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

**Cocaine Locomotor Sensitization Assay
(Sens v1.0)**

Area: G3 CSNA	JAX-CSNA-BPC
----------------------	--------------

Controls:	
Superseded Document	N/A, New
Reason for Revision	N/A
Major or Minor changes	N/A, New
Effective Date	May 1, 2017

Signatures:	
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 _____ Signature: _____ 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 Gagnon _____ Signature: _____ Date: _____ reviewed 1/1/2019 _____</p>

1. PURPOSE

This SOP addresses the routine procedures used for conducting cocaine locomotor sensitization in mice, including methods for analysis of data, and quality monitoring procedures.

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/Core Manager of JAX-CSNA-BPC

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

4. GLOSSARY/DEFINITIONS

4.1. Definitions

Item	Definition
Arena Grid	The arena uses a 16x16 grid of infrared beams to measure the locomotor activity of an animal. Each 1x1 square within the grid is equivalent to 1 square inch (2.54cm).
Ambulatory Distance	The total number of centimeters (cm) traveled in the arena throughout the duration of the test as defined by the instrument.
Time Spent at Center	The total time (seconds) spent in the center portion of the open field arena. This area is defined as the center 10x10 square matrix. Increases in center time may be indicative of anxiolytic-like activity.

Time in perimeter zones	Time spent (seconds) by the animal in proximity to the walls of the arena. This area is defined as the exterior 3x16 and 16x3 matrices for the left right bottom and top regions.
Resting Time	The length of time (seconds) that the subject spent at rest. A resting period is defined as a period of inactivity greater than or equal to 1 second.
Vertical Activity	The total number of vertical beam breaks.
Time Bin (Sample Duration)	The duration (seconds) for each timepoint in which data is analyzed. In the current protocol, time bins are set at 300 seconds (5 minutes).
Total duration of experiment (sec)	The duration of the experiment (sec). In the current protocol the duration of the experiment is 3600 sec (60 minutes).
Zone Top Left Corner	The upper left corner 3x3 matrix of the arena floor.
Zone Top Right Corner	The upper right corner 3x3 matrix of the arena floor.
Zone Top Perimeter	The upper perimeter 3x10 matrix of the arena between the Zone Top Left Corner and Zone Top Right Corner.
Zone Right Perimeter	The right perimeter 3x10 matrix of the arena floor between the Zone Bottom Right Corner and Zone Top Right Corner.
Zone Bottom Right Corner	The lower right corner 3x3 matrix of the arena floor.
Zone Bottom Left Corner	The lower left corner 3x3 matrix of the arena floor.
Zone Bottom Perimeter	The upper perimeter 3x10 matrix of the arena floor between the Zone Bottom Left Corner and Zone Bottom Right Corner.
Zone Left Perimeter	The right perimeter 3x10 matrix of the arena floor between the Zone Bottom Left Corner and Zone Top Left Corner.

4.2. Procedure Inputs

Procedure Name	Variable	Type	comment
Sensitization	Protocol	Input	protocol version
Sensitization	Group	Input	Subject Group
Sensitization	Subject	Input	Subject ID
Sensitization	Experimenter	Input	ExperimenterID
Sensitization	Session Number	Input	Session Number
Sensitization	Session ID	Input	Session ID
Sensitization	Start Time	Input	Start date and time
Sensitization	Session Duration	Input	Session duration
Sensitization	Session Comment	Input	Comments
Sensitization	Hole Board Installed	Input	Presence or absence of holeboard
Sensitization	Time Bin Interval	Input	Time bin interval
Sensitization	Number of Time Bins	Input	Total numer of bins
Sensitization	Chamber	Input	Chamber ID
Sensitization	SoftwareVersion	Input	Software verion

4.3. Procedure Outputs

Please see section 7

5. MATERIALS

5.1 Instrumentation

5.1.1. Open Field Arena: A square shaped, clear polycarbonate arena (Med-Associates #MED-OFAS-515U) with dimensions 17.5 inches length x 17.5 inches width x 10.0 inches height (44.5 cm x 44.5 cm x 25.4 cm). Removable clear acrylic, aerated lids were custom manufactured and are placed on top of arenas during testing. External to the perimeter of the arena at the level of the floor, on the left and right sides is a pair of horizontal infrared photobeam sensors (16 x 16 beam array). An additional pair of infrared photobeam sensors raised 3 inches

from the arena floor (16 x 16 array) are situated at the front and rear external sides of the arena and used to capture vertical activity.

5.1.2. Environmental Control Chamber: Each arena is placed within a sound attenuated, ventilated cabinet with interior dimensions: 26"W x 20"H x 22"D (Med Associates, #MED-OFA-017); Each cabinet contains two incandescent lights, each affixed in the upper rear two corners of the cabinet at a height of approximately 18.5 inches from the center of the arena floor which provides an illumination of 60 ± 10 lux when measured in the center of arena floor.

5.1.3. Activity Monitor software: 7.0.5.10 SOF-812 (Med Associates, Inc.).

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

5.2. Consumables

5.2.1. 70% ethanol (ETOH) in water solution: used to sanitize the arena between subjects

5.2.2. Virkon Wipes: 1% Virkon (Virkon S Lanxess in water) working solution used to sanitize the arena between test cohorts of mice.

5.2.3. Paper towels

5.2.4. Spor-Klenz: Spor-Klenz working solution (1 part Spor-Klenz Steris Life Science Concentrate to 32 parts water) used to sterilize forceps between animals.

5.2.3. 1.0 mL syringes

5.2.4. Needles (28G)

6. PROCEDURE

6.1. Environment

6.1.1. Procedure Room. The dimensions of the procedure room are approximately 20' 9" x 10' 2". 24 arenas, each placed within its own environmental chamber are double stacked and located on both sides of the room (chambers # 1-24).

6.1.2. Anteroom. An anteroom located adjacent to the procedure room (~ 15 feet) is used to acclimate mice prior to the test as in 6.3 below.

6.1.3. Temperature. The temperature range in the testing room is $71 \pm 3^\circ$ F.

- 6.1.4. Humidity. The humidity range in the procedure room is 50 ± 20 %.
- 6.1.5. Lighting. Room lighting in the testing room is overhead florescent lights with a dimmer switch illuminated to the maximal setting to produce a light level in the testing room of ~ 500 lux. Lighting within the behavioral chambers is provided by two 28 V lamps and measures 14 lux at the testing floor. Light lux levels are validated monthly.
- 6.1.6. Noise. The ambient background noise level in the procedure room is 55-70dB. Fans within the environmental control chambers mask background noise. Audible timers are not used during this test. Noise levels are validated monthly.
- 6.1.7. Visual Cues. No intended visual cues are provided within the testing chambers.
- 6.1.8. Time of day. The test is conducted during the light phase of the circadian cycle; beginning at least 60 min after the lights on and concluding at least 30 min prior to lights off.

6.2. Subjects

6.2.1. Species. Mice

- 6.2.1.1. Study specific animals (e.g, strain, sex, date of birth) ordered or bred and documented.

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

6.2.2. Sex. Males or females

6.2.3. Age. The test is validated for mice 8-12 weeks of age.

6.2.4. Housing. Subjects are individually housed for this test with ad lib access to food and water. (View CSNA Housing SOP for more details.

6.2.5. Husbandry. Cage change occurs once a week and is not performed on the same day as testing. The cages are changed on the same day every week. In the current protocol cages are changed on Fridays of each week. Open field testing is scheduled on Mondays.

6.2.6. Body Weights. Body weights are collected each day that cocaine is administered, and the first (saline) day of testing. Weights are obtained immediately before habituation starts.

6.2.7. Subject Identification. Mice within a cage are marked by ear punches. Ear punches are performed at 6 weeks of age, at the same time that they are individually housed.

6.2.8. Randomization and counterbalancing. Subjects are pre-assigned a test chamber. Every attempt is made to test mixed batches of strains and/or sexes such that each session does not include only animals

from a single strain or sex and counterbalanced across test chambers. A list of subjects IDs, date of test, date of birth, weight, sex, and genotype when available should be prepared prior to testing. Any comments or unexpected observations regarding the session should be noted either generally or in reference to a specific animal, in the run sheet.

6.3. Testing

6.3.1. Mice are tested on 3 consecutive days and then every other day until day 11. There is an additional test day on day 12. The final test is conducted on day 19. Mice receive IP cocaine injections on days 3, 5, 7, 9, 11 and 19. Mice receive IP saline on days 1, 2 and 12.

6.3.2. Acclimation. Subjects are transported from the housing room to the procedure room on a wheeled rack and left undisturbed to acclimate to the anteroom adjacent to the procedure room. Mice are weighed. After the last mouse has been weighed, mice are acclimated for a minimum of 30 minutes. At the conclusion of the acclimation period, the wheeled rack is transported into the procedure room and mice are immediately placed into the chambers as in 6.3.4. below. Enter test day information in the laboratory notebook in the room, as indicated in book.

6.3.2.1. During the time the mice are in the acclimation anteroom, the syringes for that run are prepared based on mouse weight to create a 10mg/kg dose.

6.3.3. Sanitization. Prior to the first mouse placed into any arena, and between subjects, the chamber is thoroughly sanitized with 70% ETOH solution (in water), and the box is wiped dry with clean paper towels.

6.3.4. System Set up.

6.3.4.1. Turn on both Computers, the power to the fans and lights (switches are on the back right of each control unit 6 total), and the Interface Cabinets (Green toggle switch on the front right of the cabinet three total).

6.3.4.2. Activity Monitor Testing. Prior to testing mice, the Activity Monitor settings must be adjusted to run the protocol properly. Click *Activity Monitor* (v7.0.5.10 SOF-812).

6.3.4.2.1. Within Activity Monitor, click *Configure Hardware* under the file tab.

6.3.4.2.2. Click the box next to *Node* so all boxes become checked, Click *Detect*, make sure all boxes say "Yes" under connected column and "Ok" under status column (This is to ensure all boxes are connected correctly and on).

- 6.3.4.2.3. Click *Configure* button.
- 6.3.4.2.4. In the Configure Chambers window, ensure *All Selected Devices* is selected, Type indicates *ENV- 515 -43cm x 43cm*, resolution (ms) is *40*, and Samples Per Second is set to *25*. Make sure the “Hole Board Installed” check box is not checked. Click *Apply* and *Ok*.
- 6.3.4.2.5. Back in ENV-520 Device Properties window select *Test* and make sure the Status for all chambers is “Ok”. Click *Ok* and *Apply*.
- 6.3.4.2.6. Box Check. Prior to any test session, the open field chambers should be tested to confirm that all infrared beams are working properly. In the configure hardware box, click on *Advanced Test*. Click *Start*, make sure that beam breaks start at zero. Then ensure the test indicates that beams are being broken by running a hand along the bottom of each chamber.
- 6.3.4.3. Activity Monitor Setup. Prior to placing the subjects into the arena, the software must be set up.
 - 6.3.4.3.1. Under File select *Open Project*
 - 6.3.4.3.2. In file menu (This PC > Documents) select the project that contains the Sensitization protocol
 - 6.3.4.3.3. In the Project box click *Acquire Data...*
 - 6.3.4.3.4. The Acquire Data window will open. Under Protocol select the protocol that has Sensitization acquisition settings with a duration of 90 minutes with the task floor not in use. Verify the time bins are set at 300 sec time bins.
 - 6.3.4.3.5. The acquisition page should be filled out according to the run sheet, with the subject ID typed into the corresponding chamber of the subject column, the session column will read the date and the number test of the day (EX: YYYYMMDD_Test#), and the testers’ initials entered into the comment column. Then click *Start*.
- 6.3.4.4. Follow the steps 6.3.4.2 – 6.3.4.3. for both computers to have all 24 chambers started for testing.
- 6.3.5. Placement into the arena. At the start of each testing session, subjects are individually placed into the front left corner of the arena, facing the center of the chamber. The lid is then placed atop the arena and the chamber door is closed. The tracking software detects the mouse in the

arena and starts automatically. Load subjects into each chamber in sequential chamber numbering order, with a brief pause between each mouse to allow ample time for dosing (dosing described in following steps). As each subject is loaded, the tester should briefly examine each mouse, health concerns should be noted in the run sheet.

6.3.6. Dosing Procedure. When the session duration on Activity Monitor reaches 30 min the box is paused. The mouse is then restrained and dosed with either 10 mg/kg cocaine solution or 10mg/kg saline administered with an IP injection. The mouse is then loaded back into the front left corner of the arena. The box is immediately resumed in Activity Monitor.

6.3.6.1. Repeat 6.3.6. until all mice have been dosed. If a mouse is dosed +/- 30 sec from the 30 min mark the actual dose time must be marked in the run sheet.

6.3.7. Test Duration. The tracking software automatically ends the tracking for the subject 90 minutes after the mouse was initially detected by the software. The environmental chambers are not opened and the subject is not removed from any arena until testing concludes for all arenas in that session.

6.3.8. At the conclusion of the session, the test chamber is opened and subjects are returned to their respective home cages. Arenas are sanitized as described above. Mice are transported back to their housing room. The next set of subjects are not placed into the arenas until all the arenas have been sanitized.

6.3.9. Repeat 6.3.1 through 6.3.6 for subsequent groups of mice.

6.3.10. At the conclusion of all testing for the day, the subjects are returned to the housing room and the arenas are sanitized with Virkon followed by 70% ETOH to remove any Virkon residue.

6.4. Data Analysis and QC

6.4.1. Export. Data are exported from the behavioral tracking software into an excel file.

6.4.1.1. Select "Analyze Data" under the Novelty Tests Project page.

6.4.1.2. Select OpenField under the Analysis, Zones, and Protocol.

6.4.1.3. Select the Group names that was used to indicate the groups that need to be analyzed.

6.4.1.4. When the data is finished being analyzed, select spreadsheet and excel from the drop down menus above

the displayed data. Then click “Open” to open the Excel (CSV) file. Save this file with the name format “Test_CU#_yearmonthday.csv” (Sensitization_CU1_20181119.csv).

6.4.2. Data Review. Data is reviewed as generated for technical issues (e.g. malfunctioning equipment), verification of subject IDs tested, and any other aberrations which are then flagged for QC review. Observed aberrations are noted on the run sheet.

6.4.3. Data Upload. Data uploads are verified and performed as described in the CSNA Data QC and Upload SOP.

6.4.4. Resulted analyzed

6.4.4.1. Data are analyzed over time bins as total distance traveled (cm), perimeter time, center time, and related AUC (as defined in the glossary 4.0 above).

6.4.4.2. Data is archived in several locations at minimum: 1) files are preserved on the testing computer; 2) files are saved on the Acronis external hard drive 3) files are saved on a share drive for LIMs QC and upload.

7. Variables

7.1. Derived variables : Variables that are derived based on formulae use raw m/ generated variables (7.2). These calculations happen during the upload of data from jaxLIMS into the Mouse Phenome Database. Variables in MPD are stored by mouse population used in the study (in: Inbred, cc:Collaborative Cross, do: Diversity Outbred)

CSNA Variable	MPD Variable Name(s)	Description	Units	Upload to MPD	Required for analysis	Required for QC
D03_D02	dist_d3_d2_cocaine_in dist_d3_d2_cocaine_cc dist_d3_d2_cocaine_do	Distance traveled on Day 3 of sensitization procedure after 1 st exposure to cocaine	cm	Yes	Yes	Yes
D05_D03	dist_d5_d3_cocaine_in dist_d5_d3_cocaine_cc dist_d5_d3_cocaine_do	Day 5 minus Day 3 Distance	cm	Yes	Yes	Yes
AUC	auc_cocaine_in auc_cocaine_cc auc_cocaine_do	AUC using trapezium method	na	Yes	Yes	Yes
D12_D02	dist_d12_d2_cocaine_in dist_d12_d2_cocaine_cc dist_d12_d2_cocaine_do	Day 12 minus Day 2 Distance	cm	Yes	Yes	Yes
D19_D11	dist_d19_d11_cocaine_in dist_d19_d11_cocaine_cc dist_d19_d11_cocaine_do	Day 19 minus Day 11 Distance	cm	Yes	Yes	Yes

7.2. Raw m/c output : The following variables are identified per bin (5 minute time bin) over 18 bins.

Variables	Description	Units	Upload to MPD	Required for analysis	Required for QC
Ambulatory.Time.Bin.1.Zone.Bottom.Left.Corner	Open field total time spent traveling 0-5 min Zone Bottom Left Corner	sec	No	No	Yes

Ambulatory.Time.Bin.1.Zone.Bottom.Perimeter	Open field total time spent traveling 0 -5 min Zone Bottom Perimeter	sec	No	No	Yes
Ambulatory.Time.Bin.1.Zone.Bottom.Right.Corner	Open field total time spent traveling 0 -5 min Zone Bottom Right Corner	sec	No	No	Yes
Ambulatory.Time.Bin.1.Zone.Center	Open field total time spent traveling 0 -5 min Zone Center	sec	No	No	Yes
Ambulatory.Time.Bin.1.Zone.Left.Perimeter	Open field total time spent traveling 0 -5 min Zone Left Perimeter	sec	No	No	Yes
Ambulatory.Time.Bin.1.Zone.Right.Perimeter	Open field total time spent traveling 0 -5 min Zone Right Perimeter	sec	No	No	Yes

Ambulatory.Time.Bin.1.Zone.Top.Left.Corne r	Open field total time spent traveling 0 -5 min Zone Top Left Corner	sec	No	No	Yes
Ambulatory.Time.Bin.1.Zone.Top.Perimeter	Open field total time spent traveling 0 -5 min Zone Top Perimeter	sec	No	No	Yes
Ambulatory.Time.Bin.1.Zone.Top.Right.Corn er	Open field total time spent traveling 0 -5 min Zone Top Right Corner	sec	No	No	Yes
Ambulatory.Time.Bin.1	Open field total time spent traveling 0 -5 min	sec	No	No	Yes
Ambulatory.Counts.Bin.1.Zone.Bottom.Left. Corner	Open field total number of beam breaks 0-5 min Zone Bottom Left Corner	coun ts	No	No	Yes

Cocaine Locomotor Sensitization Assay

Ambulatory.Counts.Bin.1.Zone.Bottom.Perimeter	Open field total number of beam breaks 0-5 min Zone Bottom Perimeter	counts	No	No	Yes
Ambulatory.Counts.Bin.1.Zone.Bottom.Right.Corner	Open field total number of beam breaks 0-5 min Zone Bottom Right Corner	counts	No	No	Yes
Ambulatory.Counts.Bin.1.Zone.Center	Open field total number of beam breaks 0-5 min Zone Center	counts	No	No	Yes
Ambulatory.Counts.Bin.1.Zone.Left.Perimeter	Open field total number of beam breaks 0-5 min Zone Left Perimeter	counts	No	No	Yes

Cocaine Locomotor Sensitization Assay

Ambulatory.Counts.Bin.1.Zone.Right.Perimeter	Open field total number of beam breaks 0-5 min Zone Right Perimeter	counts	No	No	Yes
Ambulatory.Counts.Bin.1.Zone.Top.Left.Corner	Open field total number of beam breaks 0-5 min Zone Top Left Corner	counts	No	No	Yes
Ambulatory.Counts.Bin.1.Zone.Top.Perimeter	Open field total number of beam breaks 0-5 min Zone Top Perimeter	counts	No	No	Yes
Ambulatory.Counts.Bin.1.Zone.Top.Right.Corner	Open field total number of beam breaks 0-5 min Zone Top Right Corner	counts	No	No	Yes

Cocaine Locomotor Sensitization Assay

Ambulatory.Counts.Bin.1	Open field total number of beam breaks 0-5 min	counts	No	No	Yes
Ambulatory.Distance.Bin.1.Zone.Bottom.Left.Corner	Open field total distance traveled 0 -5 min Zone Bottom Left Corner	cm	No	No	Yes
Ambulatory.Distance.Bin.1.Zone.Bottom.Perimeter	Open field total distance traveled 0 -5 min Zone Bottom Perimeter	cm	No	No	Yes
Ambulatory.Distance.Bin.1.Zone.Bottom.Right.Corner	Open field total distance traveled 0 -5 min Zone Bottom Right Corner	cm	No	No	Yes
Ambulatory.Distance.Bin.1.Zone.Center	Open field total distance traveled 0 -5 min Zone Center	cm	No	No	Yes

Ambulatory.Distance.Bin.1.Zone.Left.Perimeter	Open field total distance traveled 0 -5 min Zone Left Perimeter	cm	No	No	Yes
Ambulatory.Distance.Bin.1.Zone.Right.Perimeter	Open field total distance traveled 0 -5 min Zone Right Perimeter	cm	No	No	Yes
Ambulatory.Distance.Bin.1.Zone.Top.Left.Corner	Open field total distance traveled 0 -5 min Zone Top Left Corner	cm	No	No	Yes
Ambulatory.Distance.Bin.1.Zone.Top.Perimeter	Open field total distance traveled 0 -5 min Zone Top Perimeter	cm	No	No	Yes
Ambulatory.Distance.Bin.1.Zone.Top.Right.Corner	Open field total distance traveled 0 -5 min Zone Top Right Corner	cm	No	No	Yes

Ambulatory.Distance.Bin.1	Open field total distance traveled 0-5 min	cm	No	No	Yes
Ambulatory.Episodes.Bin.1	Open field total number of beam breaks before coming to rest 0-5 min	counts	No	No	Yes
Ambulatory.Episodes.Average.Speed.Bin.1	Open field total number of beam breaks before coming to rest Average Speed 0-5 min	counts	No	No	Yes
Stereotypic.Time.Bin.1.Zone.Bottom.Left.Corner	Open field total time spent in stereotypic behaviors 0-5 min Zone Bottom Left Corner	sec	No	No	Yes

Stereotypic.Time.Bin.1.Zone.Bottom.Perimeter	Open field total time spent in stereotypic behaviors 0-5 min Zone Bottom Perimeter	sec	No	No	Yes
Stereotypic.Time.Bin.1.Zone.Bottom.Right.Corner	Open field total time spent in stereotypic behaviors 0-5 min Zone Bottom Right Corner	sec	No	No	Yes
Stereotypic.Time.Bin.1.Zone.Center	Open field total time spent in stereotypic behaviors 0-5 min Zone Center	sec	No	No	Yes
Stereotypic.Time.Bin.1.Zone.Left.Perimeter	Open field total time spent in stereotypic behaviors 0-5 min Zone Left Perimeter	sec	No	No	Yes

Stereotypic.Time.Bin.1.Zone.Right.Perimeter	Open field total time spent in stereotypic behaviors 0-5 min Zone Right Perimeter	sec	No	No	Yes
Stereotypic.Time.Bin.1.Zone.Top.Left.Corner	Open field total time spent in stereotypic behaviors 0-5 min Zone Top Left Corner	sec	No	No	Yes
Stereotypic.Time.Bin.1.Zone.Top.Perimeter	Open field total time spent in stereotypic behaviors 0-5 min Zone Top Perimeter	sec	No	No	Yes
Stereotypic.Time.Bin.1.Zone.Top.Right.Corner	Open field total time spent in stereotypic behaviors 0-5 min Zone Top Right Corner	sec	No	No	Yes

Stereotypic.Time.Bin.1	Open field total time spent in stereotypic behaviors 0-5 min	sec	No	No	Yes
Stereotypic.Counts.Bin.1.Zone.Bottom.Left. Corner	Open field total number of stereotypic behaviors 0-5 min Zone Bottom Left Corner	coun ts	No	No	Yes
Stereotypic.Counts.Bin.1.Zone.Bottom.Peri meter	Open field total number of stereotypic behaviors 0-5 min Zone Bottom Perimeter	coun ts	No	No	Yes
Stereotypic.Counts.Bin.1.Zone.Bottom.Right .Corner	Open field total number of stereotypic behaviors 0-5 min Zone Bottom Right Corner	coun ts	No	No	Yes

Stereotypic.Counts.Bin.1.Zone.Center	Open field total number of stereotypic behaviors 0-5 min Zone Center	counts	No	No	Yes
Stereotypic.Counts.Bin.1.Zone.Left.Perimeter	Open field total number of stereotypic behaviors 0-5 min Zone Left Perimeter	counts	No	No	Yes
Stereotypic.Counts.Bin.1.Zone.Right.Perimeter	Open field total number of stereotypic behaviors 0-5 min Zone Right Perimeter	counts	No	No	Yes
Stereotypic.Counts.Bin.1.Zone.Top.Left.Corner	Open field total number of stereotypic behaviors 0-5 min Zone Top Left Corner	counts	No	No	Yes

Stereotypic.Counts.Bin.1.Zone.Top.Perimeter	Open field total number of stereotypic behaviors 0-5 min Zone Top Perimeter	counts	No	No	Yes
Stereotypic.Counts.Bin.1.Zone.Top.Right.Corner	Open field total number of stereotypic behaviors 0-5 min Zone Top Right Corner	counts	No	No	Yes
Stereotypic.Counts.Bin.1	Open field total number of stereotypic behaviors 0-5 min	counts	No	No	Yes
Jump.Time.Bin.1.Zone.Bottom.Left.Corner	Open field total time spent jumping 0-5 min Zone Bottom Left Corner	sec	No	No	Yes

Jump.Time.Bin.1.Zone.Bottom.Perimeter	Open field total time spent jumping 0- 5 min Zone Bottom Perimeter	sec	No	No	Yes
Jump.Time.Bin.1.Zone.Bottom.Right.Corner	Open field total time spent jumping 0- 5 min Zone Bottom Right Corner	sec	No	No	Yes
Jump.Time.Bin.1.Zone.Center	Open field total time spent jumping 0- 5 min Zone Center	sec	No	No	Yes
Jump.Time.Bin.1.Zone.Left.Perimeter	Open field total time spent jumping 0- 5 min Zone Left Perimeter	sec	No	No	Yes
Jump.Time.Bin.1.Zone.Right.Perimeter	Open field total time spent jumping 0- 5 min Zone Right Perimeter	sec	No	No	Yes

Cocaine Locomotor Sensitization Assay

Jump.Time.Bin.1.Zone.Top.Left.Corner	Open field total time spent jumping 0- 5 min Zone Top Left Corner	sec	No	No	Yes
Jump.Time.Bin.1.Zone.Top.Perimeter	Open field total time spent jumping 0- 5 min Zone Top Perimeter	sec	No	No	Yes
Jump.Time.Bin.1.Zone.Top.Right.Corner	Open field total time spent jumping 0- 5 min Zone Top Right Corner	sec	No	No	Yes
Jump.Time.Bin.1	Open field total time spent jumping 0- 5 min	sec	No	No	Yes
Jump.Counts.Bin.1.Zone.Bottom.Left.Corner	Open field total jumps 0-5 min Zone Bottom Left Corner	coun ts	No	No	Yes

Cocaine Locomotor Sensitization Assay

Jump.Counts.Bin.1.Zone.Bottom.Perimeter	Open field total jumps 0-5 min Zone Bottom Perimeter	counts	No	No	Yes
Jump.Counts.Bin.1.Zone.Bottom.Right.Corner	Open field total jumps 0-5 min Zone Bottom Right Corner	counts	No	No	Yes
Jump.Counts.Bin.1.Zone.Center	Open field total jumps 0-5 min Zone Center	counts	No	No	Yes
Jump.Counts.Bin.1.Zone.Left.Perimeter	Open field total jumps 0-5 min Zone Left Perimeter	counts	No	No	Yes
Jump.Counts.Bin.1.Zone.Right.Perimeter	Open field total jumps 0-5 min Zone Right Perimeter	counts	No	No	Yes

Jump.Counts.Bin.1.Zone.Top.Left.Corner	Open field total jumps 0-5 min Zone Top Left Corner	counts	No	No	Yes
Jump.Counts.Bin.1.Zone.Top.Perimeter	Open field total jumps 0-5 min Zone Top Perimeter	counts	No	No	Yes
Jump.Counts.Bin.1.Zone.Top.Right.Corner	Open field total jumps 0-5 min Zone Top Right Corner	counts	No	No	Yes
Jump.Counts.Bin.1	Open field total jumps 0-5 min	counts	No	No	Yes
Resting.Time.Bin.1.Zone.Bottom.Left.Corner	Open field total time spent resting 0-5 min Zone Bottom Left Corner	sec	No	No	Yes

Resting.Time.Bin.1.Zone.Bottom.Perimeter	Open field total time spent resting 0-5 min Zone Bottom Perimeter	sec	No	No	Yes
Resting.Time.Bin.1.Zone.Bottom.Right.Corn er	Open field total time spent resting 0-5 min Zone Bottom Right Corner	sec	No	No	Yes
Resting.Time.Bin.1.Zone.Center	Open field total time spent resting 0-5 min Zone Center	sec	No	No	Yes
Resting.Time.Bin.1.Zone.Left.Perimeter	Open field total time spent resting 0-5 min Zone Left Perimeter	sec	No	No	Yes
Resting.Time.Bin.1.Zone.Right.Perimeter	Open field total time spent resting 0-5 min Zone Right Perimeter	sec	No	No	Yes

Resting.Time.Bin.1.Zone.Top.Left.Corner	Open field total time spent resting 0-5 min Zone Top Left Corner	sec	No	No	Yes
Resting.Time.Bin.1.Zone.Top.Perimeter	Open field total time spent resting 0-5 min Zone Top Perimeter	sec	No	No	Yes
Resting.Time.Bin.1.Zone.Top.Right.Corner	Open field total time spent resting 0-5 min Zone Top Right Corner	sec	No	No	Yes
Resting.Time.Bin.1	Open field total time spent resting 0-5 min	sec	No	No	Yes
Vertical.Time.Bin.1.Zone.Bottom.Left.Corne r	Open field total time spent rearing 0- 5 min Zone Bottom Left Corner	sec	No	No	Yes

Cocaine Locomotor Sensitization Assay

Vertical.Time.Bin.1.Zone.Bottom.Perimeter	Open field total time spent rearing 0-5 min Zone Bottom Perimeter	sec	No	No	Yes
Vertical.Time.Bin.1.Zone.Bottom.Right.Corn er	Open field total time spent rearing 0-5 min Zone Bottom Right Corner	sec	No	No	Yes
Vertical.Time.Bin.1.Zone.Center	Open field total time spent rearing 0-5 min Zone Center	sec	No	No	Yes
Vertical.Time.Bin.1.Zone.Left.Perimeter	Open field total time spent rearing 0-5 min Zone Left Perimeter	sec	No	No	Yes
Vertical.Time.Bin.1.Zone.Right.Perimeter	Open field total time spent rearing 0-5 min Zone Right Perimeter	sec	No	No	Yes

Vertical.Time.Bin.1.Zone.Top.Left.Corner	Open field total time spent rearing 0- 5 min Zone Top Left Corner	sec	No	No	Yes
Vertical.Time.Bin.1.Zone.Top.Perimeter	Open field total time spent rearing 0- 5 min Zone Top Perimeter	sec	No	No	Yes
Vertical.Time.Bin.1.Zone.Top.Right.Corner	Open field total time spent rearing 0- 5 min Zone Top Right Corner	sec	No	No	Yes
Vertical.Time.Bin.1	Open field total time spent rearing 0- 5 min	sec	No	No	Yes
Vertical.Counts.Bin.1.Zone.Bottom.Left.Corn er	Open field total rears 0-5 min Zone Bottom Left Corner	coun ts	No	No	Yes

Vertical.Counts.Bin.1.Zone.Bottom.Perimeter	Open field total rears 0-5 min Zone Bottom Perimeter	counts	No	No	Yes
Vertical.Counts.Bin.1.Zone.Bottom.Right.Corner	Open field total rears 0-5 min Zone Bottom Right Corner	counts	No	No	Yes
Vertical.Counts.Bin.1.Zone.Center	Open field total rears 0-5 min Zone Center	counts	No	No	Yes
Vertical.Counts.Bin.1.Zone.Left.Perimeter	Open field total rears 0-5 min Zone Left Perimeter	counts	No	No	Yes
Vertical.Counts.Bin.1.Zone.Right.Perimeter	Open field total rears 0-5 min Zone Right Perimeter	counts	No	No	Yes
Vertical.Counts.Bin.1.Zone.Top.Left.Corner	Open field total rears 0-5 min Zone Top Left Corner	counts	No	No	Yes

Cocaine Locomotor Sensitization Assay

Vertical.Counts.Bin.1.Zone.Top.Perimeter	Open field total rears 0-5 min Zone Top Perimeter	counts	No	No	Yes
Vertical.Counts.Bin.1.Zone.Top.Right.Corner	Open field total rears 0-5 min Zone Top Right Corner	counts	No	No	Yes
Vertical.Counts.Bin.1	Open field total rears 0-5 min	counts	No	No	Yes
Duration.Bin.1.Zone.Bottom.Left.Corner	Open field total time spent 0-5 min Zone Bottom Left Corner	sec	No	No	Yes
Duration.Bin.1.Zone.Bottom.Perimeter	Open field total time spent 0-5 min Zone Bottom Perimeter	sec	No	No	Yes
Duration.Bin.1.Zone.Bottom.Right.Corner	Open field total time spent 0-5 min Zone Bottom Right Corner	sec	No	No	Yes

Duration.Bin.1.Zone.Center	Open field total time spent 0-5 min Zone Center	sec	No	No	Yes
Duration.Bin.1.Zone.Left.Perimeter	Open field total time spent 0-5 min Zone Left Perimeter	sec	No	No	Yes
Duration.Bin.1.Zone.Right.Perimeter	Open field total time spent 0-5 min Zone Right Perimeter	sec	No	No	Yes
Duration.Bin.1.Zone.Top.Left.Corner	Open field total time spent 0-5 min Zone Top Left Corner	sec	No	No	Yes
Duration.Bin.1.Zone.Top.Perimeter	Open field total time spent 0-5 min Zone Top Perimeter	sec	No	No	Yes
Duration.Bin.1.Zone.Top.Right.Corner	Open field total time spent 0-5 min Zone Top Right Corner	sec	No	No	Yes

Duration.Bin.1	Open field total time spent 0-5 min	sec	No	No	Yes
Zone.Entries.Bin.1.Zone.Bottom.Left.Corner	Open field total zone entries 0-5 min Zone Bottom Left Corner	counts	No	No	Yes
Zone.Entries.Bin.1.Zone.Bottom.Perimeter	Open field total zone entries 0-5 min Zone Bottom Perimeter	counts	No	No	Yes
Zone.Entries.Bin.1.Zone.Bottom.Right.Corner	Open field total zone entries 0-5 min Zone Bottom Right Corner	counts	No	No	Yes
Zone.Entries.Bin.1.Zone.Center	Open field total zone entries 0-5 min Zone Center	counts	No	No	Yes
Zone.Entries.Bin.1.Zone.Left.Perimeter	Open field total zone entries 0-5 min Zone Left Perimeter	counts	No	No	Yes

Zone.Entries.Bin.1.Zone.Right.Perimeter	Open field total zone entries 0-5 min Zone Right Perimeter	counts	No	No	Yes
Zone.Entries.Bin.1.Zone.Top.Left.Corner	Open field total zone entries 0-5 min Zone Top Left Corner	counts	No	No	Yes
Zone.Entries.Bin.1.Zone.Top.Perimeter	Open field total zone entries 0-5 min Zone Top Perimeter	counts	No	No	Yes
Zone.Entries.Bin.1.Zone.Top.Right.Corner	Open field total zone entries 0-5 min Zone Top Right Corner	counts	No	No	Yes
Zone.Entries.Bin.1	Open field total zone entries 0-5 min	counts	No	No	Yes
Zone.Latency.Bin.1.Zone.Bottom.Left.Corner	Open field total latency to enter zone 0-5 min Zone Bottom Left Corner	seconds	No	No	Yes

Zone.Latency.Bin.1.Zone.Bottom.Perimeter	Open field total latency to enter zone 0-5 min Zone Bottom Perimeter	sec	No	No	Yes
Zone.Latency.Bin.1.Zone.Bottom.Right.Corn er	Open field total latency to enter zone 0-5 min Zone Bottom Right Corner	sec	No	No	Yes
Zone.Latency.Bin.1.Zone.Center	Open field total latency to enter zone 0-5 min Zone Center	sec	No	No	Yes
Zone.Latency.Bin.1.Zone.Left.Perimeter	Open field total latency to enter zone 0-5 min Zone Left Perimeter	sec	No	No	Yes

Zone.Latency.Bin.1.Zone.Right.Perimeter	Open field total latency to enter zone 0-5 min Zone Right Perimeter	sec	No	No	Yes
Zone.Latency.Bin.1.Zone.Top.Left.Corner	Open field total latency to enter zone 0-5 min Zone Top Left Corner	sec	No	No	Yes
Zone.Latency.Bin.1.Zone.Top.Perimeter	Open field total latency to enter zone 0-5 min Zone Top Perimeter	sec	No	No	Yes
Zone.Latency.Bin.1.Zone.Top.Right.Corner	Open field total latency to enter zone 0-5 min Zone Top Right Corner	sec	No	No	Yes
Zone.Latency.Bin.1	Open field total latency to enter zone 0-5 min	sec	No	No	Yes