

This oil contains a highly pure oregano of the species Origanum minutiflorum, considered the best quality in the world for its high content in carvacrol (91-95%). It is hand-picked and its solvent-free extraction renders a highly pure, high-quality oil. In this presentation it is mixed with organic, first cold-pressed olive oil in order to avoid possible irritation to the skin or mucous membranes.

It has been popularly used for respiratory and gastrointestinal disorders, and now more and more experts are providing the evidence through numerous clinical studies behind these traditional uses. Many studies confirm its antioxidant, antibacterial, antiparasitic and antifungal activity, among other functions, giving this plant enormous expectations in the field of natural medicine.

Ingredients: Olive oil (*Olea europea*), oregano oil (*Origanum minutiflorum*).

Nutritional information:	3 drops (0,087 ml)
Olive oil ⁽¹⁾	0,072 ml
Oregano oil	0,015 ml
(1) Organic	

Contains no: Preservatives, artificial flavour or colour, sugar, milk or milk products, starch, wheat, corn, soy, or yeast.

Size and format: 15 ml

Recommended daily dose:

3 drops in a bit of water or juice (30 ml). Keep under your tongue for some minutes or gargle and swallow. With sufficient time intervals and by following the recommendation of a health-care professional administration can be repeated up to 8 times daily. For local application it is recommended to mix with a vegetable carrier oil.

Do not exceed the recommended daily dose.

Indications and uses:

Different studies have shown that oregano oil can be of help for:

Treating bacterial and viral infections, acting as a powerful immune stimulant, preventing and treating infections of the respiratory tract in general, common colds and the flu. It's effective even after the appearance of the first symptoms. If the throat is afflicted, it is very helpful to gargle a mix of oregano oil and water.

It acts effectively in cases of candidiasis, parasites, warts, athlete's foot, insect bites and cold sores.

It can also have positive effects on gastrointestinal problems. It stimulates bile and enzyme secretion, supporting and improving digestive function, and along with its antiseptic, antifungal and anti-parasitic properties, impedes the proliferation of pathogenic organisms in the gastrointestinal tract.

Other practical uses include combating dandruff and seborrhoea caused by a fungal infection of the scalp (mix a few drops into shampoo), and improving or maintaining oral hygiene and combating infections of the mouth.

Cautions:

Consult a health-care practitioner if you are pregnant or breast-feeding, if you are treated with medication or if you have a special medical condition.

OREGANO OIL: Oregano is well known for its culinary use and has also been used since antiquity as a medicinal remedy. For the oil extract, the Origanum minutiflorum variety has been used, which cannot be cultivated as it only grows wild in high areas of the Mediterranean, as of 1 500 meters.

Up to 56 different compounds have been identified, with two main phenolic compounds known as carvacrol and thymol being responsible for the powerful antibacterial activity present in oregano oil. Not all species of the genus Origanum present the same percentage of carvacrol and thymol. The botanical species used, as well as climate, altitude, and time it's harvested are all factors that affect the final composition of the oil (1,2,10). Specifically, Origanum minutiflorum, a botanical species that grows in the Mediterranean area and is endemic to Turkey, is one of the richest species in carvacrol (11-13).

The carvacrol contained in oregano oil is one of the compounds with the highest antibacterial activity according to comparison studies between the different essential oils (3,8,11). Studies confirm that oregano oil presents a broad spectrum of action, with antibacterial activity even superior to that of some of the most common known antibiotics like streptomycin or





ciprofloxacin. Oregano oil has been proven effective for numerous bacterial species that can be pathogenic to the body, including gram negative (Salmonella typhimurium, Escherichia coli, Klebsiella pneumoniae, Yersinia enterocolitica, among others) as well as gram positive bacteria (Staphylococcus aureus, Staplylococcus epidermidis, Listeria monocytogenes, etc.) (3-13).

Minimum inhibitory concentration (MIC) levels for carvacrol have been established at between 0,02 and 0,5 μg/ml, indicating that it possesses the greatest antibacterial activity since it presents the lowest required concentration in order to impede the growth of the different bacteria tested (10,14).

Oregano oil also has antifungal capacity against fungi in the Candida and Aspergillus genus and yeasts (9,10,13).

A review of different studies has covered the details of the diverse mechanisms behind the antimicrobial action associated with oregano oil. One of these mechanisms is related with the changes that occur in the bacterial cell membranes upon coming into contact with carvacrol and thymol, altering their integrity and causing an imbalance in their environment (7,8,10). Other mechanisms are related to pathogenicity factors such as the presence of flagella or the formation of biofilms. Some studies suggest that some bacterial species don't develop said flagella in the presence of carvacrol and thymol, such as certain strains of Escherichia coli, and therefore lose their mobility, or their ability to form biofilms, as in the case of Staphylococcus aureus and Staphylococcus epidermidis, so their pathogenic activity is decreased (7,16).

The results of studies carried out with oregano oil reveal its important potential for both the prevention and treatment of respiratory infections, parasitic infections, candidiasis, insect bites, athlete's foot and other infections associated with microorganisms sensitive to carvacrol, such as certain pathologies of the gastrointestinal tract⁽¹⁷⁾.

References:

- 1) Baser, K. H. C., Özek, T., Tümen, G., & Sezik, E. (1993). Composition of the essential oils of Turkish Origanum species with commercial importance. Journal of Essential Oil Research, 5(6), 619-623.
- 2) Dadalioğlu, I., & Evrendilek, G. A. (2004). Chemical compositions and antibacterial effects of essential oils of Turkish oregano (Origanum minutiflorum), bay laurel (Laurus nobilis), Spanish lavender (Lavandula stoechas L.), and fennel (Foeniculum vulgare) on common foodborne pathogens. Journal of agricultural and food chemistry, 52(26), 8255-8260.
- 3) Özkum, D., Kürkçüoğlu, M., Başer, K. H., & Tipirdamaz, R. (2010). Essential oils from wild and micropropagated plants of Origanum minutiflorum O. Schwarz et Davis. Journal of Essential Oil Research, 22(2), 135-137.
- 4) Dorman, H. D., Bachmayer, O., Kosar, M., & Hiltunen, R. (2004). Antioxidant properties of aqueous extracts from selected Lamiaceae species grown in Turkey. Journal of Agricultural and Food Chemistry, 52(4), 762-770.
- 5) Can Baser, K. H. (2008). Biological and pharmacological activities of carvacrol and carvacrol bearing essential oils. Current pharmaceutical design, 14(29), 3106-3119.
- 6) Oke, F., & Aslim, B. (2010). Biological potentials and cytotoxicity of various extracts from endemic Origanum minutiflorum O. Schwarz & PH Davis. Food and Chemical Toxicology, 48(6), 1728-1733.
- 7) Burt, S. A., van der Zee, R., Koets, A. P., de Graaff, A. M., van Knapen, F., Gaastra, W., ... & Veldhuizen, E. J. (2007). Carvacrol induces heat shock protein 60 and inhibits synthesis of flagellin in Escherichia coli O157: H7. Applied and environmental microbiology, 73(14), 4484-4490.
- 8) Aslim, B., & Yucel, N. (2008). In vitro antimicrobial activity of essential oil from endemic Origanum minutiflorum on ciprofloxacin-resistant Campylobacter spp. Food chemistry, 107(2), 602-606.
- 9) Lambert, R. J. W., Skandamis, P. N., Coote, P. J., & Nychas, G. J. (2001). A study of the minimum inhibitory concentration and mode of action of oregano essential oil, thymol and carvacrol. Journal of applied microbiology, 91(3), 453-462.
- 10) Vardar-Ünlü, G., Ünlü, M., Dönmez, E., & Vural, N. (2007). Chemical composition and in vitro antimicrobial activity of the essential oil of Origanum minutiflorum O Schwarz & PH Davis. Journal of the Science of Food and Agriculture, 87(2), 255-259.
- 11) Arcila-Lozano, C. C., Loarca-Piña, G., Lecona-Uribe, S., & González de Mejía, E. (2004). El orégano: propiedades, composición y actividad biológica de sus componentes. Archivos Latinoamericanos de Nutrición, 54(1), 100-111.
- 12) Dadalioğlu, I., & Evrendilek, G. A. (2004). Chemical compositions and antibacterial effects of essential oils of Turkish oregano (Origanum minutiflorum), bay laurel (Laurus nobilis), Spanish lavender (Lavandula stoechas L.), and fennel (Foeniculum vulgare) on common foodborne pathogens. Journal of agricultural and food chemistry, 52(26), 8255-8260.
- 13) Goze, I., Cetin, A., & Goze, A. (2010). Investigation of effects of essential oils of Origanum minutiflorum O Schwarz PH Davis and Cyclotrichium niveum (Labiatae) plants on angiogenesis in shell-less chick embryo culture. African Journal of Biotechnology, 9(14), 2156-2160.
- 14) Lehtijärvi, H. T. D. (2006). Antifungal effect of essential oils from some Turkish herbs against Rhizoctonia solani Kühn. Phytopathologia mediterranea, 45(3), 261-
- 15) Sokovic, M., Marin, P. D., Brkic, D., & van Griensven, L. J. (2008). Chemical composition and antibacterial activity of essential oils against human pathogenic bacteria. Food, 1(2), 220-226.
- 16) Baydar, H., Sağdiç, O., Özkan, G., & Karadoğan, T. (2004). Antibacterial activity and composition of essential oils from Origanum, Thymbra and Satureja species with commercial importance in Turkey. Food control, 15(3), 169-172.
- 17) Nostro, A., Roccaro, A. S., Bisignano, G., Marino, A., Cannatelli, M. A., Pizzimenti, F. C., ... & Blanco, A. R. (2007). Effects of oregano, carvacrol and thymol on Staphylococcus aureus and Staphylococcus epidermidis biofilms. Journal of medical microbiology, 56(4), 519-523.