

UNIVERSITI TEKNOLOGI MARA

**TEST OF MEMORY-ENHANCING CHOCOLATE
IN SWISS MICE BY USING RADIAL ARM MAZE**

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Dissertation submitted in partial fulfillment of the requirements for the
Bachelor of Pharmacy (Hons.)

Faculty of Pharmacy

2013

ACKNOWLEDGEMENTS

First of all, praise to Almighty Allah S.W.T because give me strength and patience to complete this thesis project as a partial fulfillment of the subject Research I and II (PHC 566 and PHC 567). Besides, this thesis cannot be completed without the support of others as well. Thanks to my supportive supervisor Mr. Richard Muhammad Johari James, who had supervised me, give me suggestion and read my numerous revisions and helped to put the puzzle pieces together. His opinions and guidance are very much appreciated.

Special thanks go to people who had helped me in completion of this thesis especially my lab mate, Nur Farhah Hafizah binti Ab Hamid and fellow housemates for their continual encouragement, help and support throughout the thesis period. I also would like to express my deepest gratitude to all my family members for their love, financial and moral support. I am blessed by their unconditional love which has indeed given me the strength and motivation to stay focused and positive in completing this project. I also want to convey my thanks to friends and other people who have in contributed directly or indirectly to this thesis.

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ABSTRACT

Aging is the process whereby cognitive function starts to decline. This decline gives a bad impact in social and economic aspects and cause memory loss problem. Dysfunction of neurons in the brain will lead to the declining of cognitive observed in elderly people and those who suffered from Alzheimer's disease (AD). There are many methods and products introduced in the market in order to overcome the problem of memory loss. Since there are still not many studies done on the beneficial effect of chocolate in enhancing memory, the purpose of this study is to test memory-enhancing chocolate available in the market by using radial arm maze (RAM) model in mice. Mice subjects (n=5) were administered orally with memory-enhancing chocolate (dosage of 200 mg/kg and 400 mg/kg), piracetam 200 mg/kg as positive control and normal saline as negative control for 14 days prior to RAM experiment for three days. The results of this study showed an improvement in mice of piracetam group as they learn and store the information as memory. In addition, only piracetam are significantly different from the memory-enhancing chocolate and negative control. This is further supported by previous study that found piracetam is a nootropics drug that exhibits neuroprotective properties.

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Spatial memory can be related to how the brain stores information about location of physical objects. It is extremely important for many species' survival, including humans because it allows people to find their way in a familiar city, it allows a rat to learn the food's location in a maze, and it allows cats to find their food bowl in the kitchen (Holwerda, 2007).

People nowadays use their brains much differently than people in previous generations. The declining rate of use of human brain can be assumed due to the advancement in technology. There are pros and cons in the technological advance. Since people are using a lot of advance technology in their daily life, they use their brain lesser as compared to those who lived in the old days. They become less skilled to concentrate on a particular point for a long time. Thus, makes them difficult to solve more complex problems (Greenfield, 2009). They did not enhance their brain to work. This cause the neurons become less connected within each other and their brain become less active.