

**Eicosapentaenoic Acid Modifies Cytokine Activity and Inhibits Cell Proliferation
in an Oesophageal Cancer Cell Line**

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Background: This study investigated the effect of eicosapentaenoic acid (EPA) on nuclear factor-kappa B (NF- κ B) activation, inflammatory interleukin-6 (IL-6) production, and cell proliferation in a human oesophageal carcinoma cell line (TE-1).

Materials and Methods: Lipopolysaccharide (LPS)-induced IL-6 production in TE-1 cells in the presence or absence of EPA was determined using Enzyme-Linked Immunosorbent Assay. The proliferation of TE-1 cells was determined by the WST-1 assay. TE-1 cells were stained with Hoechst 33342 and propidium iodide to observe apoptosis. Immunohistochemical staining of NF- κ B in TE-1 cells was performed.

Results: LPS increased IL-6 production in TE-1 cells, and EPA treatment prevented this effect. EPA treatment inhibited NF- κ B activation and induced apoptosis of TE-1 cells.

Conclusion: EPA inhibits NF- κ B activation and IL-6 production in oesophageal cancer cells, their inducing apoptosis. These effects of EPA may be of benefit in improving the outcome of cancer surgery.