ABSTRACT

The aim of this study was to determine the antioxidant potential and antimicrobial activity of extracts of *Astragalus psilocentros* for controlling pathogens. The methanolic extract of *Astragalus psilocentros* was partitioned with n-hexane, chloroform, ethylacetate and butanol successively. Phytochemical screening revealed the presence of Alkaloids, Terpenoids, Tannins, Phenolics, Sugars, Saponins and Flavonoids. Antimicrobial activity was carried out against four bacterial (*Bacillus subtilis, Pasturell multicoda, Escherichia coli, Staphylococcus aureus*) and two fungal (*Aspergillus niger and Alternia fusarium*) strains. The chloroform, ethylacetate and methanol extracts were effective against these tested microbes. The antioxidant potential of all these fractions was evaluated by seven methods: DPPH free radical scavenging activity, Total Antioxidant Activity , FRAP Assay, TPC Assay, Inhibition of lipid peroxidation, ABTS Assay and Superanion radical scavenging activity. All the fractions exhibited significant antioxidant potential. The results revealed that ethylacetate fraction showed the highest % inhibition by DPPH radical (183.92±0.17 μg/ml, relative to butylated hydroxytoluene (BHT), having IC_{50} of 12.1 ± 0.92 mg/mL.), highest FRAP value of (56.86 ± 0.39μg of trolox equivalents), highest TPC value (53.69 ± 0.68mg of gallic acid equivalents), and highest inhibition by lipid peroxidation value (44.65 ± 0.44). The chloroform soluble fraction showed the highest TAA of (0.7005 ± 0.05). So ethylacetate showed the overall highest antioxidant activity followed by chloroform as compared to other fractions. GC-MS of ethylacetate fraction and essential oil gave promising information about active ingredients of the plant. We have isolated one pure metabolite and elucidated its structure as Cycloalpigenin D (a Cycloartane Glycoside). Although this compound has already been reported from many other plants but not from *Astragalus psilocentros*, so we are reporting the results of DPPH assay for the first time.