Antioxidant Activity of Ethanolic Fractions of Polish Propolis

Anna M. Kurek-Górecka^{a,*}, Andrzej Sobczak^{b,c}, Anna Rzepecka-Stojko^d, Michał T. Górecki^e, Maria Wardas^a, and Katarzyna Pawłowska-Góral^a

- ^a Department of Food and Nutrition, Medical University of Silesia, The School of Pharmacy and Division of Laboratory Medicine, Jedno ci 8, 41-200 Sosnowiec, Poland. E-mail: katedrazywnosci@sum.edu.pl
- ^b Department of General and Inorganic Chemistry, Medical University of Silesia, The School of Pharmacy and Division of Laboratory Medicine, Jagiellonska 4, 41-200 Sosnowiec, Poland
- ^c Institute of Occupational Medicine and Environmental Health Department of Chemical Hazard, Ko cielna 13, 41-200 Sosnowiec, Poland
- ^d Department of Pharmaceutical Chemistry, Medical University of Silesia, The School of Pharmacy and Division of Laboratory Medicine, Jagiellonska 4, 41-200 Sosnowiec, Poland
- ^e Department of Drug Technology, Medical University of Silesia, The School of Pharmacy and Division of Laboratory Medicine, Jedno ci 8, 41-200 Sosnowiec, Poland
- * Author for correspondence and reprint requests

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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 -carotene discolouration, 1,1-diphenyl-2-picrylhydrazyl (DPPH) free radical scavenging, and 2,2'-azinobis-3-ethylbenzothiazoline-6-sulfonic acid (ABTS*+) 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 -tocopherol and butylated hydroxytoluene. Therefore, they may be used as effective natural antioxidants.

Key words: Propolis, Antioxidant Activity, Extraction