



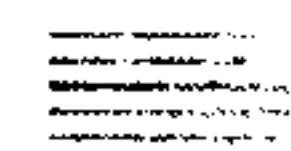
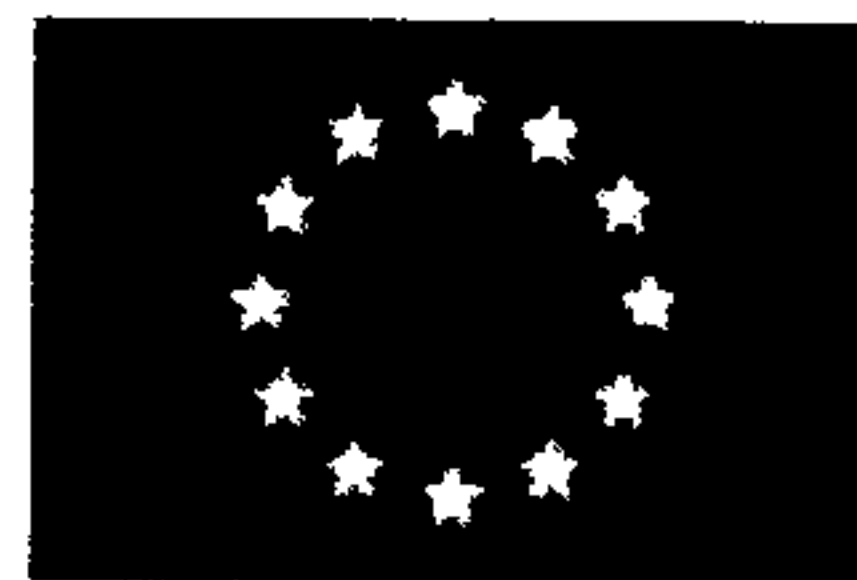
1st FCUB ERA Workshop

Food Safety and Health Effects of Food

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FCUB ERA



1st FCUB ERA Workshop

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Content:

- 1. Clustering food research activities in the region of WB and EU neighboring countries**
- 2. Health effects of food**
- 3. Biochemistry and Molecular Biology of Food Allergens**
- 4. Probiotics and prebiotics**
- 5. Proteomics and metabolomics**
- 6. Nutrition and Immunology**
- 7. List of poster presentations**

Oral 4.2. Comparative Clinical Study and *In Vitro* Test of Bifidogenic Effect of Two Infant Formulas Supplemented With Inulin and Fos

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Development stimulation of bifidobacteria in the intestinal tract by the effect of food ingredients is called bifidogenic effect. Bifidogenic effect is one of the most important indicators for quality of the infant's food, in addition to nutritive and biological values. The aim of this study was to compare bifidogenic effect of infant formulas supplemented with inulin and fructooligosaccharides *in vitro* and clinically, and to compare that of mature breast milk.

Healthy, term born infants, younger than 6 months and babies 6-12 months old, were enrolled in 28-day study. According to the type of feeding, infants were divided in groups – formula fed and breast milk fed (control) group. Fecal samples were obtained before (day 0) and during formula administration (14 and 28 day), stool specimens were quantitatively cultured and evaluated count of bifidobacteria and biochemical parameters. *In vitro* test examined microbiological and biochemical changes in two infant formulas and mature breast milk, induced by the action of bifidobacteria isolated from newborn's feces.

The bifidobacteria number in the stools increased significantly during the study in both infant groups receiving the supplemented formula as well as in both breast milk groups. The comparative *in vitro* test showed that the bifidogenic effect was similar for infant formulas and mature breast milk in terms of the number of bifidobacteria. There were no statistically significant differences in biochemical parameters between groups. Consumption of infant formula with added inulin and fructooligosaccharides stimulated the bifidogenic effect, both clinically and *in vitro*.

The *in vitro* test can quickly and objectively determine the bifidogenic effect of infant formula and indicate its quality. However, a clinical test is necessary to determine the acceptance and biological value of infant formula.

Key words: Bifidogenic effect, *in vitro* test, clinical study, bifidobacteria, inulin