

Effects of Miraculous Oil™ on Y-Maze Behavioural Test and Hippocampus Histology in Normal Sprague Dawley Rats

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Structured Abstract

Background: The potential application of nutraceutical products as a brain booster has piqued much interest in those who desire a better quality of life. Miraculous Oil™ supplied by BioFluid Sdn Bhd is a nutraceutical product consisting of *Moringa oleifera* extract, *Ganoderma lucidum* extract, *Nigella sativa* oil, and virgin coconut oil (VCO). These ingredients are rich in antioxidants which are scientifically proven to give a neuroprotective effect on the brain. However, the safety of Miraculous Oil™ on the brain especially the hippocampus, which is important in learning and memory ability, remains unexplored.

Methods: Forty-eight Sprague-Dawley rats comprised of twenty-four male and twenty-four female rats were used in this study. The rats were equally divided into four groups (n = 6) for each gender; control group, rats treated with 1000 mg/kg, 3000 mg/kg, and 5000 mg/kg bwt of Miraculous Oil™. All treatment was administered orally once daily for 28 days. The physical changes of rats including water and food intake, body weight, and organ weight were examined. Subsequently, the behavioural changes of rats were observed through a Y-maze behavioural test. The histological changes in the hippocampus were then observed by haematoxylin-eosin (H&E) staining.

Results: The result showed that the supplementation of Miraculous Oil™ for four weeks increased the relative brain weight and improved cognitive performance. A significant increase in body weight was only observed in male rats. Histological assessment revealed for the first time that all treated groups showed a normal and healthy pyramidal cell, particularly in CA1 regions.

Conclusion: These results accentuate that daily intake of Miraculous Oil™ up to 5000 mg/kg bwt is safe for the brain and has higher potential as a new neuroprotective agent.

Keywords: Miraculous Oil™, hippocampus, cognitive performance, neuroprotective, pyramidal cells

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