

Abstract

Rauwolfia serpentina is a traditional medicinal plant being used for treatment and medication of certain medical conditions. We planned an investigation to find out the chemical constituents of this plant by different phytochemical tests and antioxidant methods. To acquire different fractions, methanolic extract solution in water was prepared and fractionized with the assistance of solvents of different polarity like n-hexane, chloroform, ethyl acetate and n-butanol. Five antioxidant in-vitro methods were used (DPPH radical scavenging assay, FRAP assay, Total antioxidant assay by phosphomolybdate, Total phenolic content TPC, Total flavonoid content TFC) to assess the antioxidant activity of methanolic extract, n-hexane, chloroform, ethylacetate, n-butanol and aqueous soluble fractions. Phytochemical screening tests reveal the presence of saponins, tannins, alkaloids, phenolics, flavonoids, cardiac glycosides and terpenoids except reducing sugars in mentioned plant. n-Butanol and ethylacetate fractions revealed good results showing the highest percent of DPPH radical scavenging activity, 90.51 ± 0.63 and 80.01 ± 0.0 respectively. The results of DPPH assay showed that n-Butanol fraction has lower most IC_{50} value (7.15 ± 1.56 $\mu\text{g/mL}$) as compared to other fractions when compared with 'butylated hydroxytoluene' (BHT), a reference standard, having IC_{50} value 13.03 ± 0.80 $\mu\text{g/mL}$. Ethyl acetate soluble fraction also revealed good IC_{50} value (10.39 ± 1.72 $\mu\text{g/mL}$). n-Butanol fraction demonstrated greater FRAP value (955 ± 1.07 TE $\mu\text{M/mL}$), highest total phenolic contents (85.16 ± 1.08 GAE mg/g), highest flavonoid contents (103.51 ± 0.82 QE mg/g), highest total antioxidant activity (0.974 ± 0.03 absorbance at 695 nm) mentioning highest antioxidant potential in comparison with other fractions.