

COVER SHEET

TITLE: A Role for FoxQ-1 in Memory and Learning

AUTHOR'S NAME: Carlos Rodrigo Gil del Alcazar

MAJOR: Genetics, Biochemistry

DEPARTMENT: Genetics, Biochemistry

MENTOR: Corinna Burger

DEPARTMENT: Neurology

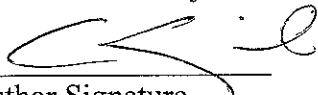
YEAR: 2010

ABSTRACT

A Role for FoxQ-1 in Memory and Learning

Using a genome-wide screen, genes that were differentially expressed between aged rats that were able to learn a spatial task (aged superior learners: SL), and learning-impaired rats (AI) were identified in the CA1 region of the hippocampus. One of the genes identified in the screen was the transcription factor Forkhead box Q-1 (FoxQ-1). In order to validate the role of FoxQ-1 as a cognition gene, we set to overexpress this gene in the hippocampus of mice using viral gene delivery. We have performed behavioral tests in two cohorts to determine their functional phenotype. Using this group of animals we have found significant differences in the spatial memory performance when compared to controls pointing to a role of FoxQ-1 in cognition.

Carlos Gil del Alcazar, Genetics/Biochemistry
Author Name/Major



Author Signature

04/03/10
Date

Corinna Burger, Neurology
Mentor Name/Department



Mentor Signature