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ANTIMUTAGENICITY OF BIOLOGICALLY ACTIVE SUPPLEMENT FROM PLANTS AND PROBIOTICS

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Abstract: Among medical plants of native flora, relating to halophytes, certain interest present *Limonium* genus of *Plumbagenaceae* family, containing 18 species. Chemical research of compounds, extracted from upper parts and roots of 6 investigated species of *Limonium*, showed as biologically active compounds (-)-epigallocatechin, (-)-epigallocatechin-3-O-gallate, polymeric proanthocyanidins, myricetin and their glycosids, gallic acids, glucose, rhamnose, galactose, 20 α -amino acids, including all essential. Extracts from 6 species of *Limonium* were tested as modifiers of chemical mutagenesis. Such events as chromosome aberrations were scored. In experiments white breedless rats-male have been used. Laboratory animals were exposed to the subacute influence of fipronil and extracts from *L. Gmelinii*, *L. Myrianthum*, *L. Popovii*. Xenobiotic induced significant increasing of the frequency of aberrant bone marrow cells compare with control values. Chromosome-type as well as chromatid-type aberrations were observed. Testified plant extracts did not exhibit chromosome-breaking activity on rats. The all investigated plant extracts in combination with xenobiotic had protective action and decreased the mutagenicity of fipronil.

The mechanisms causing protection properties probiotics are investigated. It is revealed, that cells both metabolites lactobacilli and bifidobacterium possess dismutagens activity, thus lactobacilli render and reparogens action, influencing on endocellular processes of an induction of mutations.

Generated the collection from 11 strains bifidobacterium and 12 strains lactobacilli, a level of which antimutagen activity concerning modelling mutagen more than 50 %. Use it is received immobilized probiotics "Riso-Lakt" on carbonized a rice husk of a consortium from 3 strains of *Lactobacillus*, containing 10^8 cells in 1 g a sorbent. Installed, that BAA «Riso-Lact» completely suppresses mutagenesis, induced N-nitroso-N-methylurea and 2 nitrofluorene, estimated on frequency reverse in histidin locus at display strains *Salmonella typhimurim* TA 100 and TA 98. The mutagen effect N-nitroso-N-nitrosoguanidine decreases on 97 %, 4-nitrofluorene-1-oxide on 82 %. The number of chromosomal aberrations in cells of a bone marrow of the mice, induced to straight line mutagen N-nitroso-N-methylurea and promutagen N-nitrosomorpholine, at introduction in a food allowance of preparation «Riso-Lact» decreases on 70 % - 75 %. Revealed decrease genotoxic excretions at the experimental animals received immobilized a complex preparation after preliminary mutagen loading; in fecalase activity of procancerogenic enzyme-glucuronidase decreases on 43 %.

These results suggest that extracts from studied plants and probiotic supplement possess antimutagenic activity and could be used as protector against chemical mutagens.