

عنوان مقاله:

Reduced IKK/NF- κ B Expression by Nigella Sativa Extract in Breast Cancer

محل انتشار:

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خلاصه مقاله:

Background: Activation of IKK/NF- κ B signaling pathway plays a critical role in inflammation-driven tumor progression. Several natural compounds able to inhibit the IKK/NF- κ B activation pathway have been shown to either prevent cancer or inhibit cell growth. Extensive studies have been carried out on the Nigella sativa (N. sativa) by many researchers, and its pharmacological activities including anticancer, analgesic, and anti-inflammatory functions have been explored. This study investigated the effect of N. sativa extract on the mRNA level of NF κ B (p50, RelB) and IKK (IKKA, IKKB) to determine one of the anti-inflammatory mechanisms of N. sativa in breast cancer cells. Methods: In this experimental study, MCFY cell line was treated with different concentrations of hydroalcoholic extracts of N. sativa (0, 200, 400, 600, 800 μ g/mL) for 24, 48 and 72 h. Effects of the extract on cell viability and NF κ B (p50, RelB) and IKK (IKKA, IKKB) gene expression were analyzed by MTT assay and real time PCR, respectively. Results: mRNA expression levels of NF κ B (p50, RelB) and IKK (IKKA, IKKB) in the treatment group were lower than the untreated (control) group. Fold difference (p50, RelB) of gene expressions in treatment groups were statistically significant ($P=0.001$ and $P=0.003$) and the fold difference of IKK (IKKA, IKKB) in the treatment groups was lower than that of the untreated groups ($P=0.01$ and $P=0.001$). Conclusion: One possible anti-inflammatory mechanism of N. sativa is associated with the reduction in mRNA levels of NF κ B (p50, RelB) and IKK (IKKA, IKKB) in breast cancer.

کلمات کلیدی:

IKK, NF-KB, Nigella sativa, Breast cancer

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