Application of Omics Approaches in Nasopharyngeal Carcinoma

Dr William Chi Shing CHO
Chartered Scientist, Department of Clinical Oncology, Queen Elizabeth Hospital, HKSAR

High-throughput technologies have revolutionized medical research. The acquisition of cancer hallmarks requires molecular alterations at multiple levels, including genome, epigenome, transcriptome, proteome, and metabolome. In the past decade, numerous attempts have been made to uncover the molecular mechanisms of carcinogenesis using various omics approaches, e.g. investigations on the cancer-specific mutations, altered epigenetic-landscapes within cancer cells and the differential expression of proteins.

In our study, we applied immunoinformatic approach to predict the peptide vaccines against Epstein-Barr virus and cervix papilloma.

In this presentation, I will share some of my research on various omics approaches, including epigenomics, immounoinfomatics, proteomics, and the molecular subtyping on nasopharyngeal carcinoma research.

Keywords: Disease molecular classification, immunoinformatics, metabolomics, microRNA, omics, proteomics