



Apr 13th, 9:00 AM - 10:30 AM

The Effects of Intracerebral Injections of a Selective Cholinergic Neurotoxin (AF64A) on Spatial Learning in the Male Rate

Mathew Easterday
Illinois Wesleyan University

Denise Ukleja
Illinois Wesleyan University

Wayne Dornan, Faculty Advisor
Illinois Wesleyan University

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

Easterday, Mathew; Ukleja, Denise; and Dornan, Faculty Advisor, Wayne, "The Effects of Intracerebral Injections of a Selective Cholinergic Neurotoxin (AF64A) on Spatial Learning in the Male Rate" (1996). *John Wesley Powell Student Research Conference*. 39.
<https://digitalcommons.iwu.edu/jwprc/1996/posters/39>

This 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 23

THE EFFECTS OF INTRACEREBRAL INJECTIONS OF A
SELECTIVE CHOLINERGIC NEUROTOXIN (AF64A) ON SPATIAL
LEARNING IN THE MALE RAT

Mathew Easterday, Denise Ukleja, and Wayne Dornan*,
Department of Psychology, IWU

Alzheimer's Disease (AD) is essentially caused by a massive degeneration in specific areas of the brain, most notably the hippocampus and cerebral cortex. Another characteristic of AD is the reduced production of the neurotransmitter acetylcholine. This has led to the hypothesis that the cognitive deficits associated with AD are the result of a cholinergic deficiency. One way to test this hypothesis is with the use of specific cholinergic neurotoxins. AF64A, a selective neurotoxin has been used to produce an animal model of AD. In this study, we focused on the effects of intraventricular injections of three different doses of AF64A on Morris water maze performance using a variety of spatial learning tasks in male rats. Our results reveal a dose-dependent effect of AF64A on spatial learning compared to controls. These data provide support for a cholinergic dysfunction associated with AD and further suggest that the use of AF64A, which selectively targets the cholinergic septohippocampal pathway, may provide a viable approach to study the neuropathological mechanisms of AD.