Acronym: HR / HU - BIFIDO
Name: BIOACTIVE COMPONENTS PRODUCED BY BIFIDOBACTERIA DURING FERMENTATION AND THEIR EFFECTS ON ENTERO- AND UROGENITAL PATHOGENS
Contract number: 533-06-05-2
Action line: Applied Biotechnology
Type (Programme): Bilateral
Project coordinator
Organisation Name: CORVINUS UNIVERSITY OF BUDAPEST
Faculty of Food Science ; Department of Brewing and Distilling
Organisation country: HUNGARY
Contact person name: Ph. D.Rezessy-Szabó Judit Máriás, Lecturer
Contact person email: judit.szabo@uni-corvinus.hu
Croatian coordinator
Organisation name: UNIVERSITY OF JOSIP JURAJ STROSSMAYER IN OSIJEK
FACULTY OF FOOD TECHNOLOGY
Organisation address: Franje Kuhača 18, P.O.Box 709 HR-31000 Osijek
Contact person name: Ph. D. Jovica Hardi, Associate Professor
Contact person tel: ++385 (0) 31 224-310
Contact person e-mail: Jovica.Hardi@ptfos.hr
Description of project
The Croatian partner has experience and infrastructure to determine the amount of organic acid, short (SCFA) and medium (MCFA) chain fatty acid produced during fermentation of different raw materials. The Hungarian partner has experience and capability for the propagation of probiotic Bifidobacteria, moreover a culture collection of Bifidobacterium strains is available at the Department of Brewing and Distilling. The Hungarian partner also has experience in production, isolation, purification and characterisation of species of microbial proteins. Thus, both groups are interested in and aim to develop probiotic foods that improve the health status and quality of life. Their profession, opportunities and infrastructure are complimentary, because the Hungarian group is able to supply different Bifidobacteria strains as well as screen Bifidobacterium strains for production of bacteriocin, while the Croatian group works on fermentation of goat and cow milk with Bifidobacteria. The aim of this research is to determine the antagonistic influence of goat, cow and soy milk fermented with the use of bifidobacteria on about twenty characteristics intestinal and urogenital pathogens. Some original in vitro analysis will be used. The samples of pathogenic microorganisms will be directly taken from the patients. Randomized placebo trials will also be introduced in proposed investigation. The microbiological inhibitions of pathogens will be related to the biochemical processes during lactic acid fermentation. The following biochemical parameters will be analysed: 1. Influence of fermentation phase; 2. Influence of content and production of some potential antibacterial agents (short and medium chain fatty acids, bacteriocin) during fermentation; 3. Influence of pH value; 4. Antibiotic-pathogen-probiotic interaction. The antibiotic sensitivity tests will be used to compare the inhibition zones of bifidobacteria with standard antibiotic inhibition zones. Goat milk has specific composition and structure and it has nutritional and therapeutic quality attributed to it.