Short communication

Antiproliferative activity of parthenolide against three human cancer cell lines and human umbilical vein endothelial cells

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Abstract:
Parthenolide is a major sesquiterpene lactone derived from feverfew (Tanacetum parthenium) with known anti-inflammatory activity. Moreover, the anticancer potential of this compound was suggested. In this study, we determined the effect of parthenolide on proliferation of three human cancer cell lines: human lung carcinoma (A549), human medulloblastoma (TE671), human colon adenocarcinoma (HT-29), and human umbilical vein endothelial cells (HUVEC) in vitro. Cell proliferation was assessed by means of 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay. The IC₅₀ value (the concentration of drug necessary to induce 50% inhibition) together with confidence limits was calculated. Parthenolide inhibited proliferation of all three types of cancer cells (A549, TE671, HT-29) and HUVEC with the following IC₅₀ values (in μM): 4.3, 6.5, 7.0 and 2.8, respectively. Thus, the antiproliferative potential of parthenolide was confirmed.

Key words: parthenolide, human lung carcinoma (A549), human medulloblastoma (TE671), human colon adenocarcinoma (HT-29), human umbilical vein endothelial cells (HUVEC), proliferation, in vitro