Biomedical Sciences Institutes
A*STAR

# p53 Laboratory Seminar Announcement

***- All Are Welcome -***

**Speaker:** **Prof Mark Hogarth**
Burnet Principal for Research Strategy
Head, Inflammation, Cancer and Infection
Burnet Institute
Melbourne, Australia

**Title :** **Antibody and Fc Receptor Interactions in Humans and Other Primates. Implications for the Development of Vaccines, Therapeutic Antibodies and the Induction of Inflammation**

**Date :** **6 September 2013 (Friday)**

**Time :** **3pm – 4pm**

**Venue:** **Aspiration Theatrette, Matrix Level 4, Biopolis**

**Host :** **Prof Sir David Lane**
Chief Scientist, A*STAR & Director, p53Lab


### *Abstract:*

Antibodies, and their Fc receptor-based effector functions, are major contributors to the effectiveness of vaccines, therapeutic antibodies and the regulation of immunity.
The spectacular success of vaccines in preventative medicine and of monoclonal antibodies as therapeutic modalities together with the increasing emphasis on "translational research" have focused attention on the drive for new therapeutic targets, understanding of the human immune system and development of appropriate animal models.
Prof Hogarth's group has undertaken a comparative analysis of human and non-human Primate (NHP) Fc receptor genetics, structure and function. They find that there are marked differences between NHP Fc receptors and their human counterparts and show that polymorphism of receptors can profoundly affect function. Their studies suggest that responses that are anticipated in humans may not be faithfully reproduced in NHP and therefore have implications for the interpretation of preclinical studies vaccines and biological drugs particularly monoclonal antibodies. Furthermore they may also have implications for NHP use as a model for understanding human immunity to infection such as HIV or inflammatory responses induced and or controlled by antibodies.


### *About the Speaker:*

Prof Mark Hogarth is a Senior Principal Research Fellow and is responsible for Research Strategy at the Burnet Institute having previously been Director of the Austin Research Institute. He holds Professorships at University of Melbourne and Monash University. Prof Hogarth obtained his PhD at the University of Melbourne, Department of Medicine, Austin hospital in 1981. His research has extensively investigated the function, genetics and structure of cell surface proteins involved in immunity. He has published over 150 papers on the discovery and study of cell surface molecules including mouse Ly antigens and human CD antigens in health and disease. Of particular interest have been the immunoglobulin Fc receptors in immune complex inflammation and their roles in the pathogenesis and treatment of autoimmune disease, allergy and cancer. The Fc receptors are also of great practical importance as their proinflammatory activity can be harnessed by, and is critical to, the success of many therapeutic anti-cancer monoclonal antibodies. Professor Hogarth's pioneering work on molecular genetics, the structure and the biological function of these receptors revealed for the first time how FcR and antibodies interact in health and disease and how this interaction can be manipulated for the development of new therapies.
His research has led to the development of potential biological and chemical therapeutics for the treatment of autoimmune diseases, such as rheumatoid arthritis. It also underpins the understanding of how therapeutic antibodies induce responses against cancer cells.
He has advised biotech and pharma companies on the development of their products and has had significant experience in research translation. He has held a number of public and private company board positions overseeing commercialisation of biomedical research, especially in cancer, inflammation and infectious disease.