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FORMATION OF NUCLEAR SPATIAL ORGANIZATION: ROLE OF *DROSOPHILA limk1* GENE

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Studying of the nuclear spatial organization gains the singular value in early diagnosis of the genomic diseases in particular caused by variations of genetic material to which Williams—Beuren syndrome belong. *limk1* gene that codes LIM kinase 1 is the regulator of actin dynamics responsible for neurocognitive phenotypical manifestation of the syndrome. A model of WBS in *Drosophila*, a mutant for the gene *limk1 agn^{ts3}*, containing insertions in the region of gene localization, was created. Using 4Cseq method using allowed to define the genes in unison localized with *limk1* in nucleuses of a nervous ganglion. The revealed genes make a contribution to a wide range of the biological processes characteristic of *agn^{ts3}* mutant. Apparently, the multiple phenotypical manifestation of the syndrome, is bound not only to disturbance of an expression of the separate genes affected by reorganization, but also to damage of function of all genes in unison localized in nuclear space.

Key words: Williams—Beuren Syndrome, *Drosophila*, nuclear spatial organization