

### ***In-vitro* study of anti-oxidant activity and phytochemical analysis of *Hibiscus rosa sinensis* linn. corolla & calyx**

**Haroop Guleria and Meenakshi Vaidya**  
Mithibai College, India

Free radicals induce numerous diseases by lipid peroxidation, and DNA damage. It has been reported that numerous plant extracts have antioxidant activities to scavenge free radicals. *Hibiscus rosa-sinensis* is extensively cultivated as ornamental plant, commonly known as *Hibiscus* or *China rose*. Many plant parts are proven to possess antioxidant activity. In the present study, the antioxidant properties of methanolic extract of *Hibiscus rosa sinensis* belonging to *Malvaceae* was studied. The active constituents from hibiscus corolla and calyx were extracted by soxhlet apparatus using methanol as solvent. The methanolic extracts were characterized by HPTLC. The total phenolic content was determined by Folin Ciocalteu method. The selected plant parts were further screened for their free radical scavenging properties using ascorbic acid as standard. In vitro free radical scavenging activity was evaluated by FRAP (Ferric ion reducing antioxidant power) assay, nitric oxide free radical scavenging activity and super oxide scavenging activity by alkaline DMSO method. The extract was found to contain large amounts of phenolic compounds and flavonoids. Methanolic extract of *Hibiscus rosa-sinensis* possessed significant antioxidant activity in a higher dose as compared to standard antioxidant. The methanolic extract showed significant antioxidant activity in a higher dose than standard antioxidant. The phytochemical analysis of the crude extracts indicated the presence of major phytochemicals, including phenolics, flavonoids, tannins which may have been responsible for the observed antioxidant activity. These results suggest that hibiscus has potential to develop a new functional dietary agent to treat chronic metabolic diseases, such as diabetes and hyperlipidemia.

**Keyword:** Hibiscus rosa-sinensis, Antioxidant, Phytochemical Screening, HPTLC, TPC, FRAP, NO, SO.