

CURRICULUM VITAE OF Dr. (Mrs).S.G.Prapulla



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Academic Qualifications : Doctoral degree in Biochemistry

Professional experience :

I am Senior Principal Scientist in the Dept. of Fermentation Technology and Bioengineering at Central Food Technological Research Institute (CFTRI), Mysore, Karnataka, a constituent laboratory of CSIR, India. Field of specialization is **Prebiotics**, desired food ingredients and the food of choice for **Probiotics**, the healthy inhabitants of the human colon. Post graduate from the University of Mysore, doctoral degree in Biochemistry from the University of Mysore for the research on Microbial Flavours, carried out at CFTRI, Mysore. Visited Germany on DAAD fellowship to carry out advanced research in the field of microbial flavours. Recipient of UNSECO young woman Scientist award. Visited a few other countries to participate in seminars and conferences. Invited speakers in many national events conducted by various colleges, universities and organizations. Leading a group of researchers for their doctoral degree in Biotechnology related to different aspects of pre and probiotics. The technology for the production of Fructooligosaccharides, a well-known prebiotic, developed at CFTRI by the team has successfully been transferred to the industry. A number of publications, patents (includes national and international) are the outcome of the research endeavours of the group.

Awards and Fellowships :

- a. Third rank in M.Sc. From Mysore University (1979)
- b. UNESCO/Rostaca Award for Young Women Scientist, 1990.
- c. Visited Technical University, Berlin for Advanced Research in “Microbial Flavours” under DAAD Fellowship ,1988-89
- d. Bestowed with the ‘Best Technology transferred to the Industry’ for the production of Fructooligosaccharides, a well-known prebiotic

Current areas of research :

The research on probiotics mainly involves the isolation and molecular characterization of potent probiotic lactic acid bacteria from fermented foods and human samples. A lab scale process has been developed for the production of freeze and spray dried powders of chosen probiotics. Presently, a study on the effects of these probiotics on the reduction of Inflammatory Bowel disease and colorectal cancer is being carried out using rodent models. Parallely, lab scale production of two important classes of prebiotics such as Galactooligosaccharides and Isomaltooligosaccharides are being developed. Efforts have been made for the production of Exopolysaccharides and GABA from the selected Lactic acid bacteria.

Publications :

Prebiotics

1. Sangeetha, P. T., Ramesh, M. N and **Prapulla, S. G. 2002.** Influence of media components and reaction parameters on the production of fructosyl transferase and fructooligosaccharides. *Sci Des Aliments*, 22, (3): 277-287.
2. Sangeetha, P. T., Ramesh, M. N and **Prapulla, S. G. 2003.** Microbial production of fructooligosaccharides. *Asian J Microbiol Biotechnol Envir Sci*, 5: 313-318.
3. Sangeetha, P. T., Ramesh, M. N and **Prapulla, S. G. 2004.** Production of fructooligosaccharides by fructosyl transferase from *Aspergillus oryzae* CFR 202 and *Aureobasidium pullulans* CFR 77. *Process Biochem*, 39: 753-758.
4. Sangeetha, P. T., Ramesh, M. N and **Prapulla, S. G. 2004.** Production of fructosyl transferase by *Aspergillus oryzae* CFR 202 in solid-state fermentation using agricultural by-products. *Appl Microbiol Biotechnol*, 65 (5): 530-537.

5. Sangeetha, P. T., Ramesh, M. N and **Prapulla, S. G. 2005**. Fructooligosaccharide production using fructosyl transferase obtained from recycling culture of *Aspergillus oryzae* CFR 202. Process Biochem, 40: 1085-1088.
6. Sangeetha, P. T., Ramesh, M. N and Prapulla, S. G. **2005**. Maximization of Fructooligosaccharide production by two stage continuous process and its scale up. J Food Eng, 68: 57-64.
7. Lateef A, Oloke, J. K and **Prapulla, S. G. 2007**. The effect of ultrasonication on the release of Fructosyltransferase from *Aureobasidium pullulans* CFR 77. Enzyme and Microbial Technol, 40(3): 1067-1070.
8. Aachary, A. A and **Prapulla, S. G. 2007**. Value addition to Spent Osmotic Sugar Solution (SOS) by Enzymatic Conversion to Fructooligosaccharides (FOS), a low calorie prebiotic. Inn Food Sci Emerg Technol, 10 (2): 284-288.
9. Mabel, M. J., Sangeetha, P. T., Kalpana, P., Srinivasan, K and **Prapulla, S. G. 2008**. Physicochemical characterization of fructooligosaccharides and evaluation of their suitability as a potential sweetener for diabetic. Carbohydrate Res, 343: 56-66.
10. Aachary, A. A and **Prapulla, S. G. 2008**. Corncob-Induced *endo*-1,4- β -D-Xylanase of *Aspergillus oryzae* MTCC 5154: Production and characterization of xylobiose from glucuronoxylan. J Agri Food Chem, 56 (11): 3981 – 3988.
11. Renuka, B., Kulkarni, S. G., Vijayanand, P and **Prapulla, S. G. 2009**. Fructooligosaccharide fortification of selected fruit juice beverages: Effect on the quality characteristics. LWT - Food Sci Technol, 42 (5): 1031-1033.
12. Renuka, B., Prakash, M and **Prapulla, S. G. 2010**. Fructooligosaccharides based low calorie gulab jamun: Studies on the texture, microstructure and sensory attributes. J Texture Stud, 41(4): 594–610.
13. Aachary, A. A and **Prapulla, S. G. 2009**. Value addition to corncob: Production and characterization of xylooligosaccharides from alkali pretreated lignin-saccharide complex using *Aspergillus oryzae* MTCC 5154. Biores Technol, 100 (2): 991-995.
14. Gobinath, D., Madhu, A. N., Giribhattanavar, P and **Prapulla, S. G. 2010**. Beneficial effect of xylo-oligosaccharides and fructo-oligosaccharides in streptozotocin-induced diabetic rats. British J Nutr, 104: 40-47.

15. Achary, A. A., Gobinath, D and **Prapulla, S. G. 2011.** Short chain xylooligosaccharides: a potential prebiotic used to improve batter fermentation and its effect on the quality attributes of idli, a cereal–legume-based Indian traditional food. *Int J Food Sci Technol*, 46 (7): 1346–1355.

Probiotics

1. Reddy, K. B. P. K., Raghavendra, P., GirishKumar, B., Misra, M. C and **Prapulla, S. G. 2007** Screening of probiotic properties of lactic acid bacteria isolated from *Kanjika*, an ayurvedic lactic acid fermented product: an *in-vitro* evaluation. *J Gen Appl Microbiol*, 53: 207-213.
2. Reddy, K. B. P. K., Madhu, A. N and **Prapulla, S. G. 2009.** Comparative survival and evaluation of functional probiotic properties of spray dried *Lactobacillus* strains isolated from *Kanjika*. *Int J Dairy Technol.*, 62(2): 240-248.
3. Reddy, K. B. P. K., Awasthi, S. P., Madhu, A. N and **Prapulla, S. G. 2009.** Role of Cryoprotectants on the Viability and Functional Properties of Probiotic Lactic Acid Bacteria during Freeze Drying. *Food Biotechnol*, 23: 243-265.
4. Reddy, K. B. P. K., Awasthi, S. P., Madhu, A. N and **Prapulla, S. G. 2009.** Role of Cryoprotectants on the Viability and Functional Properties of Probiotic Lactic Acid Bacteria during Freeze Drying. *Food Biotechnol*, 23: 243-265.
5. Girishkumar, B and **Prapulla, S. G. 2010.** Beneficial Properties of Lactic acid bacteria isolated from Breast fed infants faecal flora: *In vitro* evidences. *Asian J Microbiol Biotechnol Env Sci*, 1-11.
6. Girishkumar, B and **Prapulla, S. G. 2010.** Evaluation of functional aspects of *Lactobacillus fermentum* CFR 2195 isolated from breast fed healthy infants' fecal matter. *J Food Sci Technol*, DOI 10.1007/s13197-011-0345-9.
7. Madhu, A. N., Giribhattanavar, P and **Prapulla, S. G. 2010.** Probiotic lactic acid bacterium from *kanjika* as a potential source of vitamin B₁₂: evidence from LC-MS, immunological and microbiological techniques. *Biotechnol Letters.*, 32: 503-506
8. Madhu, A. N., Awasthi, SP., Reddy, K. B. P. K and **Prapulla, S. G. 2011.** Impact of Freeze and Spray Drying on the Retention of Probiotic Properties of *Lactobacillus fermentum*: An *in vitro* Evaluation Model. *Int J Microbiol Res.*, 2(3): 243-251
9. Madhu, A. N and **Prapulla, S. G. 2011.** *In vitro* fermentation of prebiotics by *Lactobacillus plantarum* CFR 2194: selectivity, viability and effect of metabolites on β -glucuronidase activity. *World J Microbiol Biotechnol.*, DOI 10.1007/s11274-011-0887-z.

