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Microbiological property evaluation of natural essential oils used in green cosmetics

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Essential oils are also have long been known to have antimicrobial properties and these properties have been reviewed in the past studies as having strong antimicrobial effects. Wilkins and Board also reported that more than 1,340 plants are known to be potential sources of antimicrobial compounds. Furthermore, antimicrobial activity of plant extracts is frequently due to the essential oil fraction, or to sulfur-containing compounds in the aqueous phase. These compounds are also responsible for the characteristic aroma and flavor of the spices. The antimicrobial activity of plant oils and extracts has formed the basis of many applications, including raw and processed food preservation, pharmaceuticals, alternative medicine and natural therapies. This study was designed to investigate antimicrobial properties of natural essential oils including; citronella, cinnamon, palmarosa, niaouli, clove, lavender, bergamot, lemon, grapefruit, petitgrain, peppermint, tea tree and eucalyptus from different oil sources. Datas taken from the disk diffusion assay indicate that cinnamon, niaouli, lavender, petitgrain and the tea tree oils have the most intense antibacterial effects on related microorganisms at the concentration %100 (direct usage). Endpoints confirm results reported in the past studies including the MIC assays on the related natural oils. Overall, natural oils have been used safely for many decades on the cosmetic formulations and this experiment emphasizes one more time the importance of the natural oils usage in industry. After all these endpoints, we can summerize that essential oils are gaining popularity within the supported antimicrobial results. As personal care and naturopathic

remedies continue to provide alternative solutions for people desiring to take charge of their own health care, it is important to have a firm understanding of essential oils.

Recent Publications

1. Ecem Özdemir, İsmail Aslan, Bekir Çakıcı, Betül Türker, Cem Emre Çelik (2018) Microbiological property evaluation of natural essential oils used in green cosmetic industry. *Current Perspectives on Medicinal and Aromatic Plants* 1(2):59-64.
2. M Y Günel, M Ozansoy, Ü Kılıç, İ Keskin, EM Özdemir, İ Aslan and Z Eren (2018) Role of erythropoietin and its receptor in the development of endometriosis in rats. *Journal of the Turkish German Gynecological Association*.
3. Ethemoglu M S, Seker F B, Akkaya H, Kilic E, Aslan I, Erdogan C S and Yilmaz B (2017) Anticonvulsant activity of resveratrol-loaded liposomes *in vivo*. *Neuroscience* 357:12-19.
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5. Özcan P, Fıçıcıoğlu C, Yıldırım Ö K, Özkan F, Akkaya H and Aslan İ (2015) Protective effect

of resveratrol against oxidative damage to ovarian reserve in female Sprague–Dawley rats. Reproductive biomedicine online 31(3):404-410.

Biography

Hulya Kayhan after graduating from Istanbul University Faculty of Pharmacy, she went to London to make a Master's Degree in Pharmaceutical Technology. During her graduate studies at King's College, she

took alternative therapies covering aromatherapy and phytotherapy. Aromatherapy attracted a lot of her interest and she began to intensify its work in this area. She took lessons from the greatest instructors of aromatherapy and meticulously scanned all resources in different languages, reinforced her mastery of aromatherapy, decided to create a brand. Today, she is the owner of "Art de Huile" which is the most popular brand on aromatherapy. She continues her works by organizing conferences on aromatherapy as well as by giving trainings to pharmacist colleagues and doctors and by joining panels. medical aromatherapy in Turkey, has led doctors to enter prescriptions.