

PROCOGNITIVE PROPERTIES OF CYSTEINE PROTEASE INHIBITORS AND IMMUNOMODULATORY PEPTIDE FROM COLOSTRUM

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Cognitive decline is one of key symptoms of dementia, including Alzheimer's disease. Increase of dementia rates will have impact on the costs of prevention, treatment and patient care. The research findings of the last decade suggest that cysteine proteases inhibitors play an important role in the development of Alzheimer's disease by inhibiting the aggregation of β -amyloid and its deposition. The molecular mechanism probably relates to the binding β -amyloid precursor protein (β APP) and A β 40 and A β 42 peptide that inhibits β -amyloid oligomerization and amyloidogenesis. Furthermore, it has been shown that the preparations formed on the basis of sheep colostrum may delay the process of dementia and even improve memory and learning functions in spatial memory tests. Therefore, the experimental study is currently conducting with young and old rats as a model of cognitive decline and process of brain aging. In order to investigate efficiency of preparations behavioral tests, like Open Field and Water Morris Test are performed in which the ability of memory and learning are assessed. Six groups of rats ($n = 7$) will be examined. Groups will differ by age and the way of the substance administration (intraperitoneally and orally). It is expected that the research associated with the administration of the cysteine protease inhibitors and immunomodulatory peptide from colostrum can provide a significant contribution to the development of research on dementia disorders, by describing their biological activity and effects on cognitive function. The authors will present the results of the ongoing study and key findings.