

**The influence of Endogenous protein complex on the quantity of GAD 65/67 positive cells
in newborn rats hippocampus**

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Since it was established that neurogenesis occurs in adult organisms the interest of neuroscientists is being focused on hippocampus - one of the brain regions where neurogenesis takes place in adults. This process is regulated by exogenous (stress, education, physical activity) as well as endogenous (hormones, growth factors, and transcription) factors. In neurons, glutamate has been shown to activate the Ras/Raf/MEK/ERK cascade, which participates in the regulation of proliferation, differentiation, and survival processes.

Earlier we have shown that endogenous protein factor isolated from adult rats' brain inhibits mitotic activity of growing rats' dental gyrus. At the same time the number of ki67 positive cells is increased, which may be mediated by the activation of the mentioned cascade.

Proceeding from the aforesaid the goal of this work was to study The influence of endogenous protein complex on the quantity of GAD 65/67 positive cells in newborn rats hippocampus.

Investigation was carried out on infant rats (7 days). The quantity of GAD65/67 positive cells was determined by the immunohistochemical method.

We have established that endogenous protein from adult rats' brain decreases the number of GAD65/67 positive cells only in the dental gyrus of growing rats' hippocampus.

Since progenitor cells maintained in subgranular zone of dental gyrus and the effect of protein complex, which is revealed in mitotic index inhibition and increasing of cells in cell cycle is mentioned only in that region, we assume that accumulation of glutamic acid through to reduction of GAD65/67 activity stimulates the Ras/Raf/MEK/ERK cascade and the entrance of cells into a cell cycle.