

Functional food products with immunocorrective action

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ABSTRACT

Considering the negative impact of external and internal factors on the human immune system functional food products based on the microflora with immunomodulation is relevant area of the modern food industry. Recent studies of composition and functions of human intestinal microflora caused interest in the target application and development of functional food and probiotics for the prevention and treatment of somatic illness. Disturbance of the microbiota are associated with inflammatory diseases, namely with the disorder of communication between cells of the immune system and the microbiota. Balanced immunoregulation and inhibition of the inflammatory response of the immune system facilitates restoration of disturbed microbiota composition. Effective factor of the microbiota restoration is probiotics and functional food products enriched probiotic microorganisms.

There are many reasons a disturbance of intestinal microflora, diet high in polyunsaturated fats, antibiotics, stress, local and systemic inflammatory diseases and others. In many cases, several factors acting simultaneously. The consequences of intestinal microflora disturbance are complex and can cause both local (bowel disease) and systemic (metabolic disease) pathological conditions (Crohn's disease, diabetes, obesity, atopic dermatitis, allergies, etc.). Biological effects of probiotic microorganisms are strainspecific. Depending on the type, species, strain probiotic bacteria can have immunostimulatory, immunodeviatory (bipolar) and immunoregulatory / suppressive effect. *Lactobacillus rhamnosus* is typical functional food and probiotic component. It is shown that this type of bacteria characterized as inflammatory, immunomodulatory and anti-inflammatory action. Anti-inflammatory immunomodulatory properties inherent *L. rhamnosus* GG. The use of probiotic microorganism alone and in combination with other can have different effects on immune responsiveness. Thus, *L. casei* Shirota refer to multifunctional immunobiotics with a wide range of diverse immunomodulatory action. Immunomodulatory effects of probiotic bacteria realized through cell-association mechanisms and production of biologically active substances with immunoregulatory properties. Strategy of effective use of probiotics immunomodulatory action including: knowledge of microbiota composition and functions with considering age and individual characteristics; assessment of systemic and local immune reactivity; analysis of the mechanisms of action of probiotic microorganism.

Conclusions. Modulation of immunological reactivity - one of the important mechanisms of probiotic microorganisms that can be the basis for the differentiated application of functional food products and probiotic for the prevention and treatment of diseases.

KEY WORDS

Functional food, probiotic microorganisms, immunomodulation

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