Role of Myelin Basic Protein in the Working Memory

Maria Rangel
Biological Sciences, UC Davis
Sierra Webb
Dr. Karen Szumlinski
Department of Psychological and Brain Sciences
UCLEADS, UCSB
August 28, 2013
Societal Applications

• Human cocaine addicts
  • ↓ Myelin Basic Protein
  • ↓ Working memory

• Behavioral Consequences
The Approach

Virus $\rightarrow$ Rats $\rightarrow$ Waiting Period $\rightarrow$ Training $\rightarrow$ Tests

$\sim$ 30 days
Materials & Subjects

- Subjects: Sprague Dawley adult male rats
- Open Field Box
- Objects: almond and lemon extract
Novel Object Test Overview

Novel Object- Familiarization

Novel Object- Exploration
Object in Place Test Overview

Object in Place - Familiarization

Object in Place - Exploration
Working-Memory Measurement
Recognition Index

Novel Object Recognition Index
- Novel Object Time
- Total Time

Object in Place Recognition Index
- Object in Place Time
- Total Time
Results Indicating: No significant differences between treatments.
Work in Progress
Example- Forced Trial
Example- Choice Trial
Future Direction

- Marble Burying Test
- Porsolt Swim Test
- Light/Dark Box Task
- Delay Discounting Test
Acknowledgements

UCSB UCLEADS
-Arica Lubin
-Maria Napoli
-Kevin Moore

Szumlinski Lab Group
-Karen Szumlinski
-Sierra Webb

Funding provided by NIDA grant DA024038 to KKS
Thank You!