

Diversity Program

Student Summer Research Fellowship Proposal for 2020

FACULTY INFORMATION:

NAME: Nukhet Aykin-Burns, PhD

DEPARTMENT: Department of Pharmaceutical Sciences

LOCATION: BioMed II , 4th floor Room 441A-2

PROJECT INFORMATION:

TITLE: Evaluation anti-tumor properties of of novel melatonin analogs.

LOCATION OF THE PROJECT: BioMed II , 4th floor Room 438/2

BRIEF DESCRIPTION OF THE PROJECT:

Melatonin, an indole hormone synthesized during the night mainly in pineal gland, is found to reduce proliferation of estrogen receptor positive and negative human breast cancer cells at its physiological concentrations. However, its short half life as a result of rapid metabolic inactivation is an important limitation in its therapeutic use. This drawback can be conquered by developing novel melatonin analogs with longer half-life than melatonin. Recently we have been evaluating possible anticancer effects of those novel indole-based derivatives. We screened a number of analogs in vitro and picked 2 most promising candidates to study their anti-tumorigenic properties in vivo using murine models.

STUDENT'S RESPONSIBILITIES-DUTIES IN THE PROPOSED PROJECT:

The mice will be injected with breast cancer cells and once the tumors are developed, we will treat them with novel melatonin analogs. The student will be responsible for assisting the graduate student for tumor size measurements, immunostaining and scoring the tissue histology slides for metastasis markers.

ESTIMATED TIME FOR PROJECT COMPLETION: 8 weeks

DOES THE WORK INVOLVE ANIMAL RESEARCH? YES ---XXX---
NO -----

ORAL/POSTER PRESENTATION OPPORTUNITY: The results will be presented in podium or poster format at the Annual Meeting of Society for Redox Biology Meeting at Las Vegas, Nevada in Nov 2019.