



**EVALUATION OF ANTIMICROBIAL PROPERTIES OF MICROFLORA ISOLATED
FROM FERMENTED MILK PRODUCTS**

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ABSTRACT

In the present study, 15 bacterial colonies were isolated from two samples of fermented milk products i.e., sample 1, Yoghurt and sample 2, Fermented Milk were collected from local market of Lucknow. Among the 15 isolated strains of **Lactobacillus** (MJDD01, MJDD02, MJDD03, MJDD04, MJDD05, MJDD06 & MJDD07, MJDD08, MJDD09, MJDD10, MJDD11, MJDD12, MJDD13, MJDD14, MJDD15) isolate MJDD09 Lactobacillus strain was found to be most effective in screening tested against four MDR pathogens namely *Escherichia coli*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus*.

On bio-chemical characterization of bacterial microflora that shows potential antimicrobial activities was found to be *Lactobacillus casei*. Optimization of physiochemical factors for maximum production of antimicrobial components was done which resulted in optimum conditions for growths of MJDD09 at pH 11, temperature 28°C, lactose as carbon source, beef extract as nitrogen source, lead as metal source and best growth kinetics was observed on 3rd & 4th day after inoculation.

Production of antimicrobial components from MJDD09 was done by shake flask fermentation. The crude antimicrobial/antagonistic component was extracted from fermented broth by centrifugation. Crude metabolite was purified from extracellular antimicrobial component by solvent extraction method.

Agar well diffusion was performed to evaluate the antimicrobial/antagonistic activity. Out of the five solvents Chloroform, ethyl acetate and Ethanol extracts were effective most effective being Acetone extract showing zone of inhibition of 18mm against *E.coli*.

Keywords: Fermented Milk Products, Antimicrobial, Antagonistic