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UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

Annual Report of Research Facility
Column E Explanation

(TYPE OR PRINT)

This information is required by law (7 U.S.C. 2143 and 9 C.F.R. §2.36). Failure to report according to the regulations can result in an order to cease and desist.

1. REGISTRATION NUMBER

92-V-0001

2. Research Facility Headquarters address

VA Portland Health Care System
3710 SW US Veterans Hospital Road
Mailcode: R&D36
Portland, Oregon 97239

3. Number of animals used in the study.

145 (145 of 461) on APHIS form 7023

4. Species (common name) of animals used in the study.

Prairie vole

5. Explain the procedure producing pain and distress.

Sleep fragmentation

6. Provide the scientific justification for not providing the appropriate anesthetics, analgesics, or tranquilizing drugs during procedures where the animal experienced accompanying pain or distress greater than momentary or slight.

In summary, pain and distress are not resolved because sleep disruption is necessary to create the neuropathology of autism. Because this is a disease model and because sleep disruption may cause pain or distress, the IACUC designated this as Category E. Any intervention that may allow sleep would interfere with the neuropathology of autism model in the Prairie vole. The animals are closely monitored and specific interventions for removal from the study are delineated in the protocol. Further specifics are described in the subsequent paragraph.

Vole pups will be used due to their similarities with human social development. *(continued on next page)*

7. What, if any, Federal regulations require this procedure? Cite the agency, the Code of Federal Regulations (CFR) title number, and the specific section number (e.g., APHIS, 9 CFR 113, 102):

Agency	**CFR**
N/A	

VA Portland Health Care System

Category E Explanation

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This sleep fragmentation procedure is intended to replicate behavioral and neurological features of autism spectrum disorder as a result of disrupted sleep during development. The only way to test experimentally the role of sleep is the developing brain is to manipulate sleep during development. Chronic sleep deprivation and sleep fragmentation methods may cause pain or distress. Previously published studies and data from our own lab suggest there is no significant weight loss in either the pups or the parents and there are no significant increases in serum corticosterone, a biomarker of acute stress. Furthermore, published data from our lab shows that there are no significant differences in parental behavior of the parents towards the pups during chronic sleep fragmentation.
However, this procedure is classified as Category E because we intend to use it as a disease model in this species. Animals will be closely monitored daily during this procedure for normal eating, drinking, ambulation, and grooming behaviors. Any animals that do not appear to be eating, drinking, ambulating or grooming sufficiently will be removed from the study and appropriately treated with VMO consultation (i.e., provided supportive care with softened foods, hydration, euthanasia as indicated).