



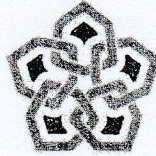
# 7 International Molecular Biology and Biotechnology Congress



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**ORAL ABSTRACT BOOK**



**KONYA**

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## Apoptotic DNA fragmentation triggered by combination therapy of 5-FU and CAPE in A549 cell line

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### Abstract

Non-small cell lung cancer (NSCL) is a leading cause of cancer mortality over the World. Caffeic Acid Phenethyl Ester (CAPE) is a major active component in propolis. It has been previously identified as a strong antioxidant, anti-inflammatory, antiviral and anticancer molecule. We aimed to investigate the comparative effects of 5-FU, CAPE with single and combine treatment in A549 cells. We investigate to analysis of apoptosis by DNA fragmentation in A549 cells. Thus, we further examined DNA fragmentation to clarify whether CAPE analogues induced apoptosis or not. Cells were cultured in RPMI-1640 in a humidified atmosphere of 5%CO<sub>2</sub> at 37°C. Cell viability was determined by MTT assay. The IC<sub>50</sub> values were detected for 5-FU, CAPE and combined treatment by 50µM, 4µM and 12,5µM +1µM respectively. We compared the effect of monotherapy and polytherapy of drugs on cells. Cells were treated with determined concentration for 24 and 48 hours. After treatment, cells were isolated according to DNA fragmentation protocol and DNA fragments showed on 3% agarose gel. For cell viability, cells were treated with IC<sub>50</sub> value for each drug and combination 24h, 48h of incubation. Combine therapy is more effective than single therapy of these drugs. We determined that DNA fragmentation, a marker for induction of apoptosis, increased with 5-FU treatment at 48 hours. These results suggest that 5-FU is more effective than CAPE to induction of apoptosis. This study is a basic qualitative study for the investigate of the apoptosis pathway triggered by 5-FU.

**Keywords:** Lung cancer, CAPE, 5-Fluorouracil, Apoptosis