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Comparative phytochemical study of heartwood versus small branches of acacia catechu using high performance thin layer chromatography

Arjun Singh, B. Srivastava, R. Singh, P. Pant, E. Vashishth and **V.K. Sharma**
Central Council for Research in Ayurvedic Sciences, India

Objective: To compare the phyto-constituents present in the heartwood and small branches of Acacia catechu on the basis of high performance thin layer chromatography in order to evaluate whether the small branches of this plant may be substituted with the heartwood.Acacia catechu (Family- Mimosaceae) commonly called Khadira is a medicinal plant widely used in Ayurveda. As per the Ayurvedic literature, heartwood of this plant is used in sáotha, Kustha, Prameha, Vrana. It is difficult to get huge amount of heartwood from this big tree without cutting the plant.Due to which availability of this plant may be difficult in near future for use in Indian system of medicine.Methods: CAMAG HPTLC system equipped with semi-automatic applicator Linomat-IV and win CATS 1.4.2 software was used. n-hexane, ethyl acetate and ethanolic extracts of the heartwood and small braches were developed in suitable mobile phase using standard procedures and visualized in UV 254 and 366 nm and in white light after derivatization with in Anisaldehyde-Sulphuric acid reagent. Results: The HPTLC fingerprinting of the n-hexane, ethyl acetate and ethanolic extracts of heartwood and small branches showed almost phytochemical profile. Conclusion: HPTLC fingerprint profile of heartwood and small branches are found similar, therefore small branches may be used in place of heartwood and vice-versa after comparison and confirmation of same for pharmacological activities. The results of qualitative evaluation of HPTLC fingerprint profile will also be helpful in the identification and quality control of the drug and can provide standard HPTLC fingerprints with selected solvent system. The method can also be used for identification of different Acacia catechu species and adulterants.

Biography

Arjun Singh is working as Research Officer (Chemistry) in Central Council for research in Ayurvedic Sciences (CCRAS), Ministry of AYUSH, Govt. of India, New Delhi-58. He has 81/2years' experience in Research&Development, Standardization, Quality Control and Analysis of Drugs & Pharmaceuticals, Ayurvedic drugs & plant based medicines. He has also been worked (about 9 Years) in Central Revenue Control Laboratories, Dept. of Revenue (CBEC), Min. of Finance, Govt. of India and carry out Chemical analysis(using conventional & instrumental methods) of samples of various commodities for Revenue (Excise & Custom duty)purpose with a view to Export/ Import / Excise Tariff act & policy. Presently he is engaged in various activities viz. Prepared SOPs and protocol for Standardization of Herbal drug and pharmaceutical, Pharmaceutical development of AYUSH CODED DRUGS and double blind randomized coding for clinical trial, Preparation of know how documents of drugs for patent filing, Technology transfer & commercialization. Prepare Drug Dossier & Drug Profile of Ayurvedic Drugs for preclinical/ clinical studies, Evaluation of EMR & IMR projects etc. He has published more than 20 papers, 7 Books / Mongraph(contributor), 3 Patent filed and 4 projects completed and also serving as an editorial board member of JDRAS.

arjunccras@gmail.com

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