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**Standard Operating Procedure  
Center for Systems Neurogenetics of Addiction  
(CSNA)**

**Housing Procedure (HP v1.0)  
Effective date 5/1/2017**

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**Housing Procedure**

<b>Area:</b>	JAX-CSNA-BPC
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<b>Signatures:</b>	
Author	<p>I indicate that I have authored or updated this SOP according to applicable business requirements and our company procedure: Preparing and Updating Standard Operating Procedures.</p> <p>Name: _____ Ashley Olson _____</p> <p>Signature: _____</p> <p>Date: _____ 5/1/2017 _____</p>
Approver	<p>I indicate that I have reviewed this SOP, and find it meets all applicable business requirements and that it reflects the procedure described. I approve it for use.</p> <p>Name: _____ Leona H. Gagonon _____</p> <p>Signature: _____</p> <p>Date: Reviewed 1/1/2019</p>

**Housing Procedure**

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**1. PURPOSE**

This SOP addresses the routine procedures the housing of the mice used in the CSNA.

**2. SCOPE**

The SOP applies to laboratories within the JAX CSNA Behavioral Phenotyping Core.

**3. RESPONSIBILITIES**

3.1. Laboratory Staff

3.1.1. Remain up to date in training with this SOP

3.1.2. Comply with this SOP

3.2. Principal Investigator/Technical Manager of CSNA

3.2.1. Ensures that all personnel involved running this SOP are trained to comply with this SOP

## 4. GLOSSARY/DEFINITIONS

### 4.1. Definitions

<b>Item</b>	<b>Definition</b>
<b>Subject</b>	For the purpose of this protocol, is any mouse intended for use in research or research training.
<b>Clinical Laboratory Animal Medicine (CLAM)</b>	The Jackson Laboratory's service for which the reporting and treatment of injury and sickness is performed.
<b>Animal Care Technicians</b>	Jackson Laboratory technicians who monitor and care for the subjects by performing welfare checks and cage changes.
<b>Research Assistants (RA)</b>	CSNA research assistants who execute tests and track test subjects.
<b>Colony</b>	The mating pairs and pups that are maintained in the animal room and are intended for future testing.
<b>Ear Notch</b>	An animal identification system that utilizes notches that are made in the ear of the subject.
<b>Alpha-Dri</b>	Additive bedding used to keep the cage dry made from alpha cellulose (SSP).
<b>Nestlet®</b>	A 2x2" nesting square made of cotton fibers that are added into a cage for enrichment.
<b>Shepherd Shack®</b>	Environmental enrichment housing made from "publisher-grade paper" (SSP).
<b>Bedding</b>	Material comprised of shavings that fills the bottom of the cage as bedding material for the subject

## 5. MATERIALS

### 5.1 Instrumentation

5.1.1. Clear Acrylic Duplex Boxes: Individual housing units for mice. Duplex II Mouse Cage, Thoren Caging Systems, Inc., Hazleton, Pennsylvania

5.1.2. Metal Wire Lids: Wire box lids with food hopper and water bottle holder.

5.1.3. Filter Lids: A protective cover fitted on all cages.

5.1.4. Water Bottles: Water bottles that fit inside the water bottle holder in the metal wire lids.

5.1.5 Forceps: Metal tongs used to handle all mouse transfers.

### 5.2. Consumables

5.2.1. Lab Diet: 6% fat content lab diet feed. LabDiet Specially Formulated Autoclavable Laboratory Animal Diet, PMI Nutrition International, LLC; Brentwood, MO

5.2.2. Water: Clean acidified water (pH 2.5-3.0 to prevent infection by *Pseudomonas* species); changed weekly.

5.2.3. Enrichment: Nestlet (Ancare Corp, Mellmore NY.) and Shepherd Dome Shack (Animal Specialties and Provisions, LLC Quakertown, PA)

5.1.6. Spor-Klenz: Spor-Klenz working solution (1 part Spor-Klenz Steris Life Science Concentrate to 32 parts water) used to sterilize forceps between animals. Working solution prepared in the acid mixing room on the JAX Bar Harbor campus.

## 6. PROCEDURE

### 6.1. Subjects

#### 6.1.1. Species. Mice

6.1.1.1. Study specific animals (e.g, strain, sex, date of birth) ordered and documented

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6.1.1.2. Receipt of animals logged (e.g., date of arrival)

6.1.2. Sex. Males or females

6.2. Housing

6.2.1. Group Housing.

6.2.1.1. Siblings. Same sex siblings can be co-housed with a combined body weight of up to 15g per side of duplex cage at 3-5 weeks of age. Every subject is given an identifying number once they are of wean age. Wean age is 3-4 weeks of age, dependent of strain.

6.2.1.2. Mating. One mating pair per side of duplex can be housed with their pups until weaning age. Maximum of 12 mice if pups are 2 weeks of age or under. If there are more than 12 mice, then the mating and litter must be transferred to a larger single unit acrylic box (no more than 20 mice).

6.2.2. Individual Housing.

6.2.2.1. Subjects are individually housed starting at 6 weeks of age with a minimum of 5 days prior to testing.

6.2.2.2. Subjects are distinguished by their identifying number and a corresponding ear punch will be marked at the time of individual housing. A simple 1-10 method of ear notching is used and is described as follows:

Any Number Ending in:	Ear Notch:
1 or 6	One notch on the right ear
2 or 7	One notch on the left ear
3 or 8	One notch on each ear
4 or 9	Two notches on the left ear
5 or 0	Two notches on the right ear

6.2.3. Clean housing is provided through a cage change once a week. If this falls on a testing day, then a new clean cage will be prepared, and post test the mice will be housed into their new clean cage.

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6.2.3.1. Mice are transferred to clean duplex boxes via forceps

6.2.3.2. Water bottle is replaced with a clean one

6.2.3.3. Food hopper is re-filled to the top of the hopper

6.2.3.4. Enrichment is replaced with new enrichment as needed

6.2.4. Subjects are maintained on wood chip bedding

6.2.5. Diet. Subjects are given ad lib access to 6% fat content diet

6.2.6. Enrichment. Cages are provided with a Nestlet® and Shepherd Shack® as standard enrichment.

### 6.3. Daily Procedures

6.3.1. Welfare Checks are performed by Animal Care Technicians to ensure the health and wellbeing of the subjects.

6.3.2. Wet Box.

6.3.2.1. Water bottle: If a water bottle is leaking and causes a wet box, mice are re-housed in a clean duplex with a new water bottle. The leaky water bottle is marked with "Leak bottle", mouse status, section the bottle was in, date, and initials.

6.3.2.2. Diabetic Mouse: If a mouse is diabetic, the box should be tagged with a "*diabetic*" tag to be observed. Alpha-Dri is added as needed to dry the box. Water bottle is changed with a new one as needed.

### 6.4. Weekly Procedures

6.4.1. Cage Change. Cage changes are performed by Animal Care Technicians unless there is testing on the same day as a scheduled cage change, in which case the Research Assistant responsible for the test for the day will perform the cage change at the conclusion of testing.

6.4.2. Colony Management.

6.4.2.1. Mating. Mating pairs are made through sibling mating at 8-16 weeks of age. Each mating pair is housed in one half of a duplex.

6.4.2.2. Monitoring. The mating pairs are monitored to determine the date of birth of pups that are born. Boxes are monitored daily and box changes performed weekly to get date of birth as accurate as possible.

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6.4.2.3. Weaning. Pups are weaned at 3-4 weeks of age (dependent on strain) and co-housed with their same sex siblings.

### 6.5. Sick Mouse Reporting and Treatment

6.5.1. If a mouse is noted as sick by a RA or an animal care technician, both CLAM and a CSNA supervisor are contacted. A mouse should not receive different treatment than other subjects in a study, therefore most sick mice will be euthanized.

### 6.6. Exceptions Under CSNA Protocols

#### 6.6.1. Feeding Exception for Reversal Learning

6.6.1.1. Food Restriction. Subjects are food restricted to 90-80% of their original body weight to keep them motivated in the Reversal Learning Assay. Food is provided to them in rations measured out by RAs daily. (Refer to CSNA Reversal Learning Assay SOP for more details).

#### 6.6.2. Enrichment Exception for Intravenous Self-Administration

6.6.2.1. IVSA Enrichment. Subjects are given only a Nestlet® as enrichment post-surgery in IVSA to avoid any potential damage to the subject or their catheter port that other enrichment may cause. (Refer to CSNA Intravenous self-administration (IVSA) paradigm SOP for more details).