OMICS Group Conferences
Accelerating Scientific Discovery

International Conference and Exhibition on
Probiotics

November 19-21, 2012 Hilton San Antonio Airport, USA

Probiotic potential of *Lactobacillus rhamnosus* RSI3 isolated from traditional cereal-based fermented dairy product (Raabadi)

Jagrani Minj and S.K.Tomar
National Dairy Research Institute, India

Probiotics are defined as live microorganisms that, when administered in adequate amounts, confer a health benefits on the host. The global and domestic probiotic market is expected to be more than US$ 32.6 billion and about Rs.20.6 million respectively by 2015. The probiotic enriched foods are the attractive area of research, due to their preventive and sometimes curative effects against various diseases. The probiotic potential of *Lactobacillus rhamnosus* RSI3, a strain isolated from a traditional cereal-based fermented milk product (*Raabadi*) by *in-vitro* method taking *L. rhamnosus* GG (LGG) as a control was evaluated. The *in-vitro* tests included acid and bile tolerance, bile salt deconjugation, cell surface hydrophobicity, antimicrobial, antifungal and beta galactosidase activity and sensitivity to antibiotics. During acid tolerance RSI3 had shown good survivability in acidic condition at pH 2.0 and 3.0, bile salt tolerance upto 0.5%, Cell surface hydrophobicity in different hydrocarbons such as n-Hexadecane 19% and n-Octane 20%. RSI3 shown sensitive to various antibiotics but it has shown resistant to vancomycin which is a typical characteristic of LAB for potential probiotics. RSI3 has shown discernible antibacterial activity against various pathogenic and spoilage causing organisms such as *E. coli, Salmonella typhimurium, Listeria monocytogens* and *Staphylococcus aureous* and strong antifungal activity against various yeasts and moulds such as *Kluveromyces marxianus* 46, *Candida butyri* 280, *Aspergillus flavus* 268 and *Sacchaomyces cerevisiae*. RSI3 showed a good β-galactosidase activity indicative by colour change within 1-4 hour capability to utilize lactose.

jagrani.ndri@gmail.com, arani_2020@yahoo.co.in