

INFLUENCE OF *LACTOBACILLUS* AND *BIFIDOBACTERIUM* ON INTERFERONOGENESIS AND PHAGOCYTIC CELLS ACTIVITY

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It is known that probiotic influence on development of cellular and humoral immune response changing variety of immune regulating cytokines, first of all Th1-type cytokines. Therefore search of *Lactobacillus* and *Bifidobacterium* with immune modulating properties for creation new highly effective probiotics preparations is an actual problem.

The aim of investigation is to define immune modulating properties of *Lactobacillus* and *Bifidobacterium* by research of their influence on production of endogenous interferon and also functional activity of phagocytosis system cells on murine experimental model.

It was studied the influence of *Lactobacillus* and *Bifidobacterium* on interferonogenesis and functional activity of phagocytosis system cells *in vivo*.

There were used freeze-dried *Lactobacillus* and *Bifidobacterium* of different strains: *Bifidobacterium bifidum*, *Bifidobacterium longum*, *Lactobacillus acidophilus*, *Lactobacillus casei*, *Lactobacillus bulgaricus*. Preparations separately were injected *per os* to mice of line BaLb/c with body mass 18-20 g throughout 4 days once a day. A standard interferon ridostine was used as a comparison.

It was established that *Bifidobacterium bifidum*, *Bifidobacterium longum*, *Lactobacillus acidophilus*, *Lactobacillus casei*, *Lactobacillus bulgaricus* as well as standard interferon inducer ridostine *in vivo* had activating influence on production of endogenous interferon that proved to be true by essential increase of interferon titer in blood serum of mice during 6 days. For 12 days the interferon titer in blood serum did not exceed a control value. *Lactobacillus acidophilus* and *Bifidobacterium longum* have appeared the most effective inducing agent of both "early" and "late" interferon. The simultaneous injection of *Bifidobacterium bifidum*, *Bifidobacterium longum*, *Lactobacillus acidophilus*, *Lactobacillus casei*, *Lactobacillus bulgaricus* led to more significant increase of interferon titer in mic blood serum comparing with the influence of the single strain.

The introduction of *Bifidobacterium bifidum*, *Bifidobacterium longum*, *Lactobacillus acidophilus*, *Lactobacillus casei* or *Lactobacillus bulgaricus* to mice was accompanied by increase of functional activity of phagocytosis system cells proved by stimulation of oxygen-depending bactericide and absorbing activity of peritoneal macrophages.

As our date testifies the composition on the basis of *Bifidobacterium bifidum*, *Bifidobacterium longum*, *Lactobacillus acidophilus*, *Lactobacillus casei* or *Lactobacillus bulgaricus* is the most perspective for probiotic-immunotherapy.