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Review

Oregano

No authors listed

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Excerpt

Oregano (Origanum vulgare) leaves and oil contain carvacrol, thymol, eugenol and rosmarinic acid. Oregano has been used in medicinal doses for respiratory and gastrointesinal disorders and as an antimicrobial. Oregano oil has been advocated as a treatment for lactation-related Candida infection of the nipples;[1] however, no clinical studies have confirmed the safety or efficacy of this use. No data exist on the excretion of any components of oregano into breastmilk or on the safety and efficacy of oregano in nursing mothers or infants. Oregano and oregano oil are "generally recognized as safe" (GRAS) as food ingredients by the U.S. Food and Drug Administration. Oregano is generally well tolerated, but gastrointestinal upset and allergic skin reactions have been reported rarely. Because of a lack of data, oregano in amounts higher than those found in foods as a flavoring should probably be avoided during breastfeeding. Dietary supplements do not require extensive pre-marketing approval from the U.S. Food and Drug Administration. Manufacturers are responsible to ensure the safety, but do not need to *prove* the safety and effectiveness of dietary supplements before they are marketed. Dietary supplements may contain multiple ingredients, and differences are often found between labeled and actual ingredients or their amounts. A manufacturer may contract with an independent organization to verify the quality of a product or its ingredients, but that does *not* certify the safety or effectiveness of a product. Because of the above issues, clinical testing results on one product may not be

applicable to other products. More detailed information about dietary supplements is available elsewhere on the LactMed Web site.

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Anti-inflammatory, Tissue Remodeling, Immunomodulatory, and Anticancer Activities of Oregano (*Origanum vulgare*) Essential Oil in a Human Skin Disease Model

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Affiliations expand

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Abstract

The use of oregano (*Origanum vulgare*) essential oil (OEO) has become popular in skin care products. However, scientific research regarding its effects on human skin cells is scarce. In this study, we investigated the biological activity of a commercially available OEO, which is high in carvacrol content, in a human skin cell disease model. OEO induced marked antiproliferative effects and significantly inhibited several inflammatory biomarkers, including monocyte chemoattractant protein 1 (MCP-1), vascular cell adhesion molecule 1 (VCAM-1), intracellular cell adhesion molecule 1 (ICAM-1), interferon gamma-induced protein 10 (IP-10), interferon-inducible T-cell alpha chemoattractant (I-TAC), and monokine induced by gamma interferon (MIG). OEO also significantly inhibited tissue remodeling biomarkers, namely collagen I, collagen III, epidermal growth factor receptor (EGFR), matrix metalloproteinase 1 (MMP-1), plasminogen activator inhibitor 1 (PAI-1), tissue inhibitor of metalloproteinase (TIMP) 1 and 2. An immunomodulatory biomarker, macrophage colony-stimulating factor (M-CSF), was also strongly inhibited by OEO treatment. In addition, OEO significantly modulated global gene expression and altered signaling pathways, many of which are critical in inflammation, tissue remodeling, and cancer signaling processes. These findings along with existing studies largely support the anti-inflammatory, tissue remodeling, immunomodulatory, and anticancer activities of OEO. In conclusion, this study provides the first evidence of the biological activity of OEO in human dermal fibroblasts. We suggest that OEO, with carvacrol as the major active component, is a promising candidate for use in skin care products with anti-inflammatory and anticancer properties.

Keywords: Anticancer; Antiproliferation; Carvacrol; Monokine induced by gamma interferon; Skin health; Vascular cell adhesion molecule-1.

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