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Antioxidant capacity and sugar content of honey from Blue Nile State, Sudan (Article)

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Abstract

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This study aimed to evaluate antioxidant capacity of honey samples that were collected from Blue Nile State, Sudan by determining total phenolic content (TPC) and total flavonoids content (TFC). Antioxidant activities were evaluated using 1,1-diphenyl-2-picryl hydrazyl (DPPH) radical scavenging activity and ferric reducing power assay (FRAP). High-Performance Liquid Chromatography (HPLC) was used for the determination of sugars content. The results showed that the highest TPC was (85.7±1 mg GAE /100g Fw), the highest TFC was found to be (55.14 ± 1.09 mg QE /100g Fw) using quercetin equivalent (QE) as standard and the inhibition value of (DPPH) was (52.93 ± 0.44%). The FRAP showed the highest value of (281 µM TE/100g Fw), also the results indicated that the honey contained fructose (38.6 ± 1.8 g/100g - 42.9 ± 1.3 g/100g Fw), and glucose (30.4 ± 0.75 - 31.7 ± 0.68 g/100g Dw). Protein content was found to be ranging between and 0.60% and 1.04%. In conclusion, the results showed that honey is a good source of antioxidants due to the presence of phenolic compounds, flavonoids and carotene. Also, an excellent source of the simple reducing sugars. © All Rights Reserved.

Author keywords

Antioxidant capacity

Sugars content

Total flavonoid content

Total phenolic content

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