ABSTRACT

In-vitro total antioxidant capacity (TAC) of aqueous and organic fractions from aerial parts of *Alstonia scholaris* was investigated. Initially, the antioxidant components were extracted in methanol and later subjected to partitioning in solvents of different polarity. Antioxidant and radical scavenging activity of these extracts were evaluated using antioxidant assays such as 2, 2-diphenyl-1-picrylhydrazyl (DPPH) scavenging, total phenolic contents (TPC), total antioxidant activity by phospho molybdenium method, ferric reducing antioxidant power (FRAP) assay and using ferric thiocyanate assay by linoleic acid. Highest antioxidant activity was observed for ethyl acetate using DPPH assay while it showed highest scavenging activity as its IC_{50} is minimum. For other fractions IC_{50} value decreased in order of soluble fraction of ethyl acetate > soluble fraction of *n*-butanol > soluble fraction of chloroform > aqueous fraction > soluble fraction of *n*-hexane. In contrast to other fractions soluble fraction ethyl acetate showed maximum total antioxidant activity. The total antioxidant activity decreased in following order soluble fraction of ethyl acetate > soluble fraction of chloroform > soluble fraction of *n*-butanol > aqueous fraction > soluble fraction of *n*-hexane. As compared to other fractions, ethyl acetate showed maximum FRAP value, the FRAP values decreased in following order soluble fraction of ethyl acetate > soluble fraction of *n*-butanol > soluble fraction of chloroform > soluble fraction of *n*-hexane > aqueous fraction. In contrast to other fractions chloform offered maximum antioxidant activity in total phenolics. The total phenolic values decreased in following order soluble fraction of chloroform > soluble fraction of *n*-butanol > soluble fraction of ethyl acetate > soluble fraction of *n*-hexane > aqueous fraction. As compared to other fractions ethyl acetate provided highest antioxidant activity in lipid peroxidation inhibition**.** Inhibition of lipid peroxidation activity decreased in following order soluble fraction of ethyl acetate > soluble fraction of chloroform > soluble fraction of *n*-butanol > aqueous fraction > soluble fraction of *n*-hexane.