CAMB 7010: The Tumor Microenvironment

Directors: Celeste Simon, PhD, Todd Ridky, MD, PhD, Ronny Drapkin, MD, PhD

Thursdays 3:30-5:30 pm
1201 BRB II/III

Syllabus Spring 2024

Class Format:
- Students present background (30-40 minutes).
- 10-minute break
- Students present key data in paper(s) (45-50 minutes).
- Feedback from Celeste, Todd, and Ronny to presenters only (10 minutes).

Reminder: each week, students that are not presenting that week will submit two questions they would like to discuss concerning impact/novelty/implications and/or general questions about the papers to Celeste, Todd, and Ronny the day of class.

(1/18/24) Class 1: Organizational Meeting

(1/25/24) Class 2: Immune Surveillance (Todd)


(2/1/24) Class 3: Metastatic Niche (Ronny)


(2/8/24) Class 4: Crosstalk between the Tumor and Microenvironment (Celeste)


(2/15/24) Class 5: Tumor Angiogenesis, Lymphangiogenesis (Todd)

Garcia Silva et al. “Melanoma-derived small extracellular vesicles induce lymphangiogenesis and metastasis through an NGFR-dependent mechanism”, Nature Cancer (2021)

Stella Stasso “Lymphangiogenesis-inducing vaccines elicit potent and long-lasting T cell immunity against melanomas”, Science Advances (2021)

(2/22/24) Class 6: Inflammation and Tumor Progression (Ronny)


(2/29/24) Class 7: Systemic Factors and Tumor Progression (Celeste)

Argiles et al. “Cancer-associated cachexia — understanding the tumour macroenvironment and microenvironment to improve management”, *Nature Review Clinical Oncology* (2023)


Spring Break: March 4-8, 2024

(3/14/24) Class 8: The Tumor Stroma, Cancer Associated Fibroblasts (Todd)

“Antiandrogen treatment induces stromal cell reprogramming to promote castration resistance in prostate cancer”, *Cancer Cell* (2023)

(3/21/24) Class 9: Stressful Tumor Microenvironments (Hypoxia and Nutrient Scarcity) (Celeste)


(3/28/24) Class 10: Tumor-Nervous System Interactions (Ronny)


Balood et al. “Nociceptor neurons affect cancer immunosurveillance”, *Nature* 2022

(4/4/24) Class 11: The Influence of Microbiome on Tumor Growth (Todd)


(4/11/24) Class 12: Tumor Metabolism (Celeste)

Xiao et al. “Emerging therapies in cancer metabolism”, *Cell Metabolism* (2023)

Tang et al. “Immunogenic coevolution defines unique microenvironmental niches in ccRCC”, *Cell Metabolism* (2023)


Aguirre-Portoles et al. “ZIP9 is a druggable determinant of Sex Differences in Melanoma”, *Cancer Research* (2021)


**Course Grade**: 40% assigned presentations, 40% overall class participation (and weekly questions), and 20% News and Views Article