National Cancer Centre Singapore
SingHealth

Future Anti-Cancer Targets: Put the Cart Before the Horses

Abstract:

Tumour progression is driven by genetic aberrations that affect multiple oncogenes and tumour suppressor genes (TSGs). For the last three decades, the "Oncogene Revolution" prompted investigators to concentrate on the development of agents against oncogenes ("horses"), with the goal of blocking cell growth and metastasis. It has now become clear that the number of new targetable oncogene are numbered. Moreover, the cancer cell genome is too varied and the number of oncogenes too numerous for this strategy to work effectively for most tumours. Consequently, it may be time to consider targeting genes that are involved in sustaining the cancer cell phenotype ("carts"). We have identified four approaches with the potential to generate new anti-cancer therapies: combatting the tactics by which cancers evade anti-tumor immune responses, targeting metabolic adaptations that tumor cells use to survive conditions that would kill normal cells, manipulating a cancer cell's response to excessive DNA damage, and exploiting aneuploidy. This talk describes our progress to date on these fronts.

Our Speaker:



Professor Tak W. Mak

Campbell Family Institute for Breast Cancer Research, Princess Margaret Hospital,
University of Toronto, Toronto, Canada; University of Hong Kong

Tak W. Mak is the Director of the Campbell Family Institute for Breast Cancer Research at the Princess Margaret Cancer Centre and a Professor in the University of Toronto and the University of Hong Kong. He is best known as the leading scientist of the group that first cloned the genes of the human T cell antigen receptor and elucidated the function of the first immune checkpoint regulator, CTLA-4. Both of these discoveries helped paved the way to today's break-throughs in immunotherapy. Dr. Mak's work has culminated in the publication of over 1000 scientific papers that have collectively received over 180,000 citations, yielding an H-index of 209. As well as his basic research expertise, Dr. Mak has extensive industrial and commercialization experience. He was Vice-President of Research at Amgen Inc. His own laboratory has developed several first-in-class anticancer compounds, three of which are currently in clinical testing (two in Phase 2). He also co-founded several biotech companies, including Miikana Therapeutics Inc., Agios Pharmaceuticals (NASDAQ-listed AGIO), Treadwell Therapeutics and TCRyption Inc.

Date:
1st April 2022 (Friday)

Time:
2:30 p.m. – 3:30 p.m.

Venue:
NCCS Auditorium & *via* Zoom
Zoom Link: https://nus-sg.zoom.us/j/85932995804?pwd=T2RFYzdnWE5QVUZMa2Noblp2VUhEUT09
Meeting ID:
859 3299 5804
Passcode:
817946

Hosted by:
Professor William Hwang
Medical Director, NCCS

***No registration is required. All are welcome.**

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