The Shraga Segal Department of
Microbiology, Immunology and Genetics

SPECIAL GUEST SEMINAR

Dr. Yaron Carmi

Melanoma-secreted lysosomes trigger monocyte-derived dendritic cell apoptosis and limit cancer immunotherapy

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Thursday 14:15
Main Campus 35
Room 003

Nonetheless, a complete curative response following immunotherapy is observed only in a fraction of patients. To identify what factors limit the efficacy of immunotherapies, we established mouse models that cease to respond to immunotherapies once their tumors exceed a certain stage. Analysis of the immune systems of the organisms revealed that the numbers of tumor-infiltrating dendritic cells (TIDC) drastically decreased with time. Further, in contrast to the current paradigm, once melanoma was established, TIDC did not migrate into sentinel lymph nodes. Instead, they underwent local cell death due to excessive phagocytosis of lysosomes. Importantly, TIDC were required to license the cytotoxic activity of tumor $CD8^+$ T cells, and in their absence, T cells did not lyse melanoma cells. This work redefines the role of monocyte-derived dendritic cells in melanoma and provides a novel strategy to increase the efficacy of T cell-based immunotherapies in non-responding individuals.

Host:
Tomer Cooks and Moshe Elkabets