of a strategic alliance and research project in the area of cancer between Monash University (headed by Professor Paul Hertzog) and The University of Manitoba (headed by Assoc. Prof. Geoff Hicks). The announcement included a commitment of $150,000 per year for two years from each of the Victorian State Government and the Provincial Government of Manitoba and was announced by the Victorian Minister for Innovation Gavin Jennings, and Deputy Minister for Manitoba Science, Technology, Energy and Mines John Clarkson at a celebratory breakfast hosted by Government of Canada and AusBiotech.

The second was the signing of a memorandum of understanding between the North American Conditional Mouse Mutagenesis program (NorCOMM) and the Monash University Node of the Australian Phenomics Network which will create a pipeline for the production of genetically modified mouse models for the benefit of medical researchers across the country; and the third was the inaugural Mon-Man workshop on 'Genetically modified models of human disease' which saw the coming together of an outstanding program of mouse geneticists from across the country and the Provence of Manitoba. The workshop was held in the old Treasury building and was opened by Mr John Clarkson, Deputy Minister, Manitoba Science, Technology, Energy and Mines; Dr Emoke Szathmary, President and Vice Chancellor of the University of Manitoba; and Prof. Edwina Cornish, Deputy Vice Chancellor (Research) Monash University.

The Signing of the International Agreement

Front L-R: *Vice Chancellor for Monash Uni, Richard Larkins, Emoke Szathmary, President and Vice Chancellor of Univ. of Manitoba.* ***Back L-R:*** *The Honourable Gavin Jennings, Minister for Innovation Vic State Govt; Deputy Minister, Manitoba Science, Technology, Energy and Mines John Clarkson*

The Victorian and Manitoban Delegation

Front L-R: *Victorian State Governor Prof David de Kretser A.C.; Emoke Szathmary, President and Vice Chancellor of Univ. of Manitoba, Prof Paul Hertzog (MIMR)* ***Middle L-R:*** *Prof Edwina Cornish DVC of Research, Monash Uni; Dr Brendan Jenkins (MIMR), AProf Moira O'Bryan (APN)* ***Back:*** *AProf Geoff Hicks (Univ Manitoba/NorCOMM)*

Speaking after the announcement, Assoc. Prof. Moira O'Bryan who is the current Convener of the Australian Phenomics Network said, "NorCOMM is a major component of the international initiative to systematically inactivate every gene in the mouse genome. This will give incredible insights into the causes of human disease, and Australian researchers will be at the front line. The first official linkage is in the area of cancer, but there will be many more to come." Geoff Hicks who is also the Scientific Director of the Genetic Modeling Centre at the University of Manitoba, and the project leader of the NorCOMM program agrees, "I couldn't be more excited about the first international research collaboration between our organisations. It is a great opportunity for developing innovative new approaches to model complex human diseases."

Many inflammatory diseases lead to the development of cancer including hepatitis to liver cancer, gastritis to gastric cancer and the human papilloma virus infection to cervical cancer. These particular gene targeted mouse models will enable our scientists to study the links between inflammation and cancer. The project is expected to significantly accelerate our understanding of how specific human disease genes promote complex diseases such as cancer. The aim is to identify genes that are involved in the progression of cancer and develop diagnostics and early intervention therapeutics to stop cancer growth.

This is a significant example of APN funds being leveraged to facilitate Australian medical research.

APF Gene Variant Mice

The following ENU Gene Variant Strains are available to interested researchers for further characterization.

All these strains and more can be found on the NHMRC Phenome Bank at http:pb.apf.edu.au. Many of these strains will be frozen down and live stock discontinued in the near future, so if you would like the opportunity to further characterise live mice, please contact Anusha Subramaniam, anusha.subramaniam@anu.edu.au.

STRAIN NAME	PHENOME BANK ID	PHENOTYPE	STATUS
Pengu 	1231	Limb deformity. Four shortened limbs with angular deformity, most pronounced in hindlimbs. Some have kinked tail.	Gene ID: Gdf5
Pinky (video available on request)	1236	Limb deformity. Shortening and angular deformity of hindlimbs with extra digits present in some cases.	Gene ID: Plzf Strain to be frozen down soon
Trembles (video available on request)	85	Mild to moderate ataxia evident at weaning and non-progressive, some with shaggy fur.	Mutation mapped to Chromosome 4
Tipsy	83	Weak and ataxic hindlimbs evident close to 6 months of age; has splayed hindlimbs.	Mutation mapped to Chromosome 8

APF attends Lorne Cancer Conference 2008

Anusha Subramaniam and Teresa Morgan represented the Australian Phenomics Facility at the recent Lorne Cancer conference.

The conference had a record number of registrants this year, allowing the APF to reach out to a wider representation of the Australian cancer research community.

Dr Morgan has recently come on board the APF Team as a Scientific Program Manager specialising in Cancer and Metabolism. This made the timing of the conference ideal for speaking to researchers about the opportunities provided by the APF in studying mouse models of cancer.

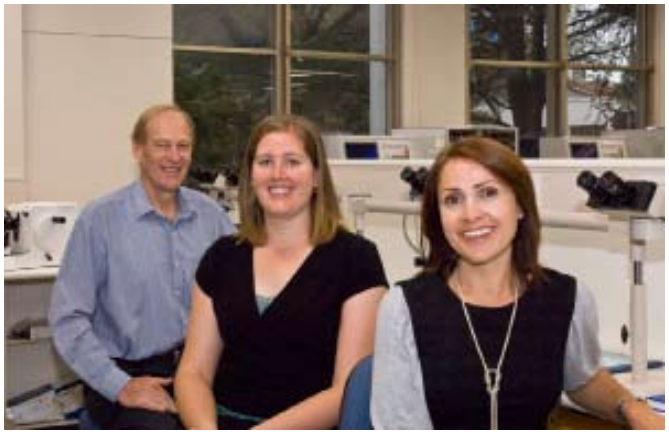
The response of conference delegates was very encouraging and the APF hopes to have a continuing interaction with the cancer research community.

APN Histopathology and Organ Pathology – The University of Melbourne Team

The Australian Phenomics Network, University of Melbourne Histopathology and Organ Pathology node, led by Professor John Furness, will generate histological and organ pathology data on ENU and other mice available through APN. The Histopathology and Organ Pathology node is also committed to providing a service to researchers who want histological images and data on specific mice or mice at certain development stages. The University of Melbourne node is based in the Department of Anatomy and Cell Biology on the Parkville campus.

Although Histopathology and Organ Pathology will commence at Melbourne, it is planned that another site will be set up in the near future in Adelaide, led by Dr Tim Kuchel at the Institute of Medical and Veterinary Science. Other sites may be established in the future.

To aid researchers in the interpretation of histological features, the unit will provide a consulting service utilising the skills of distinguished Pathologists, Professor Rolf Howlett, a Veterinary Pathologist and Professor Catriona McLean, a Medical Pathologist.



The University of Melbourne Team
From L-R: Prof John Furness, Louise Pontell, Tina Cardamone

The University of Melbourne APN node has recently purchased a Zeiss Mirax Digital Slide Scanner. This is a high resolution, high through-put scanning device capable of imaging standard stained histological slides and slides with specialist staining. Digital images are saved to the server and can be interrogated by the client using the free Mirax Teleconsulting software www.zeiss.com/mirax as required. This service is due to commence in May 2008 and will be managed by the APN manager Tina Cardamone and Research Assistant Louise Pontell. Updates on the service will be posted on the Department of Anatomy and Cell Biology web page www.anatomy.unimelb.edu.au under Digital Slide Scanner Services.

Plans are in progress between the various APN nodes to construct an electronic web-based database that is readily available and provides accurate information on the phenotypic characteristics of mice, including histology and gross appearance of all major organs of mice generated by or available through the APN. Users will be able to interrogate images through the free software.

The team at The University of Melbourne are: Professor John Furness-Head of Histopathology and Organ Pathology, APN, Louise Pontell, Research Assistant, APN and Tina Cardamone, APN Manager. Tina can be contacted at t.cardamone@unimelb.edu.au.

The APN is a major national research network, established through funding from the National Collaborative Research Infrastructure Strategy (NCRIS), that is openly accessible to all Australian and International researchers, both academic and commercial.

The APN provides access to the following research infrastructure:

- ***International sources of new mouse models and phenotype data derived from gene-trap Embryonic Stem (ES) cells or similar and phenotyping infrastructure;***
- ***Australian collections of new mouse models and phenotype data from ethyl nitrosourea (ENU) mutant mouse collections or similar and phenotyping infrastructure; and***
- ***Infrastructure for archiving and exchange mouse models as frozen sperm or embryos and an integrated e-science infrastructure for capturing, annotating and disseminating data on mouse models and phenotypes.***

If you have any questions about any information in this newsletter, or wish to subscribe or unsubscribe, please send an email to contact@australianphenomics.org.au, or call +61 2 6125 0596.