Institute of Molecular and Cell Biology
A*STAR

SEMINAR ANNOUNCEMENT

We would like to invite you to attend this seminar hosted by Prof Hong Wanjin:

Date: Thursday, 16 January 2020
Time: 11:00AM – 12:00NN
Venue: Level 3, IMCB Seminar Room 3-46, Proteos, Biopolis

Targeting water beyond seed and soil



Asst Prof Johnny Ong
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Department of Sarcoma, Peritoneal and Rare Tumours (SPRinT),
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Abstract

Peritoneal carcinomatosis is a terminal presentation for many gastrointestinal and uro-gynaecological malignancies. The advent of cytoreductive surgery with concurrent instillation of hyperthermic intraperitoneal chemotherapy has dramatically improved the outcome for many patients. However, many patients have disease too advanced for this radical surgical strategy and the instillation of hyperthermic chemotherapy fails to harness molecular vulnerabilities of this disease for successful therapy. Our group in the Laboratory of Applied Human Genetics in the National Cancer Centre Singapore has performed integrative proteomic and transcriptomic analysis of ascitic fluid collected from patients who underwent cytoreductive surgery, to identify key modulators of paracrine signalling driving peritoneal carcinomatosis. Interestingly, we identified activation of the coagulation cascade as a biological driver of paracrine signalling in peritoneal carcinomatosis. A phenotypic screen utilising ascites of various histological subtypes identified a phenomenon of paracrine addiction in a subpopulation of patients. As proof of concept, molecular perturbation of a key coagulation modulator provides a dramatic reduction in in vitro cellular proliferation, as well as tumour burden in a unique in vivo mouse model of peritoneal carcinomatosis generated in our laboratory.

Biography

Assistant Professor Johnny Ong is a Consultant in the Department of Sarcoma, Peritoneal and Rare Tumours (SPRinT), NCCS. He trained at two renowned sarcoma units in Europe, The Royal Marsden Hospital, UK, and the Instituto Naziolae Tumori, Milan, making him one of the only formally trained surgeons for sarcoma in Singapore. In 2013, he obtained his PhD at the University of Cambridge, UK, and is currently the Principal Investigator of the

Laboratory of Applied Human Genetics in NCCS. Dr Ong was awarded the NMRC Transition Award in 2017 and continues to strive towards his goal as a surgeon-scientist, setting his sights on battling peritoneal disease and sarcoma. Dr Ong and his colleagues at the Laboratory of Applied Human Genetics have uncovered key modulators of paracrine signalling in peritoneal carcinomatosis via the coagulation cascade. He will discuss his work "Targeting water beyond seed and soil" in the upcoming lunch seminar.

ALL ARE WELCOME *(No registration required)*

We appreciate if you could disseminate this email to your staff.

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Thank you.