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Potential Effects of *Liquidambar orientalis* Mill. Against HT-29 and HCT-116 Cell Lines †

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Abstract: Medicinal plants are natural sources which contain a wide range of substances. They are often used to treat various diseases due to their antimicrobial, antimutagenic and antioxidant effects. Also they are best source of many drugs. *Liquidambar orientalis* Mill. *(L. orientalis)*, a medical plant is an endemic tree species in the Mediterranean region. *L. orientalis* also called as sweet gum, is used for such as some skin, respiratory and gastric ulser disease. We prepared 3 extracts each of fruid, leaf and storax by use different polarity solutions. For all extracts are studied cytotoxicity assay by XTT methods in colorectal cancer cell line (HT-29, HCT-116). The most cytotoxic extract is chosen to quantitative real-time PCR (qRT-PCR) analysis. To gene expression, total RNA isolated from both cell lines and NF-kB Signaling Pathway PCR Array (88 gene and 8 housekeeping gene) was studied. Leaf methanol extracts estimated IC50 values of respectively 28.30 uM, 40.42 uM in HT-29, HCT-116 cell lines after treatment with different doses of extract for 48h. According to our results some significant inflammation and immune response genes expression seem to be change (such as IL1B, TNFRSF10A). *L. orientalis* extract may strong potent cytotoxic and anti-inflammatuar agent for colorectal cancer.

Keywords: *L. orientalis*; colorectal cancer; inflammation; NF-kB