NUS National University of Singapore | Department of Anatomy
Yong Loo Lin School of Medicine

NUHS National University Health System

PHD ORAL DEFENSE

Roles of SR proteins-mediated Splicing in Modulating Chemotherapy Resistance

Cisplatin is a broadly used chemodrug that suppresses cancer growth. But, the acquisition of resistance by cancer cells is an inherent problem with the use of cisplatin. Hence, it is critical to elucidate the mechanism of chemoresistance to treat the cancers more effectively. In this study, we proposed that alteration in mRNA splicing landscape could be adopted by cancer cellsto overcome cisplatin-induced cytotoxicity. We developed two different cisplatin-resistant breast cancer cell lines to compare the splicing profiling between sensitive and resistant cancer cells. In particular, SRSFs and their kinases SRPKs were found to be differentially expressed in response to cisplatin in sensitive and resistant cancer cells. Moreover, post-translational modifications, especially the acetylation of SRPK1 mediated by Tip60, was found to regulate cellular responses to cisplatin. The adaptive changes on acetylation of SRPK1 affects the RNA splicing such as *BCL2L1* and *MCL1* due to hyperactive SRSFs. Therefore, our study implies that SRPK1 and its relevant splicing regulation could be one of the key mechanisms that result s in chemoresistance to cisplatin in breast cancer cells.

Friday
14 June 2019
10.00am – 11.30am
Seminar Room, MD10
Level 2, Anatomy Museum

WANG CHENG

Graduate Student
Anatomy, NUS Medicine

Address enquiries Dr Hu Qidong at 66013730 or Ms Nuramalina Binte Abdul Ghani at 65163200. All are welcome.