

IN THE SPOTLIGHT

Issue 94 | June 2022

NEWS & ACHIEVEMENTS

CSI Singapore Principal Investigators Part of a Collaborative Effort to Secure a \$25M NMRC Collaborative Grant to Tackle Liver Cancer



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CSI Singapore Researchers Discover Promising Novel Drug Combination for Controlling Metastatic Breast Cancer



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FCS

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LEE KONG CHIAN SCHOOL OF MEDICINE
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14th Annual Conference
Frontiers in Cancer Science

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UPCOMING EVENTS

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| <p style="font-size: 2em; margin: 0;">25-26</p> <p style="font-size: 1.2em; margin: 0;">JULY</p> | <p style="font-size: 2em; margin: 0;">02</p> <p style="font-size: 1.2em; margin: 0;">AUGUST</p> | <p style="font-size: 2em; margin: 0;">05</p> <p style="font-size: 1.2em; margin: 0;">AUGUST</p> | <p style="font-size: 2em; margin: 0;">27</p> <p style="font-size: 1.2em; margin: 0;">AUGUST</p> |
| <p style="font-size: 0.8em; margin: 0;">EpiHK-CSI NUS-SBS NTU 2022 Joint Virtual Symposium: Epigenomics & RNA in Human Health and Disease</p> <p style="font-size: 0.8em; margin: 0;">10.00am - 5.00pm ZOOM</p> | <p style="font-size: 0.8em; margin: 0;">CSI Bioinformatics Club Research Seminar - Dr. Li Jia</p> <p style="font-size: 0.8em; margin: 0;">3.00pm - 4.00pm ZOOM</p> | <p style="font-size: 0.8em; margin: 0;">CSI Research Meeting</p> <p style="font-size: 0.8em; margin: 0;">1.00pm - 2.00pm CRC</p> | <p style="font-size: 0.8em; margin: 0;">CSI PI Retreat & Staff Party</p> <p style="font-size: 0.8em; margin: 0;">9.00am - 10.00pm Shangri-La Rasa Sentosa</p> |

Pan-cancer Pervasive Upregulation of 3' UTR Splicing Drives Tumourigenesis (*Nat. Cel Biol.*, May 22)

In this study, researchers from the Cancer Science Institute of Singapore (CSI Singapore) have taken a significant step forward in characterising the heretofore poorly known landscape of UTR splicing. Led by Dr. Yvonne Tay, the team systematically and comprehensively mapped out the 3'UTR splicing events in 11 cancer types, showing that 3' UTR splicing is widespread, upregulated in cancers, more prevalent in oncogenes and associated with poor clinical outcome. Their results not only highlight the significance of 3'UTR splicing in cancer but may also form the basis of new RNA-based anti-cancer therapeutics.



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Identification of Mechanism of Cancer-cell-specific Reactivation of hTERT Offers Therapeutic Opportunities for Blocking Telomerase Specifically in Human Colorectal Cancer (*Nucleic Acids Res.*, June 22)

In collaboration with Dr. Melissa Jane Fullwood, this study identifies a specific DNA structure that forms only in cancer cells and re-activates the Human Telomerase Reverse Transcriptase (hTERT) gene. The detailed mechanism of hTERT activation outlined in this study will be pivotal in designing cancer cell-specific hTERT inhibitors.



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Bioorthogonal Catalysis for Treatment of Solid Tumors Using Thermostable, Self-Assembling, Single Enzyme Nanoparticles and Natural Product Conversion with Indole-3-acetic Acid (*ACS Nano.*, June 22)

In collaboration with A/Prof. Edward Chow, this study reports the use of self-assembling, porous exoshells (tESs) to encapsulate and deliver an iron-containing reaction center paired with indole-3-acetic acid (IAA) for the treatment of breast cancer via bioorthogonal catalysis. Because IAA is a natural component found in edible plants which undergoes oxidative decarboxylation to produce free radicals and bioactive metabolites, the described system may be helpful for low toxicity treatment of solid tumours.



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[Review] Integration of Genomic Biology Into Therapeutic Strategies of Gastric Cancer Peritoneal Metastasis (*J Clin. Oncol.*, June 22)

In collaboration with Prof. Patrick Tan, Dr. Yong Wei Peng, and Prof. Jimmy So, this review outlines the shortcomings of current standard-of-care treatment for synchronous peritoneal metastasis (PM) in advanced gastric cancer (GC), and summarizes the new knowledge of cancer biology, advances in surgical techniques, and emergence of novel therapies, consolidating these into an integrated strategy to better address GCPM.



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