



**NAME OF LABORATORY:** Lab of Prostate cancer research

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**PI:** Prof. Nicola J. Mabeesh MD, PhD

**Director of Department:** Prof. Haim Matzkin MD

**Research Objectives:**

- Our lab focuses on studying the hypoxic response in cancer. Most of the human solid tumors exhibit hypoxia (low levels of oxygen).
- The adaptation to hypoxia has a major role in the establishment of a primary tumors and their progression to metastatic and lethal phenotype. Thus, our long-term goal is to find new modalities involving the regulation of the hypoxic response for the development of novel cancer therapeutics in the future.
- The lab uses a wide range of molecular biology, cell biology, biochemical and molecular imaging techniques, tissue culture model systems; nude mice xenografts model systems, FACS analysis and patient-derived primary cultures and sera.

**Main Research topics:**

- Studying the mechanisms regulating non-hypoxic hypoxia inducible factor-1 $\alpha$  (HIF-1 $\alpha$ ) stabilization and transcriptional activation in cancer.
- Exploring new metabolic reprogramming mechanisms of cancer cells under glucose deprivation and hypoxic conditions.
- Investigating the interaction between HIF-1 $\alpha$  and Septin 9, a cytoskeletal GTPase binding protein.
- Studying the expression of immune checkpoint proteins in bladder cancer.

**Staff:** Dr. Sharon Amir, Sahar Haimowitz, Lihie Maltz

**Active Grants:**

- Adelson Medical Research Foundation
- Israel Cancer Association
- Cancer Biology Research Center (CBRC) Idea Award" (IA) program Grants

**Collaborations:** Prof. Ciechanover, Prof. Shiloh, Dr. Pikarsky, Prof. Yarden, Prof. Ben-Neriah, Prof. Oren

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