

Effects of *Salvia aramiensis* on proliferation, caspase-related apoptosis and pro-inflammatory cytokines in lung cancer cells

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Received 17 August 2023; revised 04 April 2024

This study was conducted to determine the antioxidant and anticancer activity of *Salvia aramiensis* Rech.f., which is a member of Lamiaceae, and its phenolic compounds. For this purpose, the phenolic compounds from the *S. aramiensis* methanol extract (SAME) were identified by LC-MS-MS. Antioxidant activities of SAME were determined by *in vitro* DPPH scavenging and metal chelating assays. The antiproliferative effect of SAME on lung cancer cells (A549) was determined by using the MTT assay. In addition, the levels of the pro-inflammatory cytokines IL6 and IL8, and apoptotic marker caspase-3 were determined using ELISA assays. As a result of LC-MS-MS screening, luteol was detected as the main compound of SAME. The DPPH scavenging and metal chelating activities of SAME were insignificant. In addition, it was observed that SAME reduces the viability of A549 cells. At doses of 25, 50, and 100 µg/mL, IL6 and IL8 levels increase, but at 200 µg/mL, a considerable decrease was observed. Caspase-3 levels also decreased at doses of 100 and 200 µg/mL. As a result, although SAME has weak antioxidant activities, it has significant antiproliferative and pro-inflammatory cytokine suppressing effects. Due to the decreased levels of caspase 3, the cytotoxic effect of SAME may be mediated by a caspase independent pathway.

Keywords: Anticancer, Antioxidant, Caspase-3, Inflammatory cytokines, Phenolic compound, *Salvia aramiensis*