Department of Biomedical Sciences

presents a seminar of seminar series in Cancer Biology, Biotherapy and Nanomedicine

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"Destemming" liver cancer stem cells as a novel strategy against liver cancer

Dr Terence Kin-Wah Lee
The Hong Kong Polytechnic University

Date : 16 November 2017
Time: 3:30pm to 5:00pm
Venue: Meeting Room 1B-G04, G/F, Block 1, To Yuen Building

Abstract

Liver cancer (Hepatocellular carcinoma) is the fifth most common cancer in the world, and ranks the third fatal cancer in Hong Kong. Hepatocarcinogenesis is a multi-step process evolving from chronic hepatitis and cirrhosis to hepatocellular carcinoma. Accumulating evidence have demonstrated the existence of cancer stem cells/tumor initiating cells (CSCs/T-ICs) within the tumor bulk, which are capable for tumor-initiation, self-renewal, and therapeutic resistance. Thus, CSCs are considered a pivotal target for eradication of cancers. Using in vitro and in vivo models, we have identified CD24 and CD47 as novel functional liver cancer stem cell markers, which drives hepatocarcinogenesis through specific signaling pathways. Like normal stem cells, CSCs are regulated extrinsically within the tumor microenvironment. The interaction between liver CSCs and their microenvironment will be presented and discussed. Since CSCs plays crucial role in drug resistance, this presentation also attempts to highlight the importance of liver CSCs implicated in drug resistance for potential strategy for treatment of HCC in combination with conventional therapy. Some of our recent translational work targeting CSC makers and their signaling pathways has shown promising data in animal models and will be presented and discussed. Collectively, we believe that "destemming" liver cancer stem cells may be a novel therapeutic regimen for HCC therapy.

About the Speaker

Dr. Terence K.W. Lee received his Bachelor of Science (B.Sc.) degree from Hong Kong University of Science and Technology and doctoral degree (Ph.D) degree University of Hong Kong. Dr. Lee is currently an Assistant Professor at the Department of Applied Biology and Chemical Technology at the Hong Kong Polytechnic University. Dr. Lee is interested in identification, characterization, niche interaction and therapeutic targeting of liver tumor-initiating cells/cancer stem cells using multidisciplinary approaches that incorporate omics, proteomics, molecular biology, and imaging. Dr. Lee is also interested in understanding molecular mechanisms of drug resistance in the hope to translate basic research into better survival and improved quality of cancer patients.

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All are welcome !