

In vitro antioxidant potential of the essential oil and leaf extracts of *Curcuma zedoaria* Rosc.

Abstract

In this study, we examined the chemical composition of the essential oil and tested the antioxidant potential of the oil and leaf extracts of *Curcuma zedoaria* Rosc. The chemical compositions of the oil were analysed by GCMS. Twenty-four compounds representing 92.4% of the total oil was identified. The antioxidative potential was evaluated using two separate methods, inhibition of free radical 1, 1-diphenyl-2-picrylhydrazyl (DPPH) and superoxide radicals scavenging activities assay. In the first case, the IC₅₀ value of the oil was 14.8 ± 2.2 . Among the extracts, the strongest activity was exhibited by the ethyl acetate extract (IC₅₀ = 17.56 ± 1.6 µg/ml). In the superoxide radicals scavenging activities assay, ethyl acetate extract was superior to all other extracts (IC₅₀ = 23.47 ± 1.2 µg/ml). Furthermore, the amount of total phenolic compounds was also determined as gallic acid equivalent. Thus, the natural products produced from *C. zedoaria* may be used in food and pharmaceutical industries.