



Turkish Journal of Medical Sciences

Turkish Journal
of
Medical Sciences

Cytotoxic effects of caffeic acid phenethyl ester (CAPE) on the human multiple myeloma cell line

Özgür KORU¹
Ferit AVCU²
Mehmet TANYÜKSEL¹
Ali Uğur URAL²
Remzi Engin ARAZ¹
Kenan ŞENER³

 [Keywords](#)
 [Authors](#)



medsci@tubitak.gov.tr

¹ Department of Microbiology, Division of Medical Parasitology, Gülhane Military Medical Academy School of Medicine, Ankara - TURKEY

² Department of Hematology, Gülhane Military Medical Academy School of Medicine, Ankara - TURKEY

³ Department of Microbiology, Division of Virology, Gülhane Military Medical Academy School of Medicine, Ankara - TURKEY

[Scientific Journals Home Page](#)

Abstract: Aim: Caffeic acid phenethyl ester (CAPE) has cytotoxic, apoptotic, and antiproliferative effects on various tumor cells, and is the most active component of propolis. This study aimed to examine the in vitro effects of CAPE on the human multiple myeloma cell line. Materials and methods: CAPE was added to the ARH-77 multiple myeloma cell line and the percentage of dead cells was measured using the 3-(4,5-dimethyl-thiazoyl)-2,5-diphenyl-SH-tetrazolium bromide (MTT) assay. The percentage of live cells and growth inhibition were determined using the Trypan blue test. The percentage of IL-6 cells was determined using ELISA. Results: ARH-77 cells treated with CAPE for 72 h at the 100 µg mL⁻¹ concentration resulted in a growth inhibition effect of 90.4% and a cytotoxic effect of 80.4%. CAPE induced apoptosis in 92.3% of the cells in 22.5 µg mL⁻¹ at 72 h. CAPE inhibited the secretion of IL-6 by ARH-77 multiple myeloma cells at LD₅₀ concentrations. Conclusion: CAPE inhibited growth and secretion of IL-6, and induced apoptosis in a dose-dependent and time-dependent manner in ARH-77 multiple myeloma cells. We think that CAPE merits further study as an effective agent against multiple myeloma.

Key words: Caffeic acid phenethyl ester (CAPE), multiple myeloma, cytotoxicity, IL-6

Turk J Med Sci 2009; **39**(6): 863-870.

Full text: [pdf](#)

Other articles published in the same issue: [Turk J Med Sci, vol.39,iss.6.](#)