

(様式 17)

学位論文審査の概要

博士の専攻分野の名称 博士 (医 学) 氏 名 宋 寧

主査 神谷 温之
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学 位 論 文 題 名

Involvement of CaMKIV in neurogenic effect with chronic fluoxetine treatment

(慢性 Fluoxetine 投与による神経細胞新生における CaMKIV の関与)

Depression is a common mental disorder and among the leading causes of disability. To date, the etiology and pathogenesis of depression is not fully understood. Adult hippocampal neurogenesis has been a hot point recently because researches have shown that some antidepressant actions are neurogenesis-dependent. Therefore, efforts are focusing to see pivotal factors that are involved in adult neurogenesis. In this research, the role of Ca²⁺/calmodulin dependent protein kinase IV (CaMKIV) in adult neurogenesis was investigated; meanwhile, the possible mechanism and behavioral consequence were detected.

During the question and answer period, Prof. Yuji Morimoto asked the applicant to explain the function of adult neurogenesis and the relationship among neurogenesis, behavioral result and clinical symptoms of depression. Prof. Hiroyoshi Fujita asked the candidate to introduce the depression models and how to understand the result of CREB and behavioral test. Finally, I asked the possible mechanism that activates CaMKIV with antidepressant fluoxetine treatment and how to explain the result of cell survival.

The applicant answered the questions correctly and scientifically basing on his research and previous evidence. His performance reflects his understanding of the issues and the breadth and depth of knowledge.

This paper is the first research showing the role of CaMKIV in adult hippocampal neurogenesis with chronic antidepressant treatment. The research is well designed and performed. The results are very interesting that provide us new angle of view upon the neurobiological mechanism of antidepressant and we are looking forward to further researches. All investigators are highly complimentary about this research. Together with other prerequisite for graduation, we are in consensus that the applicant is qualified for doctor degree.