Advanced Techniques in Biology & Medicine

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Antimicrobial Activities and Chemical Composition Analysis of Wood Vinegar from *Litchi chinensis*

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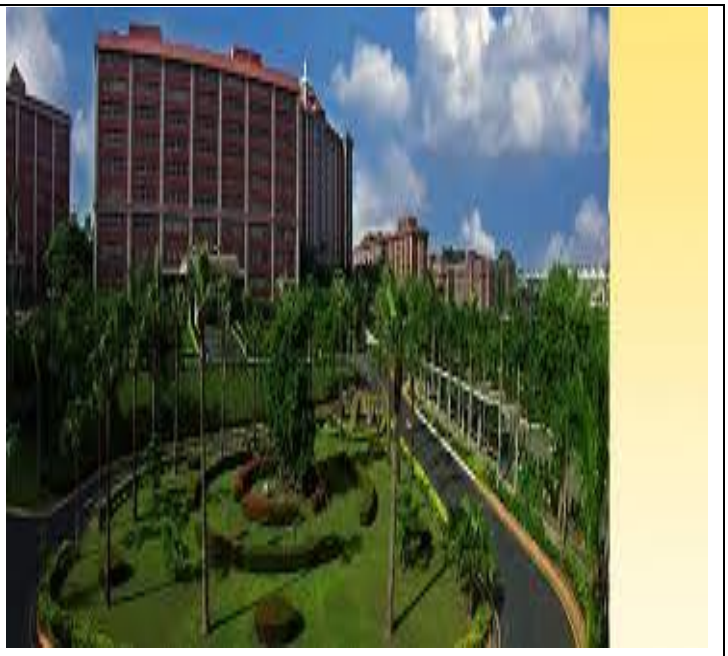
ABSTRACT:

The aim of this study was to explore the antibacterial activities and chmecial composition of various mixtures of wood vinegar from *Litchi chinensis*. In the antimicrobial activity assy, the wood vinegar against the clinical antibiotic resistant strains of *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus* were analyzed by the methods of disc diffusion method, minimum inhibitory concentration (MIC) and time-killing curve. Among different mixtures of wood vinegar, the residual liquid of wood vinegar revealed a better antimicrobial activity against the strain of *Acinetobacter baumannii* with an MIC value of 2.5 μL/mL. When the content of residual liquid was increased, its antimicrobial effect was better.

According to the time-killing curve, the residual liquid of wood vinegar showed bactericide effect against the test strains within 8 hours, but the original and distillated wood vinegar only showed inhibited activity but no bactericide effect. The chemical components of the mixtures were analyzed by gas chromatography–mass (GC-MS) spectrometry and revealed that the major components were phenolic compounds



Biography:

Li-Yeh Chuang is a professor of the Department of Chemical Engineering and Institute of Biotechnology and Chemical Engineering at I-Shou University, Kaohsiung, Taiwan. She received her M.S. degree from the Department of Chemistry at the University of North Carolinain 1989 and her Ph.D. degree from the Department of Biochemistry at North Dakota State University in 1994. She has authored/coauthored over 300 refereed publications. Her main areas of research are Bioinformatics, Biochemistry and Genetic Engineering

Publications:

1. Liver diseases in pregnancy: trends and their consequence in mother and child.
2. Assessment of liver fibrosis with transient elastography in NAFLD patients.
3. Efficacy of pegylated interferon-alpha-2a in hepatitis D infected patients. Experience from the Tertiary Care Hospital in Karachi.
4. Epidemiological and Clinical Characteristics of Esophageal Carcinoma: A Four-Year Experience From Largest Referral Centre of Karachi, Pakistan: 2863.
5. Behaviour in Pakistan of some local wheat varieties to loose smut.

16th International Conference on Digestive Disorders and Gastroenterology, Bangkok, Thailand, June 08-09, 2020.

Abstract Citation : Li-Yeh Chuang Antimicrobial Activities and Chemical Composition Analysis of Wood Vinegar from Litchi chinensis, GI DISEASES 2020, Bangkok, Thailand, June 08-09, 2020.