



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY
Division of Life Science

LIFS Seminar Series

**Genomic landscape of EBV-associated
nasopharyngeal carcinoma**

by

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Abstract:

Nasopharyngeal carcinoma (NPC) is a distinct type of head and neck cancer that is consistently associated with EBV infection. Studies have shown that the acquired genetic changes act cooperatively with EBV in driving initiation and progression of NPC. By genome sequencing, we have deciphered entire NPC genome in 111 primary and recurrent tumors. We uncovered a panel of significantly mutated genes including multiple negative regulators of NF- κ B pathway. Together with the structural alterations, genomic aberrations activating NF- κ B pathway were found in 41% of NPC, representing a major mechanism underlying NPC tumorigenesis. EBV latent member membrane protein 1 (LMP1) that constitutively activate NF- κ B signaling, was overexpressed in 26% of the cases. Strikingly, we observed mutual exclusivity among somatic NF- κ B pathway aberrations and LMP1-overexpression suggesting that NF- κ B activation is selected for by both somatic and viral events during NPC pathogenesis. The finding also suggests that NPCs sub-classified by LMP1 status are distinct in terms of clinical history and outcome as well as genomic features. Finally, a new NPC tumorigenesis model was proposed.

Date : **13 October 2017 (Friday)**
Time : **4:00 p.m.**
Venue : **Lecture Theatre C**
**The Hong Kong University of Science
& Technology**
Clear Water Bay, Kowloon

(Host faculty: Prof. Zhenguo Wu)

All are Welcome!!