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In vitro selectivity of anethol combination with standard antifungals against candida sp

Bülent Ergun[1*], Gamze Göger[2], Fatih Demirci[3]
[1]Anadolu University, Türkiye
[2]Trakya University, Türkiye
[3]Anadolu University, Türkiye

Anethol is a crystalline volatile and aromatic methoxybenzene substituted by a prop-1-en-1-yl group at para-position, a characteristic consituent of most Apiaceae and mainly anise (*Pimpinella anisum L.*), described as hazardous toxic, allerjen compound in some safety regulations. Oxiconazole and terbinafine are active pharmaceutical igredients used in oral and topical antifungal therapy protocols with toxicological potential. In this present study anticandidal combinations of anethol and standard drugs oxiconazole and terbinafine were evaluated in vitro by checkerboard combinations using the Biomek4000 pipetting robot against human pathogenic standard and clinical Candida albicans, C. glabrata , C.tropicalis. C. parapsilosis, C. krusei strains. To evaluate the synergic concentration and selectivity, in vitro Allivibrio fischeri bioluminescent assay as well as human fibroblast cell XTT-WS1 assays were conducted. According to the fractional inhibitory concentration (FIC) calculations anethol+terbinafine combinations resulted indifferent, however, the anethol+oxiconazole combination showed synergism and additive activity at 0.28-0.53 µg/mL FIC, respectively. The synergistic concentrations showed relative high toxicity in the in vitro assays. Further detailed work is ongoing to evaluate the selectivity of anethol isomers.

Biography

Bulent Ergun received his MSc degree in 1986 from Ankara University Graduate School of Science. He received his PhD from Anadolu University Graduate School of Science. He has conducted Post-doctoral research at the University of Munich. At present, he is working as Head of Toxicology Department, Anadolu University Faculty of Pharmacy.

bergun@anadolu.edu.tr

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