LBF-P12 ČAJEVI OD PLODA CRNE MALINE: KOMPARATIVNA ANALIZA HEMIJSKOG SASTAVA I FARMAKOLOŠKIH AKTIVNOSTI INFUZA I DEKOKTA

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Crna malina (*Rubus occidentalis* L., Rosaceae) predstavlja značajan izvor polifenolnih jedinjenja, posebno antocijana i elagnih tanina, koji su povezani sa značajnim farmakološkim aktivnostima. Zbog svog nutritivnog i terapeutskog potencijala, ova vrsta se gaji u mnogim regionima sa umerenom klimom, uključujući i Srbiju. Cilj ovog istraživanja bio je komparativna analiza hemijskog sastava i *in vitro* farmakoloških aktivnosti liofilizovanih infuza i dekokta ploda crne maline pripremljenih. Spektrofotometrijskim analizama utvrđene su razlike u sadržaju ukupnih polifenola (56,49 i 60,81 mg GAE/g), tanina (9,90 i 15,26 mg GAE/g) i antocijana (24,29 i 4,81 mg CGE/g) kod infuza i dekokta, redom. HPLC analizom utvrđeno je da su dominantna polifenolna jedinjenja antocijani (cijanidin-3-sambubiozid, cijanidin-3-glukozid i cijanidin-3-rutinozid), uz fenolkarboksilne kiseline (protokatehinska i elagna kiselina), flavanol (katehin) i flavonole (rutin i izokvercitrin). U pogledu farmakoloških aktivnosti, čajevi od ploda crne maline pokazali su izraženu antioksidantnu aktivnost, potvrđenu DPPH (IC_{50}: 98,62 i 95,74 μg/mL), ABTS (IC_{50}: 25,00 i 31,74 μg/mL) i FRAP (1,25 i 1,05 mmol Fe^{2+}/g) testovima za infuz i dekokt, redom. Takođe, zabeleženi su značajni inhibitorni efekti prema α-amilazi (IC_{50}: 2,17 i 1,89 mg/mL), α-glukozidazi (IC_{50}: 57,77 i 31,53 μg/mL) i pankreasnoj lipazi (IC_{50}: 1,64 i 1,46 mg/mL). Dobijeni rezultati ukazuju da čajevi od ploda crne maline predstavljaju značajan izvor polifenolnih jedinjenja sa izraženim antioksidativnim, hipoglikemijskim i hipolipemijskim svojstvima, što podržava njihovu potencijalnu primenu kao funkcionalnih napitaka i prirodnih terapeutskih sredstava.

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LBF-P12 BLACK RASPBERRY FRUIT TEAS: COMPARATIVE ANALYSIS OF CHEMICAL COMPOSITION AND PHARMACOLOGICAL ACTIVITIES OF INFUSION AND DECOCTION

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Black raspberry (*Rubus occidentalis* L., Rosaceae) is an important source of polyphenolic compounds, particularly anthocyanins and ellagitannins, which are associated with significant pharmacological activities. Due to its nutritional and therapeutic potential, this species is cultivated in many temperate regions worldwide, including Serbia. This study aimed to conduct a comparative analysis of the chemical composition and *in vitro* pharmacological activities of lyophilized infusion and decoction of black raspberry fruit. Spectrophotometric analyses revealed differences in the content of total phenolics (56.49 and 60.81 mg GAE/g), tannins (9.90 and 15.26 mg GAE/g), and anthocyanins (24.29 and 4.81 mg CGE/g) for infusion and decoction, respectively. HPLC analysis revealed anthocyanins (cyanidin-3-sambubioside, cyanidin-3-glucoside, and cyanidin-3-rutinoside) as the predominant polyphenolic compounds, along with phenol carboxylic acids (protocatechuic acid and ellagic acid), flavanol (catechin), and flavonols (rutin and isoquercitrin). Regarding pharmacological activities, black raspberry fruit teas showed pronounced antioxidant activity, confirmed by DPPH (IC_{50}: 98.62 and 95.74 μg/mL), ABTS (IC_{50}: 25.00 and 31.74 μg/mL), and FRAP (1.25 and 1.05 mmol Fe^{2+}/g) assays for infusion and decoction, respectively. Significant inhibitory effects were also observed against α-amylase (IC_{50}: 2.17 and 1.89 mg/mL), α-glucosidase (IC_{50}: 57.77 and 31.53 μg/mL), and pancreatic lipase (IC_{50}: 1.64 and 1.46 mg/mL). These findings suggest that black raspberry fruit teas are a valuable source of polyphenolic compounds with promising antioxidant, hypoglycemic, and hypolipidemic properties, supporting their potential application as functional beverages and natural therapeutic agents.

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