



KEY WORDS

- ✓ Pancreatic Ductal Adenocarcinom
- ✓ Glycolysis
- ✓ Polyamine Biosynthesis
- ✓ ODC1
- ✓ PFKFB3

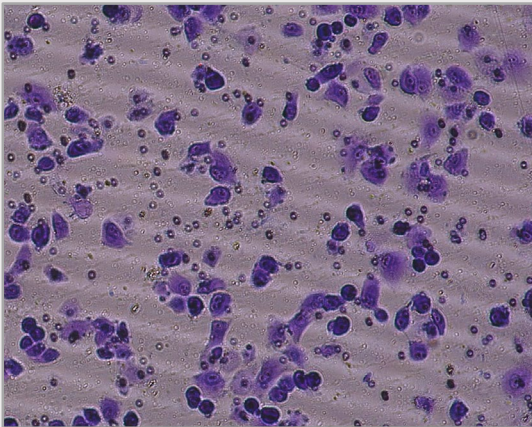
CONTACT

E-MAIL:
aybikesarioglu0@gmail.com

THESIS SUPERVISOR

TELEPHONE:
0 224 294 12 82

E-MAIL:
ngunes@uludag.edu.tr



INVESTIGATION OF THE EFFECTIVENESS OF POLYAMINE BIOSYNTHESIS AND GLYCOLYSIS INHIBITIONS IN THE TREATMENT OF PANCREATIC ADENOCARCINOMA

AYB KE SARIO LU BOZKURT

0000-0002-8287-6617

BURSA ULUDAG UNIVERSITY

GRADUATE SCHOOL OF HEALTH SCEINCES

B OCHEMISTRY DEPARTMENT

PhD PROGRAM

GRADUATION DATE: 10/01/2024

SUPERVISOR

PROF. DR. NAZM YE G NE 

0000-0002-8096-1316

BURSA ULUDAG UNIVERSITY

GRADUATE SCHOOL OF HEALTH SCIENCES

B OCHEMISTRY DEPARTMENT

BURSA – T RK YE



THESIS ABSTRACT

The 5-year survival rate for pancreatic cancer is approximately 6-8%, and new treatment approaches are needed. Activating mutations of the KRAS gene are found in more than 90% of pancreatic ductal adenocarcinomas (PDAC), which constitute the majority of pancreatic cancers. In this thesis study; Genetic expression of the glycolytic regulator 6-phosphoructo-2-kinase/fructose-2,6-bisphosphatase-3 (PFKFB3) and the polyamine biosynthesis pathway rate-limiting enzyme ornithine decarboxylase (ODC1) was detected in PDAC cell models that have the KRAS mutation and are known to be metabolically aggressive. and the effects of single and combined inhibitions on the in vitro metabolic, proliferative and oncogenic potential of cells were investigated using pharmacological methods. Data obtained within the scope of this thesis study; It shows that suppressing PFKFB3 and ODC1 activities in PDAC tumors, which stand out with their metabolic aggressiveness and plasticity, may have a stronger anti-oncogenic effect than single inhibition in vitro.

APPLICATION AREAS OF THE THESIS RESULTS

Research has been conducted in the field of molecular pharmacology and drug development, and a new inhibitor drug has been tested for the first time. The findings obtained here contributed to the literature for targeted treatment improvement studies in cancer.

ACADEMIC ACTIVITIES

-2. International Multidisciplinary Cancer Research Congress. 21-24 Temmuz 2022. Giresun, T rkiye. Inhibition of 6-phosphoructo-2-Kinase and Ornithine Decarboxylase Oncogenic Properties of Pancreatic Adenocarcinoma Cells. **Oral presentation.** (A. Sarioglu Bozkurt, N. Gunes, Oner Sonmez, T. Hazal Altunok, A. Yalcin).

-European Association for Cancer Research (EACR) – talya, 2021 Dual Targeting of Glycolysis and Polyamine Synthesis Pathways Suppresses the Proliferation of Pancreatic Adenocarcinoma Cells. (A. Sarioglu , N. Gunes , T. Altunok Hazal , A. Yalcin). 09-12 Haziran 2021