

## Chemical fingerprint profile and antibacterial studies on *Piper longum* Linn

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Ascertaining authenticity is the first important step to assess the quality of plant medicine. Each medicinal plant contains certain characteristic phytochemical constituents. Therefore constituents including their respective chemical ratios can be analyzed for authentication. The plant *Piper longum* Linn. was screened for secondary metabolites. Standardization of the solvent system and qualities and quantities required to get maximum separation of individual secondary metabolites was done. Piperidine was used as a marker compound. A HPTLC method for the separation of the active constituents has been developed and TLC of these extracts on silica gel precoated aluminium plates of Merck by automatic TLC applicator and using solvent gradient system was performed. The methodology showed excellent separation of secondary metabolites. The *in vitro* antibacterial activity was performed by agar ditch, agar disc diffusion and agar well diffusion method. The phytochemical extracts obtained after confirmation with HPTLC were examined for anti-microbial activity against the pathogens infecting the respiratory tract i.e., *Staphylococcus aureus*, *Streptococcus pyogenes* and *Klebsiella pneumoniae*. In addition, powder was tested for its minimum inhibitory concentration and further solvent fractions were tested for the zone of inhibition. *Klebsiella pneumoniae* was the most resistant bacteria, while *Staphylococcus aureus* was the most susceptible.

**Key words:** Anti-bacterial activity, HPTLC, *Piper longum* Linn., and secondary metabolites

### Biography

Aparna Amit Saraf is selected as associate Professor in Botany at The Institute of Science, Mumbai. She has teaching experience of 17 years at post graduate level. She has 14 publications in international journals and presented her work in 8 international and 10 national conferences. She is a recognised Ph.D. guide at the University of Mumbai. She has to her credit two "Best Paper Presentation Awards" at national conferences.

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