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Ispitivanje antioksidativne aktivnosti različitih ekstrakata kupine spektrofotometrijskim testovima

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U radu je ispitana antioksidativna aktivnost različitih ekstrakata pet sorti kupine, primenom spektrofotometrijskih testova: 2,2'-azino-bis(3-etilbenzotiazolin-6-sulfonska kiselina (ABTS), 2,2-difenil-1-pikrilhidrazil radikal (DPPH), redukcija gvožđa (FRAP) i redukciona sposobnost (RP). Najveća antioksiadativna aktivnost zabeležena je u ekstraktima gde je kao rastvarač korišćen 80 % metanol sa 1 % HCl, dok je najmanja aktivnost zabeležena u vodenim ekstraktima. Vrednosti antioksidativne aktivnosti ekstrakata kupine prema ABTS radikal katjonu se kreću u granicama od 0,1960 mmol TE/g do 0,5462 mmol TE/g, dok se prema DPPH radikalu kreću u granicama od 3,33 mmol TE/g do 13,1 mmol TE/g. Vrednosti antioksidativne aktivnosti ovih uzoraka, izražene preko redukcione moći u testovima FRAP i RP, su u intervalu od 17,11 mmol FE/g do 52,6 mmol FE/g, i od 13,3 mmol AAE/g do 31,6 mmol AAE/g. Korelaciona analiza između primenjenih metoda za antioksidativnu aktivnost pokazala je dobru korelaciju između ABTS i DPPH metode, kao i između FRAP i RP metode.

Examination of antioxidant activity of different blackberry extracts by spectrophotometric assays

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The aim of this work was to determine the antioxidant activity of different extracts obtained from five cultivars of blackberry fruits (*Rubus spp*.). The total antioxidant capacities of extracts were measured using four in vitro spectrophotometric methods: 1,1-diphenyl-2-picryl-hydrazyl free radical (DPPH) scavenging activity, 2,2'-azino-bis(3-ethylbenzthiazoline-6-sulphonic acid) (ABTS) radical cation scavenging activity, ferric reducing-antioxidant power (FRAP) and reduction power (RP) Fe(III) to Fe(II). The highest antioxidant activity has been measured in acidified methanol extracts, while the lowest activity has been measured in aqueous extracts. The antioxidant activity measured by the ABTS and DPPH ranged from 0.1960 mmol TE g^{-1} to 0.5462 mmol TE g^{-1} and from 3.33 mmol TE g^{-1} to 13.1 mmol TE g^{-1}. The activity measured by the FRAP and RP ranged from 17.11 mmol FE g^{-1} to 52.6 mmol FE g^{-1} and from 13.3 mmol AAE g^{-1} to 31.6 mmol AAE g^{-1}. Strong correlation has been observed between the DPPH and ABTS method, as well as between the FRAP and RP method.

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