



## Anti-Proliferation and Migration Effects of Oleuropein on Human A549 Lung Carcinoma Cells

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**SUMMARY.** Oleuropein is a powerful antioxidant with documented anticancer properties. In this study, oleuropein was shown to inhibit human lung carcinoma A549 cells proliferation and migration as well as induce the decrease of intracellular reactive oxygen species (ROS) and methane dicarboxylic aldehyde (MDA) levels in a concentration dependent manner. The IC<sub>50</sub> was calculated at 59.96 μM and there were higher linear relationships between both levels of MDA and ROS and levels of MDA and relative quantities of migrated cells ( $r^2 = 0.9578$  and  $0.9972$ , respectively). Increases of cells arrested in G<sub>1</sub> cycle phase were observed with increasing concentrations of oleuropein and were negatively associated in a very significant linear correlation with levels of ROS and MDA, respectively ( $r^2 = 0.9904$  and  $0.9702$ , respectively). The results further suggest the therapeutic effects of oleuropein on a variety of cancer cells.

**KEY WORDS:** A549 cell line, Migration, Oleuropein, Proliferation.

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