



KEY WORDS

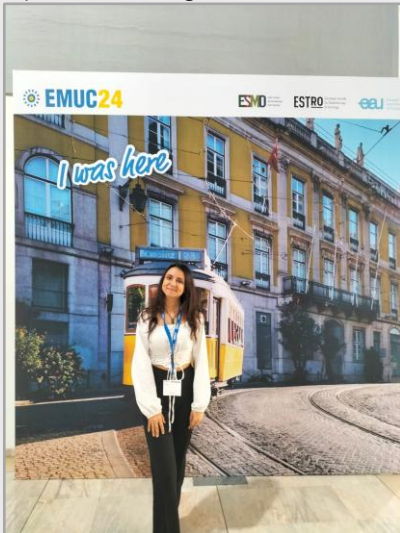
- ✓ Prostate cancer
- ✓ siRNA
- ✓ NF-KB
- ✓ oxidative stress
- ✓ Cabazitaxel

CONTACT

E-MAIL:
bilgearioz@gmail.com

THESIS SUPERVISOR

TELEPHONE:
+90 224 295 4163
E-MAIL:
ezgieryilmaz@uludag.edu.tr



THE EFFECTS OF SIRNA-MEDIATED INHIBITION OF NF-KB ON CABAZITAXEL SENSITIVITY IN OXIDATIVE STRESS-RESISTANT METASTATIC PROSTATE CANCER CELLS

Bilge A R I O Z

ORCID-NO 0009-0009-3591-1561

BURSA ULUDAG UNIVERSITY
GRADUATE SCHOOL OF HEALTH SCIENCES
MEDICAL BIOLOGY DEPARTMENT
MSc PROGRAM

GRADUATION DATE: 22.07.2025

SUPERVISOR

Assoc. Prof. İŞİL EZGİ ERYILMAZ



ORCID-NO 0000-0002-3316-316X

BURSA ULUDAG UNIVERSITY
GRADUATE SCHOOL OF HEALTH SCIENCES
MEDICAL BIOLOGY DEPARTMENT
BURSA – TÜRKİYE

THESIS ABSTRACT

Prostate cancer (PCa) can progress to metastatic castration-resistant disease (mCRPC), where treatment options are limited. This study investigated the effect of NF- κ B p65 (RelA) siRNA-mediated silencing on Cabazitaxel sensitivity in oxidative stress-resistant LNCaP-HPR5M cells. WST-1, Annexin V, multicaspase, ROS analysis, and Western blot demonstrated that siRNA-RelA suppressed NF- κ B signaling and enhanced the cytotoxic and pro-oxidant effects of Cabazitaxel. These findings suggest that targeting NF- κ B may enhance Cabazitaxel sensitivity in resistant PCa cells.

APPLICATION AREAS OF THE THESIS RESULTS

These findings indicate that targeting the NF- κ B p65 pathway may enhance Cabazitaxel efficacy in oxidative stress-resistant prostate cancer. This approach could contribute to the development of combination strategies to overcome therapeutic resistance in mCRPC.

ACADEMIC ACTIVITIES

1. Eryilmaz, I. E., Colakoglu Bergel, C., ArioZ, B., Huriyet, N., Cecener, G., & Egeli, U. (2025). Luteolin induces oxidative stress and apoptosis via dysregulating the cytoprotective Nrf2-Keap1-Cul3 redox signaling in metastatic castration-resistant prostate cancer cells. *Molecular Biology Reports*, 52(1), 65.
2. Eryilmaz, I. E., Bergel, C. C., Ariöz, B., & Egeli, Ü. (2025). Cytotoxic and Apoptotic Agent Encorafenib Controversially Alters Invasive Properties of Castration-Resistant Prostate Cancer Cells with High and Moderate Metastatic Potential. *Osmangazi Tıp Dergisi*, 47(2), 263-270.
3. Bergel, C. C. The Biomarker Potential of Serum-Derived Exosomes Carrying Autophagic Regulators in Carotid Artery Stenosis Patients. *Turkish Journal of Thoracic and Cardiovascular Surgery*, 32(5).