ABSTRACT SUBMISSION TEMPLATE

Title: Times New Roman, 14, bold

Author (s): Times New Roman, 12, Bold,

Affiliations: Times New Roman, 12

(Name, Full Address of the organization/University/Colleges)

*Corresponding author Email:……..

Objectives: Times New Roman, 12 Max. 150 word

Methodology: Times New Roman, 12, Max. 400 words

Results and Discussions: Times New Roman, 12, Max. 700 words

(you may have maximum one table or figure in this section)

Conclusion: Times New Roman, 12, Max. 200 words

References: Times New Roman, 12, 2-3 important references to be included (not compulsory)

General Guidelines for Abstract Submission

1. Original research papers on the theme and befitting to any aspect of fermented foods are invited for oral/poster presentation at the seminar.

2. Each paper will be reviewed on the basis of an extended abstract describing objective, methodology, results and Discussion, Conclusion within 1500 words.

3. ***Abstracts*** have to be ***submitted by email only*** (**pratimak2k1@gmail.com**). No hard copy submission shall be accepted.

4. ***Abstract of the Poster Presentation*** as per the format provided above, shall contain sections indicating Objectives, Methodology, Results and Discussions and Conclusion. The total word count in the abstract (excluding the title & author affiliations) 1200-1400.

5. ***A registered delegate*** can present ***only ONE poster*** in the conference**.** However, he/she can be author in multiple posters.

6. The **last date for submission of the abstracts** is **October 30th, 2019**.

7. The authors will be informed about the acceptance of their papers within 10 days after submission by email only. Only a registered delegate shall be allowed to present poster and it shall not be more than one per delegate.

8. Review type, technical, unorganized or less than 500 words abstracts are not accepted.

Probiotic potential of oxalate degrading Lactic Acid Bacteria (LAB) isolated from human faecal matter and fermented milks

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Objective

To investigate the probiotic potential of oxalate degrading LAB strains for potential use in the management of kidney stone disease.

Methodology

Ten lactic acid bacteria (LAB) strains possessing oxalate degradation potential (> 40%) were used in the study. The strains were isolated from fermented milk products such as dahi, chhash, shrikhand [*Lactobacillus fermentum* M5, *Enterococcus faecium* M11, *Enterococcus faecium* MK16, *Lactobacillus rhamnosus* MTCC 25062 (NK10), *Lactobacillus rhamnosus* MTCC 5945 (NS4)] and human fecal matter (*Lactobacillus plantarum* F8, *Weissella confusa* F9, *Enterococcus hirae* F10, *Enterococcus avium* F15 and *Lactobacillus oris* F17). All were evaluated for their probiotic potential by performing *in vitro* tests such as tolerance to low pH (El- Nagar, 2004), ability to tolerate high bile concentration (Zoumpopoulou *et al*., 2008), antimicrobial activity ((Delgado *et al*. 2001) against seven indicator strains (*Escherichia coli*, *Salmonella typhi*, *Bacillus cereus*, *Staphylococcus aureus*, *Pseudomonas aerugenosa*, *Listeria sp.*, and *Bacillus subtilis*), antibiotic resistivity (disc diffusion method), cell auto-aggregation, cell co-aggregation, cell surface hydrophobicity and Bile Salt Hydrolase (BSH) activity using standard procedures.

Results and Discussions

All LAB strains had shown a survival of >7.0 log cfu/ml at pH 4. But at pH 2, all strains except F9, F15, F17 showed survivability (>6.0 log cfu/ml). All LAB strains were able to tolerate 0.5% and 1% oxgall concentration up to 4 h. Tolerance was found better in case of faecal isolates. However, the degrees of tolerance varied among the strains. All the strains had shown good inhibition (inhibition zones ranged between 10 to 27 mm) against all the pathogens. Strains M5, M11, F8 had shown strong inhibitory action (inhibition zones of more than 20mm) against *S. aureus, S. typhi, E. coli and Listeria sp.,* MK 16 against *S. typhi; and* NS4 against *S. typhi and E. coli.* The ability of a probiotic to adhere to intestinal mucosal cells was tested through cell surface hydrophobicity against n-hexadecane and xylene. Cell surface hydrophobicity against n-

hexadecane was highest for M11 (38.41%) followed by F8 (37.64%), F17 (36.60%) and NS4 (36.46%), whereas hydrophobicity against xylene was highest for M5 (40.56%) followed by NS4 (39.84%), F17 (39.43%) and F8 (39.14%). Antibiotic resistance study revealed that, all strains were sensitive to Ampicillin, Tetracycline, Ciprofloxacin (except NK10, F8), Methicilin (except MK16, F17), Streptomycin (except F10), Kanamycin (except MK16, NK10, F9, F10, F17), Norfloxacin (except NK10, NS4, F8) and Vancomycin (except M5, M11, F8, F9, F15, F17). Specific cell–cell interactions was studied through cell auto-aggregation and co-aggregation tests. Cell auto-aggregation was found to be highest in case of F17 (69.46%) followed by NK10 (63.91%) and M5 (46.65%). Co-aggregation of LAB strains to pathogens varied significantly. Among the strains tested, NK10 showed the highest coaggregation with *S. typhi* (24.13 %) followed by F10 (15.48%) and M11 (13.84%). M11 showed the highest co-aggregation with *S. aureus* (21.76%) followed by M5, MK16 and NS4. With *B.cereus*, M5, M11 and F17 have shown better co-aggregation (13 to 20%), but with *E.coli*, all LAB strains had shown poor co-aggregation (< 7 %). LAB strains F8, F9, F15, F17, MK16 and M5 had shown promising BSH activity on MRS medium containing bile salt as manifested by the formation of precipitation zone around their colonies.

Conclusion

The results of this *in vitro* study indicated that among the LAB strains isolated from fermented milks *Lactobacillus fermentum* M5, *Enterococcus faecium* M11, *Lactobacillus rhamnosus* NK10 and *Lactobacillus rhamnosus* NS4 have shown promise as potential probiotic strains. Among the fecal isolates *Enterococcus hirae* F8, and *Enterococcus hirae* F10 have shown promise as potential probiotic strains.

Acknowledgement

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