

CANCER SCIENCE INSTITUTE OF SINGAPORE IN THE SPOTLIGHT

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Bioinformatics Workshop
11 Nov 2019

CSI Seminar
Edwin Antony
12 Dec 2019

A comprehensive expression landscape of RNA-binding proteins (RBPs) across 16 human cancer types. (*RNA Biol*, Oct 2019)

RNA-binding proteins (RBPs) are found to be dysregulated in various diseases including cancer. However, the landscape of RBP expression in human cancer has not been well characterized. By building a comprehensive expression landscape of 1504 RBPs across 16 human cancer types, Dr. Yvonne Tay and her team elucidated that RBPs are predominantly upregulated in tumours and this phenomenon was shown to be impacted by tumour immune subtypes and microenvironment. The identification of the consistently dysregulated RBPs opens up avenues for the development of novel therapeutics approaches.



RNA-binding protein ZFP36L1 suppresses hypoxia and cell cycle signaling. (*Cancer Res*, Sep 2019)

In this fascinating study, Prof. H Phillip Koeffler and his team identified a previously unappreciated tumor suppressor role of ZFP36L1 in bladder and breast cancers. Results uncovered an indispensable role of ZFP36L1 as a posttranscriptional regulator in tumorigenesis and demonstrated that ZFP36L1 is often silenced and downregulated in bladder and breast cancers. Moving forward, pharmacologic induction to enhance ZFP36L1 expression could be explored as a potential therapeutic modality for certain cancers.



c-Met activation leads to the establishment of a TGF β -receptor regulatory network in bladder cancer progression. (*Nat Commun*, Sep 2019)

While aberrant HGF/c-MET upregulation and activation is frequently observed in bladder cancer, the mechanisms through which HGF and c-MET induces Epithelial-mesenchymal transition (EMT) in bladder cancer remains largely unknown. In this study helmed by Prof. Jean Paul Thiery and including other CSI members, Dr. Dennis Kappei and Dr. Alan Prem Kumar, the team revealed the crucial role of T β R activation in c-MET induced bladder cancer invasion. Through further in vitro and in vivo analysis, results established an association between MAPK and T β R signalling, whereby inhibition of either MPAK or T β R would result in hyperactivation of the other. Their exciting discovery could hold the key to treating high-grade non-muscle-invasive bladder cancers.



CSI GRADUATE PROGRAM

Graduate Recruitment 2019

On 8th October 2019, CSI Singapore hosted the Graduate Recruitment, which was attended by participants from NTU, NUS, NCCS and NCIS. Through a series of laboratory tours, participants had the opportunity to witness hands on laboratory demonstrations and presentations. We hope that the participants have gained a comprehensive overview of the Graduate Program and more importantly, a clearer understanding of cancer research!



Frontiers in Cancer Science 2019

Held from 4 - 6 November at The Academia @ SGH, the annual conference saw a strong turnout of close to 650 participants this year.

FCS 2020 will be happening on 2 - 4 November 2020. Remember to save the date!