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Literature data and own author experiments concerning the influence of microbiota on the immune system are summarized. The mechanisms of the diversification of immune response to pathogenic and commensal microorganisms are described. Effect of microorganisms of normal flora on innate and adaptive immunity is characterized. Human inflammatory diseases associated with microbiota disorders are reviewed. Biological properties of probiotic preparations are discussed in context of its modulatory effect on inflammatory response. Prospects of use of immunomodulatory potential of probiotic microorganisms are being analyzed.

**Key words:** gut microbiota, immunomodulation, immunobiotics, inflammation.
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