TECHNION
Israel Institute of Technology

rticc
Rappaport Technion Integrated Cancer Center

D. DAN AND BETTY KAHN HUMAN HEALTH BUILDING

supported by The Azrieli Foundation

Gad Getz, PhD

Director, Cancer Genome Computational Analysis group
Broad Institute of MIT and Harvard;
Professor of Pathology, MGH

Host
Prof. Amir Orian
Director, RTICC

RTICC
INTERNATIONAL GUEST SEMINAR

14th July
13:30-14:30

4th Floor seminar Room, The Ruth and Bruce Rappaport Faculty of Medicine

"Resistance and Persistence in Cancer"

Cancer evolves by accumulating driver events that increase the fitness of the cells, starting from normal, to pre-cancerous expansions, to cancer, and, finally, to becoming resistant to therapy. Cancer cells can leverage different mechanisms to evade the therapeutic pressure and develop drug resistance. In some cases, a fraction of cancer cells tolerate the drug and persist during treatment. To delay or prevent resistance or persistence, one needs to map and understand these mechanisms which can then help identify targets for developing new drugs as well as guide therapeutic decisions.

I will discuss different approaches for finding mechanisms of resistance as well as our efforts to understand persistence. Both efforts involve understanding the evolutionary relationship of the cancer cells to detect recurrent events that drive resistance or persistence. I will give examples from studying resistance in breast cancer and persistence in lung cancer. Finally, I will demonstrate the benefit of using whole-genome sequencing data to further enrich the detection of resistance mechanisms.

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