

عنوان مقاله:

Evaluation of Cytotoxicity and Anti-Inflammatory Effects of Saponin Isolated from *Holothuria Leucospilota* SeaCucumber

محل انتشار:

اولین سمپوزیوم بین المللی سرطان نسترن (سال: 1394)

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خلاصه مقاله:

Saponins are secondary metabolites with triterpene structure that first were identified in plants and later their existence was confirmed in some marine animals including sea cucumbers. These compounds have a wide spectrum of pharmaceutical and health effects. This study was conducted to evaluate the cytotoxicity and anti-inflammatory effects of *Holothuria leucospilota* sea cucumber saponin on Human lung adenocarcinoma epithelial cell line (A549). The A549 cells were cultured, seeded and exposed with different concentrations of saponin (0.12, 0.25, 0.5 and 1 $\mu\text{g/ml}$). Evaluation of antiproliferative effect of saponin against cancer cells was performed by MTT procedure after 24, 48 and 72 h of treatment. Alterations in the expression level of IL-1 β were assessed after 48 h of treatment. For this purpose, total RNA was extracted and cDNA was synthesized by appropriate kits and the expression level of IL-1 β was evaluated by Real-time-PCR assay. MTT assay showed that the cell growth was inhibited by increasing the concentration of saponin. IC₅₀ for 24, 48 and 72 h were about 0.7, 0.5 and 0.4 $\mu\text{g/ml}$ respectively. The Real-time-PCR analysis showed that the expression of IL-1 β was reduced as a pro-inflammatory gene. The expression of this gene was reduced from 6.56 in untreated cells to 1.48 in treated cells with 1 $\mu\text{g/ml}$ of saponin. Taken together, this summary offers evidence for the antiproliferative and anti-inflammatory properties of saponin derived from sea cucumber and suggests that saponin can be used as an anticancer and anti-inflammatory agent.

کلمات کلیدی:

Sea Cucumber, *Holothuria Leucospilota*, Cytotoxicity, Real Time PCR, Anti-Inflammation

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