Institute of Molecular and Cell Biology

A*STAR

SEMINAR ANNOUNCEMENT

DATE: 3 February 2012, Friday

TIME / VENUE: 11:00AM @ Level 3, IMCB Seminar Room 3-46, Proteos Building, Biopolis

SPEAKER: Dr. Ong Sin Tiong

TITLE OF SEMINAR: **BCR-ABL-independent Factors That Prevent the Control of CML**

Chronic myelogenous leukaemia is a stem cell disorder that is both defined and driven by the oncogenic BCR-ABL kinase. Indeed, the dramatic and profound clinical responses to ABL tyrosine kinase inhibitors (TKI) provide strong evidence for the central role of BCR-ABL in CML pathophysiology. However, a significant proportion of patients, particularly those with blast crisis (BC), remain refractory to TKIs. Furthermore, the majority of patients with early, chronic phase (CP) CML continue to requireindefinite TKI therapy, since treatment cessation almost invariably results in disease recurrence. In addition, several East-Asian countries report poorerresponses to TKI therapy, which point to the existence of ethnic differences that modulate therapeutic responses. Together, these clinical observations suggest that BCR-ABL-independent factors contribute to CML pathophysiology. In this talk, we will describe various BCR-ABL-independent factors we have identified that prevent the long-term control of CML. These include ethnically-segregated polymorphisms that directly mediate BCR-ABL-independent TKI-resistance, novel signaling pathways that lead to activation of self-renewal programs in BC CML, and microenvironmental factors that contribute to the maintenance of the CML stem cell. The identification of such factors will suggest strategies that may improve the long-term control of CML.

Short Biography A haematologist and medical oncologist, Dr. Ong graduated with undergraduate and medical degrees from Cambridge University, and completed his clinical and subspecialty training at Cambridge University, the National University Hospital (Singapore), and the University of Chicago. Prior to returning home to join the Duke-NUS Graduate Medical School in Singapore, he was on the faculty at the University of California at Irvine, where his work focused on understanding drug-resistance in leukaemia. He currently holds an Associate Professor appointment in the Cancer & Stem Cell Biology Signature Research Program at the Duke-NUS Graduate Medical School. Dr. Ong continues to see patients, as well as lead research efforts in understanding the mechanisms responsible for drug-resistance in human cancers.

Host: Prof. Wanjin Hong