



**ABSTRACT BOOK** OF THE  
**1st INTERNATIONAL CONGRESS ON  
CANCER & ION CHANNELS**

**September 21 – 23, 2017, Sanliurfa, TURKEY**

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# 1st INTERNATIONAL CONGRESS on CANCER & ION CHANNELS

(IONCC2017)

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*"Ion channels: A novel therapeutic target for the treatment of cancer and metastases"*

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## **P119-The Effects of Combination Drug Treatment with Caffeic Acid Phenethyl Ester (CAPE) And Zebularine (ZEB) on Human Lung Cancer Cell Line A549**

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**Introduction/Aim:** Lung carcinoma is the leading cause of malignant tumor related mortality in the world. Caffeic acid phenethyl ester (CAPE) is a bioactive compound of propolis extract and possesses antimicrobial, antioxidant, anti-inflammatory, and cytotoxic properties. Zebularine (1-( $\beta$ -D-ribofuranosyl)-1,2-dihydropyrimidin-2-one) is an inhibitor of DNA methyltransferase (DNMT). The aim of this study is to explore the cytotoxic effects and cell proliferation of using single drug CAPE, ZEB and combination of these drugs on human lung cancer cell line A549.

**Materials and Methods:** A549 cells were cultured in RPMI supplemented with 10% fetal bovine serum (FBS) in a humidified atmosphere of 5% CO<sub>2</sub> at 37 °C respectively. Cell viability was determined by MTT assay that assesses the relative percentage of metabolically active cells compared to untreated cells. For MTT assay the dosage range of CAPE and ZEB and different dosage of two drugs. The IC<sub>50</sub> (concentration that inhibits 50% of cell growth) was calculated for any drugs and combination with CAPE and ZEB. For cell viability, cells were treated with IC<sub>50</sub> value for each drug and combination 24h, 48h, 72h, 96h of incubation.

**Results:** We compared the effect of single drug treatment and combination drug treatment with CAPE and ZEB to control group for lung cancer cell line. MTT Assay's data showed that the IC<sub>50</sub> of CAPE 50  $\mu$ M, ZEB 50  $\mu$ M and combination therapy with CAPE 20  $\mu$ M + ZEB 20  $\mu$ M for 24h. According to the survival analysis showed that combination therapy with CAPE and ZEB for 24h, 48h, 72h and 96h significantly reduced cell viability. In addition, combination therapy indicated toxic effect after 24 hours on lung cancer cells.

**Conclusion:** MTT and Survival assays for the evaluation of the effect of combination therapy on A549 human lung cancer cells showed a decrease in cell viability. Combination therapy more effective than single therapy and using combination therapy decreases the cytotoxic effects of drugs. This study using CAPE and ZEB may an attractive candidate for lung cancer treatment for future.

**Key words:** Lung cancer, CAPE, ZEB