Title of Project: Effect of a Standardised Herbal Formulation on Age-related Memory and Cognitive Decline in Mice

(FOR Code/s): 1104

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Location of Project: Campbelltown

Project Background

Aging increases vulnerability to health problems such as cognitive decline, which can negatively impact on both an individual’s quality of life as well as the economic profile of countries worldwide. Age-related cognitive decline is associated with mild cognitive impairment (MCI), a heterogeneous disorder affecting people’s attention, memory and other cognitive capacity. If unchecked, MCI patients can progress to dementia and other systemic diseases such as depression. In Australia, there will be 1.13 million dementia patients and the total associated cost to the Australian health system may exceed 3% of GDP by 2050.¹

SLT (previously known as WNK) is a standardised herbal formulation designed for the treatment of vascular dementia and mixed dementia (Alzheimer’s disease + vascular dementia). A series of pharmacological studies have demonstrated that the herbal formulation significant improved learning and memory functions, pathogenic biochemical parameters in blood and brain tissue, and antioxidant capacity in various experimental dementia models.²⁻⁶ This current study will further expand our knowledge on the use of SLT to prevent/slow down age related cognitive decline.

Aim of Study:

This study aims to evaluate the effects of SLT and its individual components on memory and cognitive function in aging mouse model.

Methods:

Behavioural models in rodent are useful tools in the investigation of changes in memory and neurocognition associated with aging and neurodegenerative disease such as dementia. In the current study, the following behaviour tests will be undertaken to evaluate effects of SLT on learning, memory and neurocognitive function in aged mice:

- Novel object recognition test: This test is used to evaluate cognition, particularly recognition memory, in rodent models of CNS disorders and/or CNS aging
- Y maze spontaneous alternation test: This is a behavioural test for measuring spatial memory of rodents in order to explore new environments
- Open field/activity test: This test measures hyperactivity, exploratory activity, stereotyped rotation, anxiety and memory for context

Ethics Application Requirements:

Animal ethics approval will be sought before the commencement of the project

Key References:


