Oxidative Medicine and Cellular Longevity 4.The antibacterial properties of the ethanolic oregano extract were measured using an agar dilution method.p–cymene and although cytotoxic at high concentrations, did both isomers at equimolar concentrations (12 uM carvacrol –octacosano and 5 HM thymol) to those present in the oregano extract (at not contribute to the cytotoxicity of the mixture, most likely the 2.93 ug/mL concentration) resulted in a less protective attributed to their low potency and very low availability in effect than that produced by the extract (% viability of the mixture (nM range).Discussion Results from the GC–MS analysis of the ethanol extract of wild–growing herb Origanum vulgare obtained from Southern Greece revealed an abundance of monoterpene hydrocarbons and phenolic compounds with the main con stituents being carvacrol and thymol (Table 1).the control group trea l)–benzene) pinene (1–methyl–4–0 rom WI methylethyl)–1,4–cyclohexadiene) are the precursors of car– vac in species of Origanum 19] Studies examining the effect of oregano extract on cancer prevention and cytotoxicity are limited [20].In the present and thymol did not have any effect on the uptake of carvacrol study, challenge of A549 human lung adenocarcinoma (Figure 3(a)); a small but significant increase in the uptake of epithelial cells with oregano ethanolic extracts (0–250 ug/mL final concentration) resulted in a concentration–dependent decrease in cell viability with a calculated LCs0 14ug/mL thymol was observed (Figure 3 3(b)) 3.4.Inclusion of p–cyme and/or l–octacosanol to the carvacrol and thymol mixture did not contribute to the antioxidant effects of the mixture determined in this study might possess higher potencies and The mechanisms by which thymol and carvacrol cause cell death in mammalian cell lines have not been thoroughly tent inhibitor of cell growth in A549 cell and a ne play a role in the overall effects of the oregano extracts.This finding rted by other investigators who found that in spite of the high variability of individual compounds in the essential oil of O. vulgare from 23 localities scattered all over Greece, the sum of carvacrol, thymol, p– cymene, and y–terpinene was consistent, amounting to >80% [10, 17, 181.As showen in Figure 4, pretreatment of A549 cells with the oregano extract challenge of A549 cells with thymol, carvacrol, p–cymene or l–octacosanol alone resulted in a concentration–dependent at concentrations ranging from 0 to 2.93 ug/mL resulted in decrease in cell viability, with thymol being more cytotoxic a concentration–dependent protective effect against H,0,.The oregano .[extract inhibited the growth of reference ATCC Gram–negative and protein amount [21