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## **Screening of phyto-components with food borne pathogen inhibiting traits in supercritical carbon dioxide and soxhlet prosopis juliflora leaves extract using GC-MS**

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**P**rosopis juliflora leaf supercritical fluid extract was used in this work to screen the bioactive components and evaluate its antimicrobial traits against food borne pathogens. For extraction, supercritical carbon dioxide and Soxhlet techniques were applied. For the purpose of characterising the phyto-components, the extract was run through a Gas Chromatography-Mass Spectrometer (GC-MS) and a Fourier Transform Infrared. When compared to soxhlet extraction, more components (35) were eluted by supercritical fluid extraction (SFE), according to GC-MS screening. In tests using *Escherichia coli*, *Salmonella enterica*, and *Staphylococcus aureus* as food-borne bacterial pathogens, SFE *P. juliflora* extracts showed greater zones of inhibition of 13.90 mm, 14.47 mm, and 14.53 mm, respectively. The recovery of the phyto-components by SFE is more effective than by soxhlet extraction, according to the results of GC-MS screening. *P. juliflora* may offer unique naturally occurring inhibitory metabolites that act as antibacterial agents.

### **Biography**

Nagaraj M. Naik is a distinguished researcher affiliated with the Pesticide Residue and Food Quality Analysis Laboratory at the University of Agricultural Sciences in Raichur, India. His expertise lies in the analysis of pesticide residues and food quality. Through innovative approaches and meticulous research, Naik contributes significantly to ensuring food safety and quality standards. His work is invaluable to the agricultural and food industry.