

COMPARATIVE ANTICANCER ANALYSES OF CISTUS SPECIES BY INDUCTION OF APOPTOSIS IN HUMAN BRAIN GLIOMA AND LUNG CARCINOMA CANCERS

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Cistus creticus L. (synonym *C. incanus*) and *C. salviifolius* L. species belonging to family *Cistaceae* are widely distributed in the Middle East Mediterranean (except France and Iberian Peninsula), North Africa and West Asia. *Cistus* plants, known as rock rose, laden and laden grass among the people, naturally grow in the flora of Turkey have medicinal, economic and industrial importance. Regarding literature survey of these plant species, it has been reported that they are used in Anatolian folk medicine thanks to their rich phytochemical compounds such as quercetin, myricetin, kaempferol, kaempferol-3-methyl ether, apigenin, luteolin, aesculin, flavan-3-ol and proanthocyanidin. In the current research, aerial parts of the *Cistus* plants were extracted by maceration method using different solvents, aimed to reveal whether the extracts could have an inhibitory effect on the development of cancer towards lung (A549 and H1299) and brain glioma (C6) cancer cell lines by promoting apoptosis and necrosis, and also aimed to determine apoptotic effects through DNA fragmentation. All the conditions and chemicals were used the same as described in our previous researches. The extracts obtained from aerial part of *C. creticus* L. and *C. salviifolius* L. were found to induce growth inhibition and apoptosis in a concentration and time dependent manner. In addition, apoptosis was observed in all the cultured cancer cells, which rapidly showed signs of apoptotic cell death as detected by DNA fragmentation. Consequently, *Cistus species* could have significant anticancer and antiproliferative activities through enhancement of apoptosis and necrosis. Even though there are several studies reporting about its wide range of biological activities, no literature has been found about anticancer and apoptotic

properties of the investigated *Cistus species*. Therefore, this research could be assumed as the first report for the scientific literature.