



NAME OF LABORATORY: The Research Center for Digestive Tract & Liver Diseases

PI: Dr. Revital Kariv MD

Director of Department: Prof. Zamir Halpern MD

Research Center Manager: Dr. Chen Varol PhD

Research Objectives: Our team looks at the genetic background of colorectal cancer and other GI tumors. We identify novel genes and mutations that are related to GI cancers in families and individuals, by novel and advanced genetic technologies as NGS and whole exome analysis. We study hereditary syndromes that are related to GI neoplasia. In particular we focus on APC gene, its mutation profile, second hits and novel potential therapeutic approaches like read through of nonsense stop mutation by macrolide antibiotics. We also look at metabolic and environmental factors related to colorectal cancer like nutrition and advanced glycation products.

Main Research topics:

- Novel mutations and variants and founder mutations related to hereditary GI cancers in Israel (whole genome sequencing, mutations panels)
- Microbiome in patients with hereditary GI cancer and polyposis
- Second hits in APC gene
- POL gene mutation characterization in colonic neoplasia
- APC read through in FAP patients with nonsense stop codon mutations by macrolide antibiotics
- RAGE and AGES in colorectal neoplasia (ELIZA, IHC) and their relation to metabolic and nutritional profile

Staff: Guy Rozner MD, Nathan Gluck MD, Shira Zelber-Sagi PhD, Naomi Fliss- PhD student, Sivan Aharon-coordinator, Meir Zemel, MD-research project, Sharon Kagan- student, David Fruchter- student, Dana Margalit-MSc student, Dana Ivankovsly-PhD student

Active Grants:

- **Gateway** grant to study read-through of APC gene in Familial Adenomatous polyposis,
- **IGA** grant, Ministry of Health

Collaborations:

- **At TASMC:** Nitzan Mahrshak, MD, Dalit Ben Yosef PhD IVF unit
- **External collaboration:** Dr Rina Arbesfeld- Tel Aviv University, Dr Karina Yaniv- Weizmann Inst, Dr Leon Raskin Vandebilt University USA

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