Svetla T Danova, J Prob Health 2014, 2:2
http://dx.doi.org/10.4172/2329-8901.S1.015

OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference and Exhibition on
Probiotics, Functional & Baby Foods
September 23-25, 2014 Hotel Royal Continental, Naples, Italy

In vitro selection of *vaginal lactobacilli* for urogenital application

Svetla T Danova
The Stephan Angeloff Institute of Microbiology associated with the Institute Pasteur International Network, Bulgaria

Vaginal and urogenital flora plays a central role in maintaining both the wellbeing and illnesses of women. Recently, the lactobacilli that commonly are presented in the healthy vagina have attracted considerable attention. The understanding of protective role and probiotic properties of these beneficial bacteria is a promising way to advance the prevention, therapy and prophylaxis of urogenital infections (UTI) and related with risks. A complex study on Lactobacillus microbiota of healthy Bulgarian volunteers at childbearing age is presented. Using different culturable and non-culturable DNA methods, the Lactobacillus biodiversity were characterized. In addition, 35 newly isolated lactobacilli have been identified. Among the dominant species (*Lactobacillus fermentum, Lactobacillus gasseri, Lactobacillus crispatus and Lactobacillus salivarius*), several active strains, with a broad spectrum of antagonistic activity were pre-selected. In vitro tests in simulated vaginal fluid media showed the capacity of two vaginal strains to inhibit the growth and the biofilm-formation of uro-pathogenic Escherichia coli. The antagonistic and immunomodulation effects, established in vitro, were dose- and strain-dependent. The strain-specific antibiotic susceptibility, together with the adhesion ability to HeLa cell-line and the capacity for protective biofilm-formation, in conditions similar to those *in vivo*, were estimated as important part of mechanisms of stable colonization in the vagina. Moreover, some of vaginal lactobacilli combine biological activity with technological relevance. Obtained *in vitro* results implied that selected vaginal lactobacilli are appropriate as new multifunctional compounds for vaginal probiotic formula, with potential to maintain the urogenital health.

Biography

Svetla T Danova is a molecular biologist with a strong background in microbiology and genetics of medically and industrially important groups of microorganisms (beneficial Lactic acid bacteria; antibiotic producing Streptomyces). She has graduated and completed her MSc and PhD thesis at the Biological Faculty, Sofia University, Sofia, Bulgaria. After the post-doc training in France, South Africa and Belgium she become a head of the laboratory "Genetics of Lactic Acid bacteria & Probiotics" at the Department of General Microbiology, The Stephan Angeloff Institute of Microbiology, a member of the International Network of the Institute Pasteur, France. She has published more than 50 articles on taxonomy, physiology and biological activity of lactic acid bacteria and probiotics and a student book "The Probiotics".

stdanova@yahoo.com