



Illinois Wesleyan University
Digital Commons @ IWU

John Wesley Powell Student Research
Conference

1997, 8th Annual JWP Conference

Apr 12th, 1:30 PM - 2:30 PM

The Effects of Multiple Injections of Beta-Amyloid (25-35) into the Medial Septal Area on Spatial Learning in the Male Rat

James Bedrosian
Illinois Wesleyan University

Wayne Dornan, Faculty Advisor
Illinois Wesleyan University

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>

Bedrosian, James and Dornan, Faculty Advisor, Wayne, "The Effects of Multiple Injections of Beta-Amyloid (25-35) into the Medial Septal Area on Spatial Learning in the Male Rat" (1997). *John Wesley Powell Student Research Conference*. 28.
<https://digitalcommons.iwu.edu/jwprc/1997/posters/28>

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Poster Presentation 20

**THE EFFECTS OF MULTIPLE INJECTIONS OF
BETA-AMYLOID (25-35) INTO THE MEDIAL SEPTAL AREA ON
SPATIAL LEARNING IN THE MALE RAT**

James Bedrosian and Wayne Dornan*, Department of Psychology, IWU

Alzheimer's disease is a progressive, irreversible neurological disorder that has a profound effect on memory and personality. Alzheimer's disease currently afflicts over four million people in the United States, with roughly 100,000 new cases reported every year. The pathological hallmarks of Alzheimer's disease are the presence of neuritic plaques and the neurofibrillary tangles which are accompanied by the progressive deterioration of the cortex and septo-hippocampal pathway (brain areas involved in learning and memory function). Currently there is no effective treatment for the disease. While significant progress has been made toward an understanding of the etiology of Alzheimer's disease, development of effective drug therapies is hindered by the lack of a reliable animal model that mimics both the pathological and behavioral changes that characterize the disease. Accumulating evidence suggests that the major constituent of neuritic plaques, a Beta-Amyloid protein comprise of 39-42 amino acids, possesses neurotoxic properties. Conflicting evidence exists in the literature on the behavioral effects of different Beta-Amyloid fragments on learning and memory following injections into the brain areas afflicted in Alzheimer's disease. It was the goal of this study to expand on previous findings on the role of Beta-Amyloid on spatial learning in order to aid in the development of a viable animal model of this debilitating disease. In this study male rats received three injections of Beta-Amyloid (25-35) fragment into different depths of the Medial Septal Area. Spatial learning was then assessed using the Morris Water Maze and the Radial-Arm Maze. The results of this study will be presented at the conference.