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RESEARCH AREAS :

1. Development of transgenic *Lactobacillus plantarum* for therapeutic application
2. Development of cardiovascular marker
3. Identification of novel biomarker for oral cancer using saliva

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RESEARCH INTERESTS:

Development of transgenic *Lactobacillus plantarum* for therapeutic application:

The medical management of calcium oxalate recurrent stone patient is a difficult problem. Using genetically manipulated oxylate degrading bacterial species for medical diagnosis and treatment will be highly valuable in patient management. Our objective is focused on cloning and expression of oxalate degrading gene from *Mesorhizobium* sp. mku–E2 in a probiotic organism *Lactobacillus plantarum* for the therapeutic applications.

Development of cardiovascular marker:

Identification of cardiovascular diseases using cardiac marker will help in better therapy and clinical management. Myocardial structure and signal transduction are now merging into a common field of research that will lead to a more complete understanding of the molecular mechanisms that underlie heart disease. Our specific objective is to study the relative participation of Notch signaling pathway in the development and progression of heart disease and signaling pathways that may mediate reprogramming of gene expression in animal model system.

Identification of novel biomarker for oral cancer using saliva:

Proteomic technologies will be applied to identify proteins in human whole saliva to develop saliva protein as biomarkers for human oral and systemic diseases. Currently, my lab is focused on development of oral cancer biomarker.

PUBLICATIONS

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