

MCB Student Seminar

Prof. Yardena Samuels' Lab

Monday, May 9th, 2022 at 11:30



The seminar will start with an introduction by the PI, followed by a student talk and will end with meet, greet & eat



Dr. Osnat Bartok

Will lecture about:

Impaired translation fidelity induces aberrant peptide presentation in cancer cells

Immunotherapy relies on the ability of the immune system to specifically recognize and eradicate tumor cells. A great potential pool of immune-stimulating factors are neopeptides, the degradation products of altered proteins expressed in cancer cells, and presented on their surface as part of Major Histocompatibility Complexes (MHC). As neopeptides can be recognized as foreign by T cells, they represent attractive targets for immunotherapies such as personalized therapeutic cancer vaccines. However, despite the great achievements in the field, personalized immunotherapies are still limited to specific cancer types due to the difficulty to identify targetable antigens, especially in low mutation burden tumors, where presentation of neopeptides derived from somatic mutations is rare. In the current study, we investigate a yet untapped pool of cancer peptides, derived from aberrant protein synthesis in cancer cells. Although dysregulation of the mRNA translation machinery is an established hallmark of cancer, and low translation fidelity was shown to be associated with tumor progression and adaptation to stress, the contribution of cancerous translation aberrations to the production and MHC-presentation of aberrant peptides remains elusive. Our results suggest that these mutant variants may constitute a rich source of tumor-specific antigen targets for immunotherapy.

Wolfson Lecture Hall

Meet, greet & eat will follow the lectures