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Antioxidant and antimicrobial properties of Tinospora crispa (putarwali) stems methanolic extract (Article)
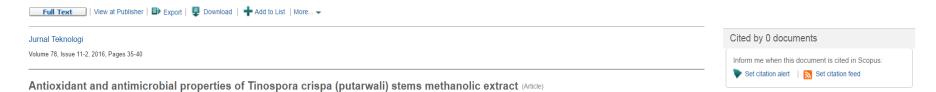
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Abstract

Apart from being the primary source of food to other living things,plants also have medicinal value to treat various kinds of diseases. In recent years,it has been proposed that the extract from plants may be used as natural antioxidants which can help to prevent the generation of carcinogens in human body. In addition,plants also have **antimicrobial** agents to inhibit the growth of pathogenic microbes. This study was intended to investigate the **antioxidant properties** and **antimicrobial** activity of methanolic extract of **Tinospora crispa** stems extracted using soxhlet extraction method. The **antimicrobial properties** of T. **crispa** stems extract were tested using disc diffusion method against Staphylococcus aureus ATCC 25923,Bacillus cereus ATCC 11778,Escherichia coli ATCC 25922,Pseudomonas aeruginosa ATCC 27853,Candida albicans IMR C S23/11 A and Saccharomyces cerevisiae IMR S 617/068. The **antioxidant properties** of the extract were investigated by using Total Phenolics Content (TPC),Total Flavonoids Content (TFC),DPPH free radical scavenging and-carotene bleaching assays. The TPC value was 6.12 g GAE/100 g of dried extract while the TFC value was 55.58 g QE/100 g of dried extract. The IC50 of DPPH scavenging assay for the extract and ascorbic acid were 0.21 and 0.04 mg/mL,respectively. The average percentage of - carotene bleaching assay was 38.3% as compared to BHT,which was 45.1%. The disc diffusion method showed no inhibition zone against all the strains of microorganisms at all concentrations of the extracts (0.5,1.0,2.5 and 5.0 mg/disc). © 2016 Penerbit UTM Press. All rights reserved.

Author keywords

Antimicrobial; Antioxidants; **Tinospora crispa**