

OR-53**Biologically Active Lectin Proteins from European Cultural and Wild Plants**

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Lectin proteins found in medicinal and feed plants can take part in implementation of their general pharmacological potential thanks to their properties as biological response modifiers. They have ability to stimulate the immune system, to regulate proliferation and apoptosis levels of normal and transformed human and animal cells, etc. Legume lectins also stimulate nodulating and symbiotic properties of *Rhizobium* microsymbionts. We studied lectin activities in more than 80 species of 30 plant families of cultivated and wild European (e.g. Belarus) plants. We identified phytolectins which possessed: 1) immunomodulatory activity for pulmonary macrophages, NK- and T-cells; 2) antibacterial properties for pathogenic and conditionally pathogenic microflora of young cattle; 3) the ability to improve intestinal microbiocenoses of calves suffering by enteritis, and to speed up their recovery; 4) antiproliferative effect for human breast cancer cells comparable with cytostatics used in clinical practice. The dose-related effects and individual sensitivity of breast cancer cells to some phytolectins were revealed; 5) the ability to stimulate nodulating and nitrogen-fixing activity of legume-symbiotic *Rhizobium* bacteria. Thus many European cultural and wild plants can be a valuable source of dietary lectins for medicine, veterinary and agriculture. The most perspective for this purpose are plants of *Fabaceae*, *Papaveraceae*, *Solanaceae*, and *Asteraceae* families.

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