



CENTER *for* APPLIED MOLECULAR MEDICINE

University of Southern California Physical Sciences in Oncology Center
2015 Monthly Seminar Series

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"Circulating tumor cells as liquid biopsies for metastasis"

FRIDAY, MARCH 27, 2015

NOON - 1:00 P.M.

Q & A to follow

PIZZA AND BEVERAGES WILL BE SERVED FOR ATTENDEES AT 11:45 A.M.

HARKNESS AUDITORIUM

HSC - Clinical Sciences Building, **2nd Floor**
2250 Alcazar Street, Los Angeles, CA

ABSTRACT:

Circulating tumor cells (CTCs), shed from primary and metastatic tumors into blood stream, contain potential rare cancer stem cells or metastasis-initiating cells. We have analyzed characteristics of CTCs in both mouse cancer models and human cancer patients. Previously, we have discovered an important WNT2-TAK1 pathway in promoting pancreatic cancer metastasis via enhanced resistance to anoikis, and demonstrated evidence of epithelial mesenchymal transition (EMT) in CTCs isolated from breast cancer patients. We have recently developed in vitro culture of CTCs, enabling in depth analysis of their molecular properties using next-generation sequencing and pilot drug sensitivity testing. In several CTC lines, inoculation of 20,000 cells into immunodeficient mice was sufficient for tumorigenesis. Thus, patient-derived CTC lines allow detailed interrogation of cancer stem cell properties at single cell level and its derived clonal populations, potentially contributing to the development of targeted therapies against the metastasis initiating cancer stem cells.



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