Antioxidant Activity of Ethanolic Fractions of Polish Propolis

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There is a great variation in the chemical composition of propolis of different origins. Likewise, the method of its extraction has significant impact on the content of biologically active compounds. Here we compared methods of propolis extraction for optimal antioxidant activities which were measured by means of \(\beta\)-carotene discoloration, 1,1-diphenyl-2-picrylhydrazyl (DPPH) free radical scavenging, and 2,2’-azinobis-3-ethylbenzothiazoline-6-sulfonic acid (ABTS\(^{\cdot}\)) radical cation decolouration assays. In the extracts, the contents of polyphenols and flavonoids were measured, and phenolic acids were identified and quantified by HPLC. A three-step extraction allowed obtaining large amounts of phenolic acids from propolis. The propolis fractions obtained had antioxidant properties comparable to those of \(\alpha\)-tocopherol and butylated hydroxytoluene. Therefore, they may be used as effective natural antioxidants.

Key words: Propolis, Antioxidant Activity, Extraction