InterVivo Solutions Final Study Report

Study to examine MBDB analogs and their enantiomers in the mouse LMA and core body temperature test

Study Number: IVS247-22025-MZ

Sponsor name and address:	PharmAla Biotech 82 Richmond St E, Toronto, ON M5C 1P1, Canada
Testing facility name and address:	InterVivo Solutions 8224 Sideroad 15, R.R. #3 Fergus, Ontario, N1M 2W48, Canada
Scientific Director name and address:	Leo Silenieks, InterVivo Solutions Inc. 8224 Sideroad 15, R.R. #3 Fergus, Ontario, N1M 2W48, Canada
Study initiation date:	2022-02-28
Study completion date:	Date report is signed by Scientific Director
Experimental initiation date:	2022-03-17
Experimental completion date:	2022-07-14

Scientific Director signature and date:

_____ _____

Leo Silenieks Date

Commented [WL1]: If you want, you can replace with mailing address: PO Box 248
Fergus, ON, N1M 2W8
CANADA

Commented [EvN2]: I don't have access to the study number lists anymore. This should be the date the study proposal was signed by the sponsor.

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A. STUDY TITLE

Study to examine MBDB and its enantiomers in the mouse LMA and core body temperature test

B. STUDY NUMBER

IVS247-22025-MZ

C. SPONSOR REPRESENTATIVE

Dr. Harpreet Kaur, PhD
Vice President, Research
PharmAla Biotech
82 Richmond St E, Toronto, ON M5C 1P1, Canada
Email: harpreet@pharmala.ca

D. OBJECTIVE

The objective of this study was to develop an *in vivo* screening approach to assess the effect of MBDB and its enantiomers in male C57BL/6J mice. This was a non-GLP study that adhered to CCAC guidelines on animal care.

Commented [WL3]: Only if these animals were obtained from Jackson lab, would they be 6J. If we obtained from Charles River, these will be C57BL/6 mice.

E. SCIENTIFIC DIRECTOR

Leo Silenieks, InterVivo Solutions
8224 Sideroad 15, R.R. #3, Fergus, Ontario N1M 2W4~~8~~, Canada
Email: leos@intervivo.com

F. STUDY COORDINATOR

Matt Brown, InterVivo Solutions
8224 Sideroad 15, R.R. #3, Fergus, Ontario N1M 2W4~~8~~, Canada
Email: mattb@intervivo.com

G. LOCATION OF FACILITIES

Test Facility:
InterVivo Solutions
8224 Sideroad 15, R.R. #3,
Fergus, Ontario, N1M 2W4~~8~~ Canada

H. INTRODUCTION

MBDB (N-methyl-1-(1,3-benzodioxol-5-yl)-2-aminobutane) is a close analog of MDMA (3,4-methylenedioxy-N-methylamphetamine) that has been shown to produce hyperlocomotion and thermoregulatory effects in the rat (Callawat et al, 1991; Aerts et al, 2000). The present study was designed to evaluate the effects of MBDB enantiomers ((S)-MBDB HCl, (R)-MBDB HCl) and ~~their enantiomers~~racemic (±)-MBDB compared to vehicle control in mice against the locomotor activity (LMA) and the core body temperature tests. MDMA was included as a positive control.

Commented [WL4]: Any literature in mice showing same effects?

I. STUDY SCHEDULE

Table 1. Schedule of Operations

Date	Key Event	Procedure
2022-03-17	LMA Test #1	- Animal body weight measurements - Test article administration - LMA test
2022-04-29	LMA Test #2	- Animal body weight measurements - Test article administration - LMA test
2022-06-24, 2022-07-14	Core Body Temperature	- Animal body weight measurements - Test article administration - Core body temperature measurements

J. STUDY DESIGN

Eighty-eight (88) male C57/BL6 mice were included in the study. LMA treatment groups are summarized in Table 2 and 3. Subjects were randomly assigned to one of 11 treatment groups, n=8 animals per group. On ~~study Day 0, 7, and 14~~each test day, animals received a single administration of their assigned treatment prior to scheduled ~~testing~~ procedures. On test ~~the~~ day #1~~ofPrior to the core body temperature testmeasurements~~ ~~on Day 14~~, sixteen animals were incorrectly dosed and therefore removed from the study. Naïve animals were included as replacement (see Appendix J).

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Following the appropriate pretreatment time (15 minutes) ~~on Day 0~~on the first activity testing day, animals were placed in LMA test chambers and activity was recorded for one hour. On~~e study Day 7~~ the second LMA testing day, animals were immediately placed in LMA test chambers following test article administration and allowed to habituate to the chambers for ~~6~~50 minutes prior to the recording of activity for one hour. ~~On study Day 14, c~~Lastly, core body temperature (CBT) was measured at timepoints 0, 0.5, 1, 2, 4, 6, and 24h post-dose.

Commented [WL6]: Maybe reword this to: animals were habituated to the LMA chambers for 50 (or 60) mins prior to treatment and returned to the LMA test chambers immediately following administration of the test article for a 60-minute activity recording.

Commented [WL7R6]: I changed habituation to 60 minutes on the report based on protocol amendment 1 and LMA test #2 figures. Please revert if that is incorrect.

Table 2. LMA Treatment Groups Summary

Group	Treatment	Dose (mg/kg)	Dosing Solution Conc. (mg/mL)	Frequency	Group Size (N)	Route	Pre-Treatment Time (mins)
A	Vehicle	-	-	Single dose	8	IP	15~~, 50~~
B	MDMA	3	10	Single dose	8	IP	15~~, 50~~
C	(R)-MBDB	3	10	Single dose	8	IP	15~~, 50~~
D	(R)-MBDB	5	10	Single dose	8	IP	15~~, 50~~
E	(R)-MBDB	15	10	Single dose	8	IP	15~~, 50~~
F	(S)-MBDB	3	10	Single dose	8	IP	15~~, 50~~
G	(S)-MBDB	5	10	Single dose	8	IP	15~~, 50~~
H	(S)-MBDB	15	10	Single dose	8	IP	15~~, 50~~
I	(±)-MBDB	3	10	Single dose	8	IP	15~~, 50~~
J	(±)-MBDB	5	10	Single dose	8	IP	15~~, 50~~
K	(±)-MBDB	15	10	Single dose	8	IP	15~~, 50~~

Commented [WL8]: Animals received the same dose concentration, meaning they were dosed with different volumes of test article? This means a 30g mouse in Group E would have been injected with 5x more fluid then Group B? Or do you mean dose volume is 10 ml/kg?

Table 3. CBT Treatment Groups Summary

Treatment	Dose (mg/kg)	Dosing Solution Conc. (mg/mL)	Frequency	Group Size (N)	Route	Pre-Treatment Time (hr)
Vehicle	-	-	Single dose	6	IP	0, 0.5, 1, 2, 4, 6, 24
MDMA	15	10	Single dose	7	IP	0, 0.5, 1, 2, 4, 6, 24
MDMA	30	10	Single dose	9	IP	0, 0.5, 1, 2, 4, 6, 24
MDMA	60	10	Single dose	8	IP	0, 0.5, 1, 2, 4, 6, 24
(R)-MBDB	15	10	Single dose	6	IP	0, 0.5, 1, 2, 4, 6, 24
(R)-MBDB	30	10	Single dose	6	IP	0, 0.5, 1, 2, 4, 6, 24
(R)-MBDB	60	10	Single dose	6	IP	0, 0.5, 1, 2, 4, 6, 24
(S)-MBDB	15	10	Single dose	6	IP	0, 0.5, 1, 2, 4, 6, 24
(S)-MBDB	30	10	Single dose	6	IP	0, 0.5, 1, 2, 4, 6, 24
(S)-MBDB	60	10	Single dose	6	IP	0, 0.5, 1, 2, 4, 6, 24
(±)-MBDB	15	10	Single dose	6	IP	0, 0.5, 1, 2, 4, 6, 24
(±)-MBDB	30	10	Single dose	6	IP	0, 0.5, 1, 2, 4, 6, 24
(±)-MBDB	60	10	Single dose	6	IP	0, 0.5, 1, 2, 4, 6, 24

Commented [WL9]: Same as Table 2. to be confirmed.

K. EXPERIMENTAL MATERIALS

1 Investigational Product

i *Chemical name*

MDMA (lot # RPI-012-104B)

ii *Doses Tested*

3, 15, 30, 60 mg/kg

iii *Dosage form*
Intraperitoneal solution; 10 mL/kg

iv *Vehicle*
Physiological (0.9%) Saline

v *Drug storage during study*
Refrigerated and protected from light

2 Investigational Product

i *Chemical name*
(R)-MBDB HCl (lot # RPI-012-104A)

ii *Doses Tested*
3, 5, 15, 30, 60 mg/kg

iii *Dosage form*
Intraperitoneal solution; 10 mL/kg

iv *Vehicle*
Physiological (0.9%) Saline

v *Drug storage during study*
Desiccator and protected from light

3 Investigational Product

i *Chemical name*
(S)-MBDB HCl (lot # RPI-013-059-P)

ii *Doses Tested*
3, 5, 15, 30, 60 mg/kg

iii *Dosage form*
Intraperitoneal solution; 10 mL/kg

iv *Vehicle*
Physiological (0.9%) Saline

v *Drug storage during study*
Desiccator and protected from light

4 Investigational Product

i *Chemical name*
(±)-MBDB (lot # RPI-013-059-P)

ii *Doses Tested*
3, 5, 15, 30, 60 mg/kg

iii *Dosage form*
Intraperitoneal solution; 10 mL/kg

iv *Vehicle*
Physiological (0.9%) Saline

v *Drug storage during study*
Desiccator and protected from light

L. MATERIALS AND METHODS

1 Housing and Management of Test System

The study was conducted at InterVivo Solutions, located at 8224 Sideroad 15, R.R. #3, Fergus, Ontario, Canada. Animals were housed in transparent polycarbonate cages in groups of 4. Subjects were provided with standard corn cob bedding and PVC tubing as enrichment. Cages were changed once per week or as needed.

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Animals were housed under an automated 12-hour light/12-hour dark cycle. All manipulations were performed during the animals' light cycle. Heating and cooling were electronically controlled and were set to maintain the animal room in a temperature range from 19–22 °C and with a relative humidity of approximately 50%.

All animals had access to food and water *ad libitum.* Standard rodent chow was provided in stainless steel feeders. Tap water was provided in glass water bottles with rubber stoppers and stainless-steel sipper tubes.

2 Test System

Eighty-eight (88) male C57/BL6, purchased from Charles River Laboratories, were included in the study. ~~Twelve~~Sixteen (1~~2~~6) of the original animals were removed from the study ~~prior to core body temperature measurements~~ due to a ~~dosing~~formulation error (see Appendix J) and were replaced by drug naïve animals.~~Subjects weighed approximately ## ## g upon arrival to the test facility.~~

Prior to study initiation, subjects were tail marked and housing cages label~~l~~ed for~~ro~~ identification

purposes.

3 Acclimation

Animals ordered from Charles River Laboratories received a 7 day acclimation period to the test facility prior to beginning the testing phase of the study.

4 Selection and Allocation of Animals

Animals in good health that were maintaining their coats, were responsive and alert, were selected for the study. Allocation to treatment groups was randomized.

5 Administration of Test Articles

Test articles were dissolved in vehicle and administered intraperitoneally at a dose volume of 10 mL/kg. All dosing solutions were prepared fresh each test day.

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6 Health Observations

General health observations were performed on the mice daily prior to drug treatment and at regular intervals on test days. No abnormal health findings were recorded.

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7 Body Weights

Animals were weighed prior to dosing on designated treatment days for calculation of accurate dose volumes. The scales were operated and maintained according to standard operating procedures.

8 Locomotor Activity (LMA) Test

Animals were placed in locomotor activity tracking boxes fifteen minutes post treatment administration for the first LMA test ~~on Day 0~~ and spontaneous activity was recorded for 1 hour. During the second LMA test~~On Day 7~~, animals were placed in LMA boxes immediately following treatment administration and allowed to acclimate to the test boxes for ~~5~~60 minutes prior to a 1 hour testing session. Spontaneous activity was measured with automated Med Associates software for a total of 60 minutes, divided into 10 minute timebins. The tracking arena was of dimension 17"W x 17"L x 12"H with sensor bars secured 1" above the floor to track distance trave~~l~~led as well as 3" above the floor to measure vertical movement and rearing activity. Parameters on the tracking software were set as follows: resolution 50ms, box size 2 beams, resting delay 500ms, ambulatory trigger 2. Distance travelled, rearing count and ambulatory count data were collected. Speed was also calculated by dividing the distance travelled by ambulatory time. Locomotor activity data can be found in Appendix G (LMA Test #1) and Appendix H (LMA Test #2).

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Commented [EvN13]: I just want to confirm this because the protocol says 5" but I thought we set them to 3" for mice

9 Core Body Temperature (CBT) Measurements

Eight-four (84) animals were included in the CBT test. On study Day 14, CBT measurements were taken immediately prior (0h) to administration of test article as well as at timepoints 0.5, 1, 2, 4, 6, and 24h post-dose. All measurements were performed according to facility SOP using the

Physitemp BAT-12 Microprobe Thermometer with the RET-3 (mouse) probe. CBT data can be found in Appendix I.

10 Statistical Analyses

Locomotor activity data were calculated as means ± SEM for each group. To examine group differences, analysis by ANOVA and post-hoc Dunnett's test was undertaken (Statistica Version 11, Statsoft Inc. [2012]). Significance was set at P<0.05. CBT data were expressed as the mean difference score between pre-treatment and each post-treatment measure. To examine group differences, analysis by ANOVA and Fisher's LSD tests were undertaken. Statistical analysis can be found in Appendix D (LMA Test #1), Appendix E (LMA Test #2), and Appendix F (Core Body Temperature).

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M. RESULTS AND DISCUSSION

1 Locomotor Activity Test #1

Pretreatment with (±)-MBDB, R-MBDB, S-MBDB and MDMA produced a robust increase in spontaneous locomotion in the treated mice. An overall effect was detected for distance travelled ($F_{10,77} = 7.6$, $P<0.001$), Abulatory Episodes ($F_{10,77} = 8.6$, $P<0.001$), rearing counts ($F_{10,77} = 3.1$, $P=0.002$) and speed ($F_{10,77} = 3.2$, $P=0.002$).

Compared to vehicle treated mice, distance travelled was significantly higher in animals treated with 5 mg/kg and 15 mg/kg R-MBDB (P<0.001); all doses of S-MBDB (3 mg/kg, p<0.01; 5 and 15 mg/kg, p<0.001); all doses of (±)-MBDB (3 mg/kg, p<0.01; 5 and 15 mg/kg, p<0.001) and 3 mg/kg MDMA (p<0.001). Compared to 3 mg/kg MDMA, animals dosed with R-MBDB (3 mg/kg, p<0.01) travelled significantly less, and animals dosed with 15 mg/kg R-MBDB travelled significantly more (p=0.05). See Appendix A and Appendix G.

Rearing counts also increased in animals treated with 5 mg/kg R-MBDB (p<0.01), 15 mg/kg R-MBDB (p<0.001), all doses of S-MBDB (p<0.05) and 5 mg/kg (±)-MBDB (p<0.05) compared to vehicle control. Speed, as was defined in this study by "distance travelled" during "ambulating time", was significantly increased in animals receiving 5 mg/kg R-MBDB (p=0.03), 15 mg/kg R-MBDB (p<0.001), 5 mg/kg S-MBDB (p<0.001), 15 mg/kg S-MBDB (p<0.001), 5 mg/kg (±)-MBDB (p=0.007), 15 mg/kg (±)-MBDB (p=0.008), 15 mg/kg MDMA (p<0.001).

2 Locomotor Activity Test #2

Pretreatment with (±)-MBDB, R-MBDB, S-MBDB and MDMA produced a robust increase in spontaneous locomotion in the treated mice. An overall effect was detected for distance travelled ($F_{10,77} = 3.4$, $P=0.001$), Abulatory Episodes ($F_{10,77} = 3.4$, $P<0.001$), rearing counts ($F_{10,77} = 2.2$, $P=0.03$) and speed ($F_{10,77} = 2.5$, $P=0.01$).

Compared to vehicle, distance travelled was significantly higher in animals treated with 15 mg/kg R-MBDB (P<0.001); 5 mg/kg S-MBDB (p=0.05), 15 mg/kg S-MBDB (p=0.02) and 15 mg/kg

(±)-MBDB (p=0.003). Compared to MDMA (3 mg/kg), animals travel significantly longer distance when treated with R-MBDB (15 mg/kg, p<0.001) and (±)-MBDB (p=0.03). See Appendix B and Appendix G.

Rearing counts significantly increased in animals treated with 15 mg/kg R-MBDB compared to vehicle control (p<0.001) and MDMA (3 mg/kg, p=0.002). Compared to vehicle, speed was significantly increased in animals receiving MDMA (3 mg/kg, p=0.048), R-MBDB (15 mg/kg, p0.008), S-MBDB (5mg/kg ,p=0.003; 15 mg/kg, p<0.001), and (±)-MBDB (15 mg/kg, p=0.02),.

3 Core Body Temperature

Peak effect of MBDB and MDMA treatment occurred 30 minutes after test article administration (See Appendix I for raw data). At this time point, animals receiving 30 mg/kg and 60 mg/kg of R-MBDB showed significant reduction (p<0.001) in core body temperature compared to the vehicle treated group. All groups treated with S-MBDB showed a significant decrease (p<0.001) in CBT compared to vehicle. A significant decrease in CBT was identified in animals treated with 15 mg/kg (±)-MBDB (p=0.03), 30 mg/kg (±)-MBDB (p<0.001), 60 mg/kg (±)-MBDB (p<0.001). See Appendix F for statistical analysis stratified by dose level.

At 60 minutes after test article administration, a significant reduction in CBT was measured in animals receiving S-MBDB (15 mg/kg, p<0.001; 30 mg/kg, p=0.05; 60 mg/kg, p<0.001). Only animals in the high dose of R-MBDB (60 mg/kg, p<0.001) and (±)-MBDB (60 mg/kg, p<0.001) were still hypothermic at the 60 minute time point. At this time point, only animals treated with 30 mg/kg MDMA (p<0.001) were still hyperthermic.

N. SCIENTIFIC DIRECTOR'S EXECUTIVE SUMMARY

In mice, the entactogens MDMA, MBDB and its entatiomers (R-MBDB and S-MBDB) are able to produce a significant increase in spontaneous locomotions in an open arena. Based on the first LMA test using all naïve mice, the magnitude of the effect at the 3 mg/kg dose level showed that R-MBDB generated the least increase in activity of all treatments. Overall all the test articles tested showed a dose related increase in activity based on distance travelled, ambulatory episode count and rearing count. One exeption was the racemic (±)-MBDB group which showed a dose related increase in distance travelled without a corresponding increase in rears at the highest dose (15 mg/kg) tested. MDMA also increased activity without a significant increase in rears, this is consistent with published work suggesting MDMA increases in locomotor activity are uncoupled from exploratory behaviour (Scearce-Levie *et al*., 1999). Rearing counts are often seen as an indicator for exploratory behaviour suggesting that at this dose level there may be indications of stereotypic behaviour. Additionally, some mice treated with 15 mg/kg of (±)-MBDB showed changes in the spacial occupancy of the test chambers; these animals primarily occupied the center of the arena, in some cases (K5) completely avoided~~ing~~ the perimeter of the arena. See Appendix A for path plot samples.

The second LMA test included a 6~~5~~0 minute LMA habituation period prior to test article administration. This habituation period was intended to eliminate most of the exploratory

component in the activity of the mice. Consequently, the test article induced hyperactivity measured in the second LMA test showed smaller overall effects, which was mostly seen in distance travelled and speed. Changes in rearing count were less prominent, which is consistent with a decrease in exploratory drive in this phase of the experiment. Biased spacial occupancy was not observed in the second LMA test.

In the Core Body Temperature Test, a significant difference between the two entactogens emerged. At the doses tested, MDMA produced a small increase in CBT compared to vehicle while all forms of MBDB reduced core temperature significantly. Peak effect occurred between 30-60 minutes after drug administration. At the lowest dose tested (15 mg/kg), R-MBDB and MDMA did not have a significant effect on CBT, while S-MBDB and (±)-MBDB produced significant reduction in CBT.

Based on the results from this experiment, R-MBDB seems to be better tolerated than S-MBDB and (±)-MBDB. R-MBDB increased spontaneous locomotor activity in the mice in a dose dependant manner, without showing indications of stereotypic behaviours at the doses tested in the LMA.

Speed in LMA2 was higher with RMBDB than MDMA

R-MBDB seems to have a more typical hyperactivity profile compared to other stimulants???

O. REFERENCES

Aerts, L.A.G., Mallaret, M., Rigter, H. (2000). N-methyl-1-(1,3-benzodioxol-5-yl)-2-butamine (MBDB): Its properties and possible risks. *Addict Biol 5*(3): 269-282.

Callaway, C.W., Johnson, M.P., Gold, L.H., Nichols, D.E., Geyer, M.A. (1991). Amphetamine derivatives induce locomotor hyperacticity by acting as indirect serotonin agonsist. *Physcopharmacology, 104*(3), 293-301.

Scearce-Levie, K., Viswanathan, S. S., Hen, R. (1999). Locomotor response to MDMA is attenuated in knockout mice lacking the 5-HT1B receptor. Psychopharmacology, 141(2), 154-161.

Stove, C., De Letter, E., Piette, M., Lambert, W. (2010). Mice in Ecstasy: Advanced Animal Models in the Study of MDMA. Current Pharmaceutical Biotechnology, 11(5), 421-433.

P. ANIMAL DISPOSITION

Carcasses and tissues from euthanized or deceased animals were disposed of according to standard operating procedures.

Q. DATA INTEGRITY STATEMENT

There were no unforeseen circumstances that affected the quality or integrity of the data.

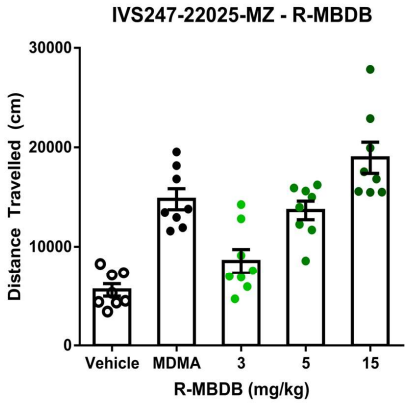
R. ACCURACY OF REPORT STATEMENT

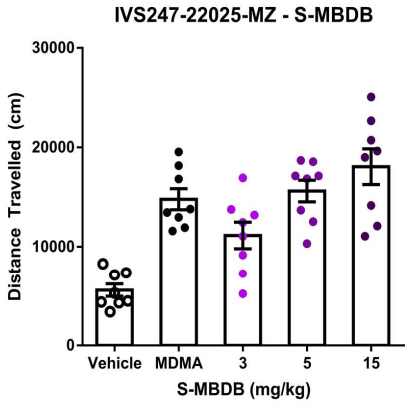
I certify that this report is a complete and accurate representation of all study observations.

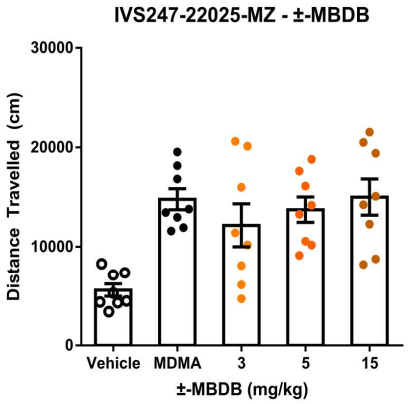
_____

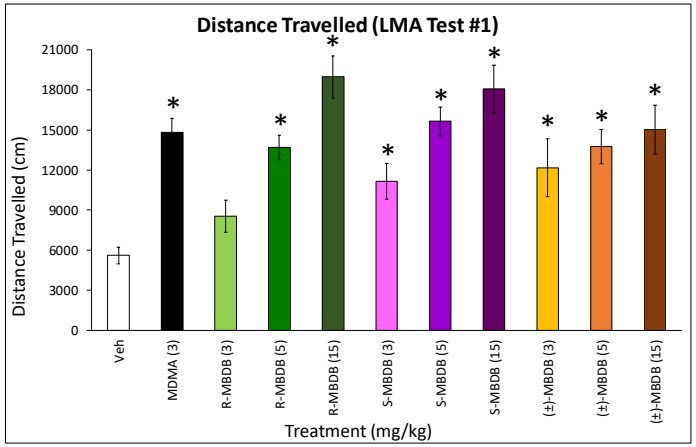
Leo Silenieks, Scientific Director Date

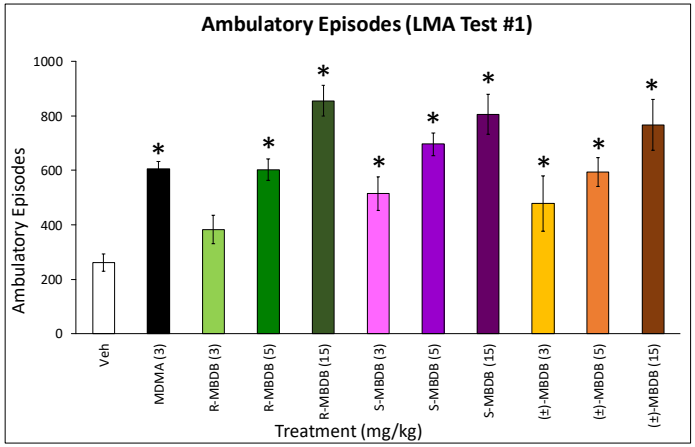
APPENDIX A. LMA TEST #1 FIGURES

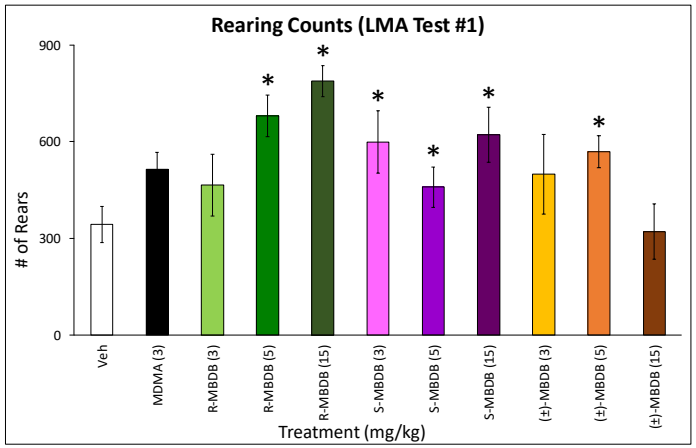


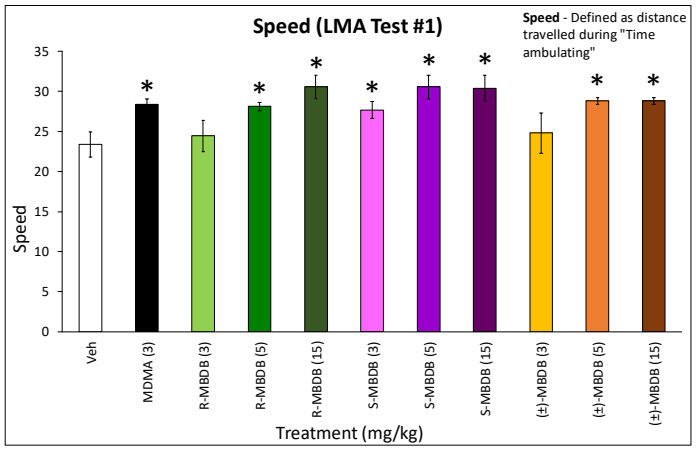




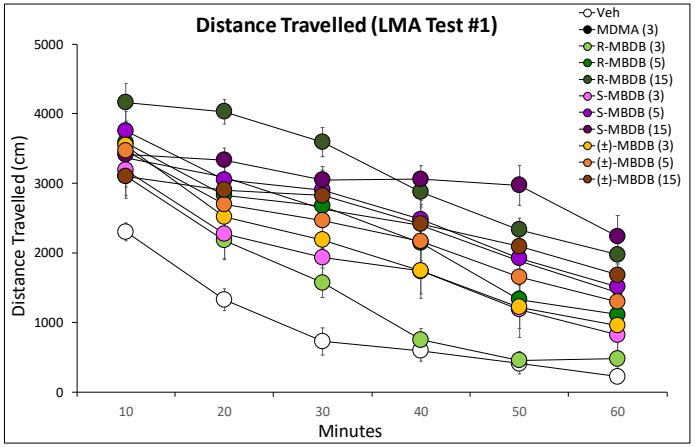

Distance Travelled (LMA Test #1)
Distance Travelled (cm)
21000
18000
15000
12000
9000
6000
3000
0
Veh
MDMA (3)
R-MBDB (3)
R-MBDB (5)
R-MBDB (15)
S-MBDB (3)
S-MBDB (5)
S-MBDB (15)
(±)-MBDB (3)
(±)-MBDB (5)
(±)-MBDB (15)
Treatment (mg/kg)

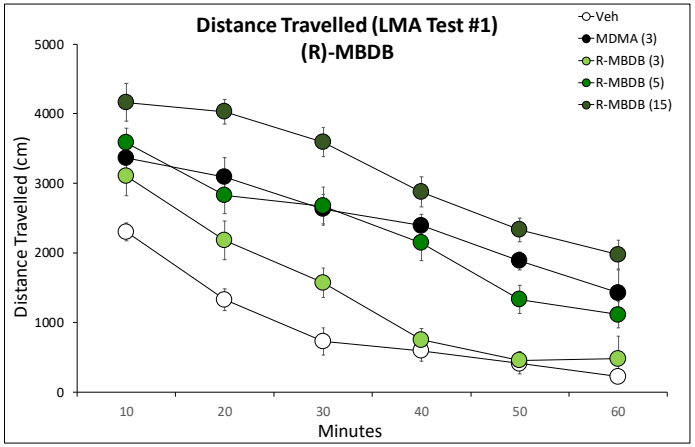

Ambulatory Episodes (LMA Test #1)
Ambulatory Episodes
1000
800
600
400
200
0
Veh
MDMA (3)
R-MBDB (3)
R-MBDB (5)
R-MBDB (15)
S-MBDB (3)
S-MBDB (5)
S-MBDB (15)
(±)-MBDB (3)
(±)-MBDB (5)
(±)-MBDB (15)
Treatment (mg/kg)

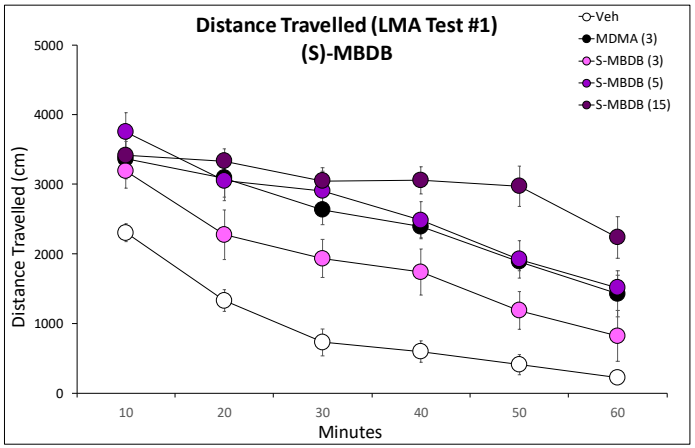

Rearing Counts (LMA Test #1)
# of Rears
900
600
300
0
Veh
MDMA (3)
R-MBDB (3)
R-MBDB (5)
R-MBDB (15)
S-MBDB (3)
S-MBDB (5)
S-MBDB (15)
(±)-MBDB (3)
(±)-MBDB (5)
(±)-MBDB (15)
Treatment (mg/kg)

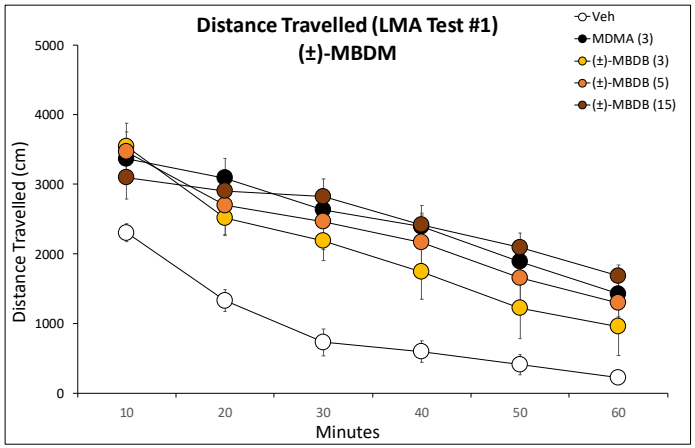

Speed (LMA Test #1)
Speed - Defined as distance travelled during "Time ambulating"
Speed
35
30
25
20
15
10
5
0
Veh
MDMA (3)
R-MBDB (3)
R-MBDB (5)
R-MBDB (15)
S-MBDB (3)
S-MBDB (5)
S-MBDB (15)
(±)-MBDB (3)
(±)-MBDB (5)
(±)-MBDB (15)
Treatment (mg/kg)

*P<0.05 vs Veh


Distance Travelled (LMA Test #1)
Veh
MDMA (3)
R-MBDB (3)
R-MBDB (5)
R-MBDB (15)
S-MBDB (3)
S-MBDB (5)
S-MBDB (15)
(±)-MBDB (3)
(±)-MBDB (5)
(±)-MBDB (15)
Distance Travelled (cm)
Minutes


Distance Travelled (LMA Test #1)
(R)-MBDB
Veh
MDMA (3)
R-MBDB (3)
R-MBDB (5)
R-MBDB (15)
Distance Travelled (cm)
Minutes

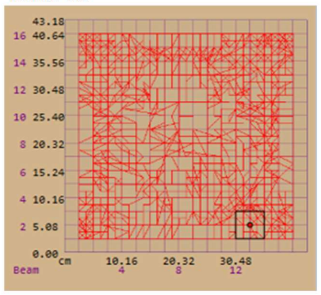

Distance Travelled (LMA Test #1)
(S)-MBDB
Veh
MDMA (3)
S-MBDB (3)
S-MBDB (5)
S-MBDB (15)
Distance Travelled (cm)
Minutes


Distance Travelled (LMA Test #1)
(±)-MBDM
Veh
MDMA (3)
(±)-MBDB (3)
(±)-MBDB (5)
(±)-MBDB (15)
Distance Travelled (cm)
Minutes

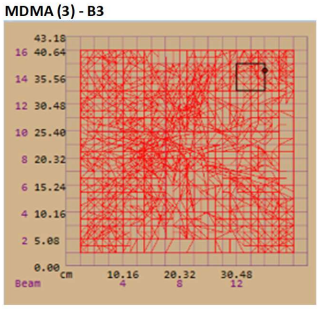
InterVivo Project IVS247-22025-MZ: Study to examine MBDB analogs and their enantiomers in the mouse LMA and core body temperature test

LMA Test #1: Path Plots

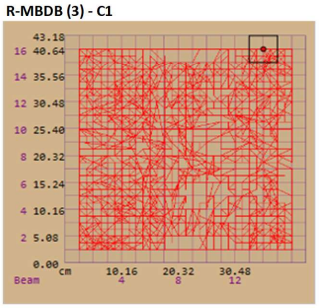
Vehicle - A3



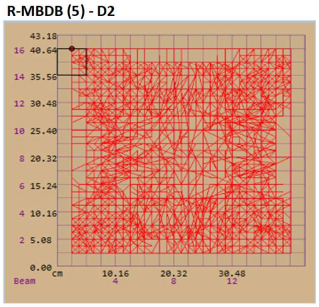
MDMA (3) - B3



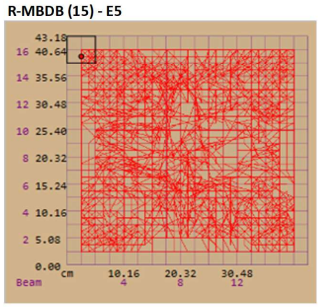
R-MBDB (3) - C1



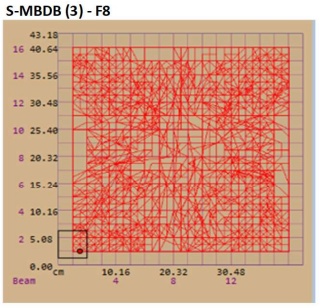
R-MBDB (5) - D2



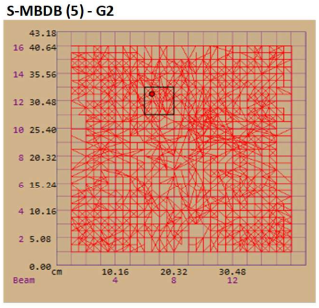
R-MBDB (15) - E5



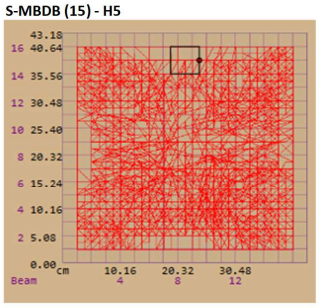
S-MBDB (3) - F8



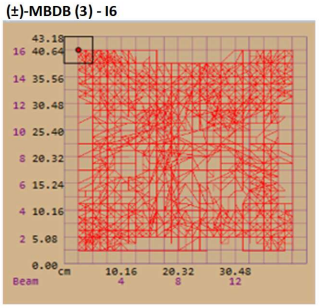
S-MBDB (5) - G2



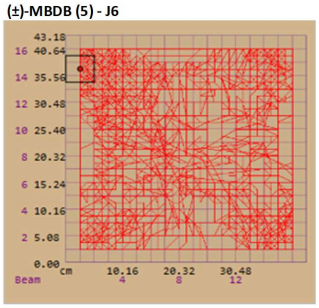
S-MBDB (15) - H5



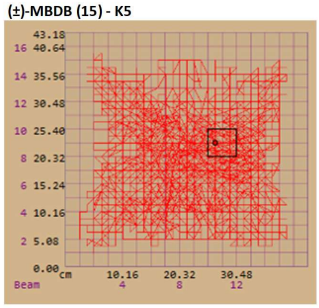
(±)-MBDB (3) - I6



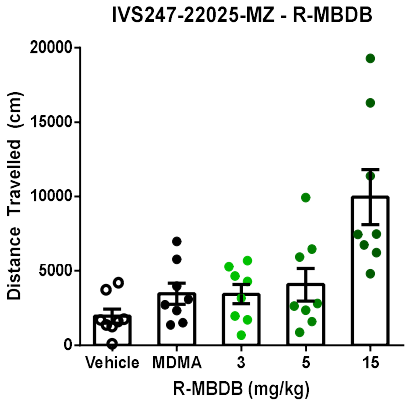
(±)-MBDB (5) - J6

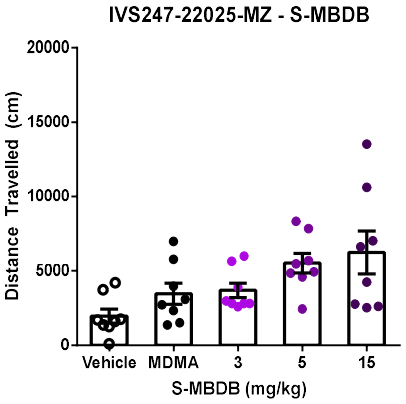


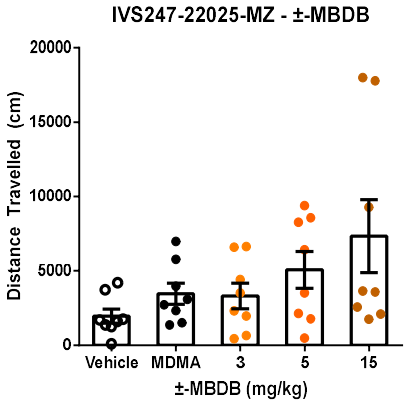
(±)-MBDB (15) - K5

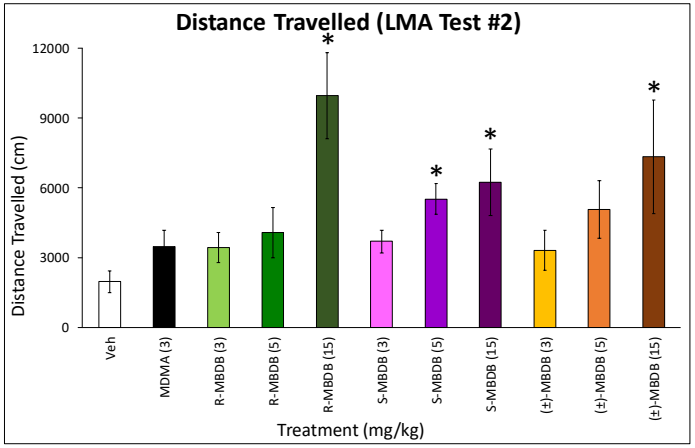


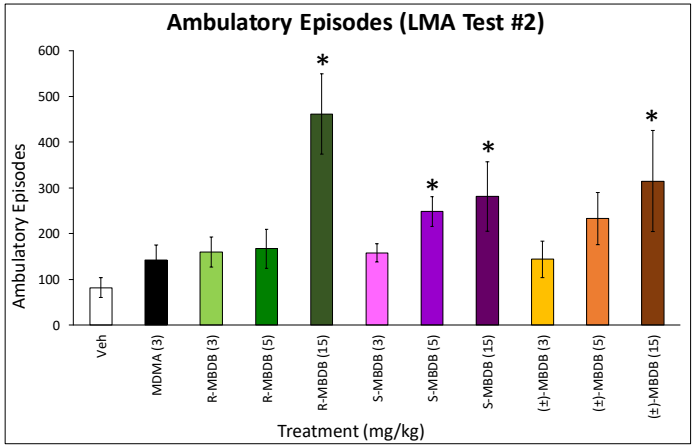
APPENDIX B. LMA TEST #2 FIGURES

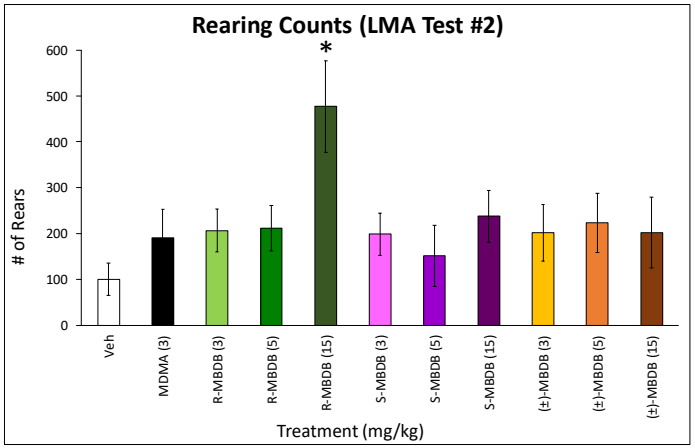


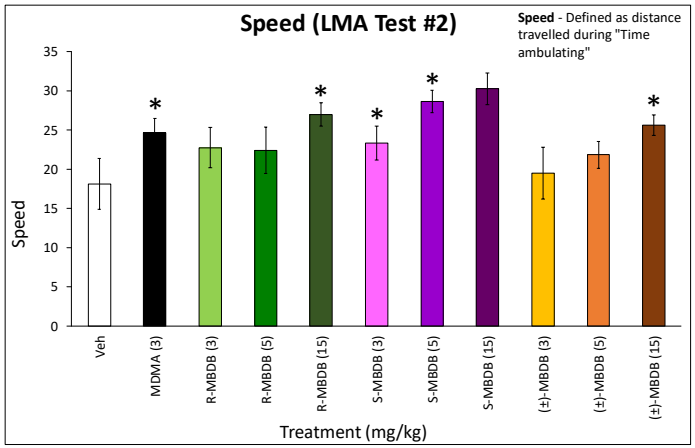






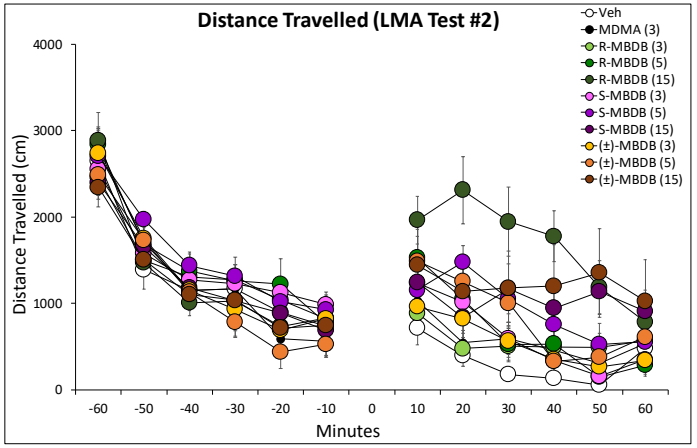


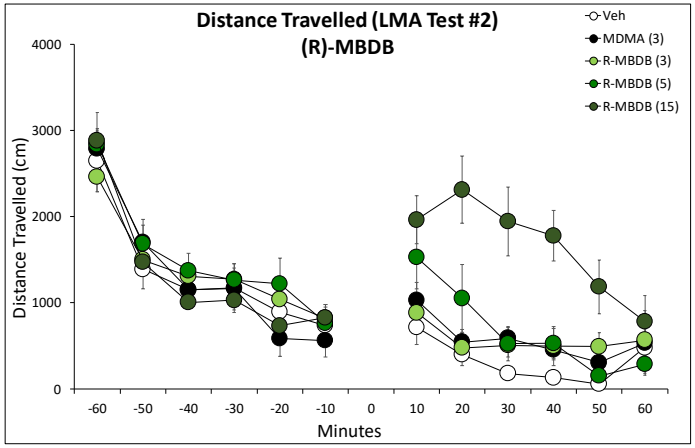


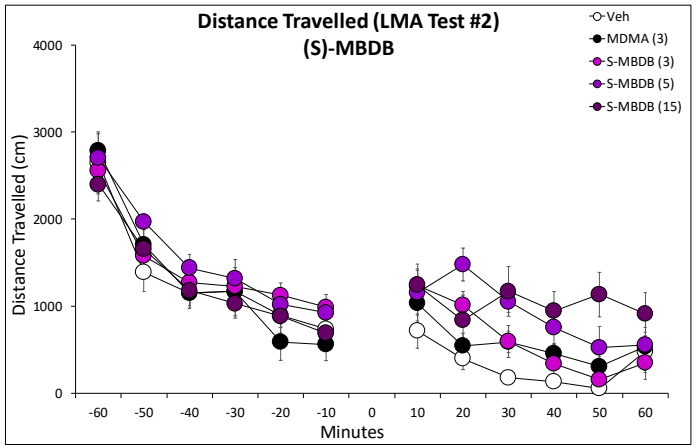


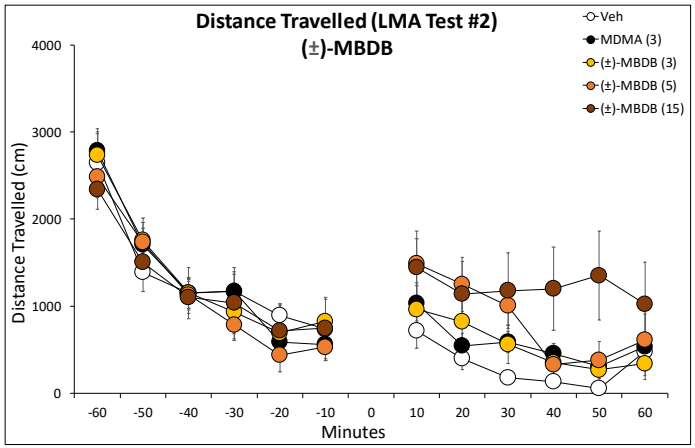
*P<0.05 vs Veh

Commented [z14]: Speed figure - significance * error







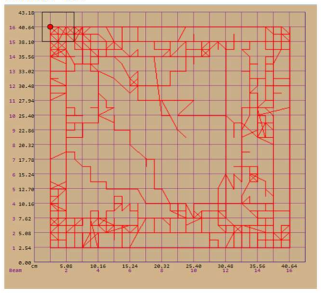


Commented [WL15]: Looks like the animals had 60 minutes (6 x 10 min time bins) of habituation instead of 50 mins? If so, some contents will have to be corrected above.

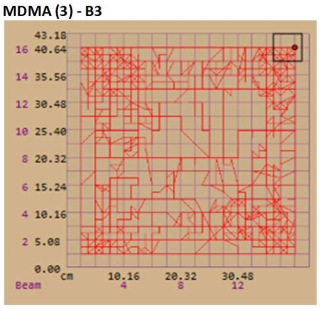
InterVivo Project IVS247-22025-MZ: Study to examine MBDB analogs and their enantiomers in the mouse LMA and core body temperature test

LMA Test #2: Path Plots

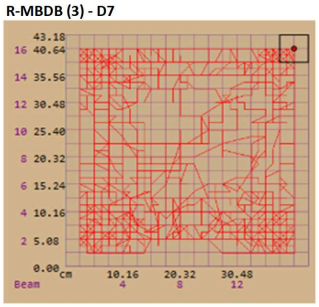
Vehicle - A1



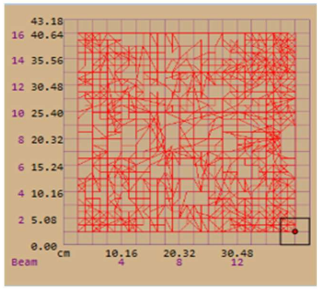
MDMA (3) - B3



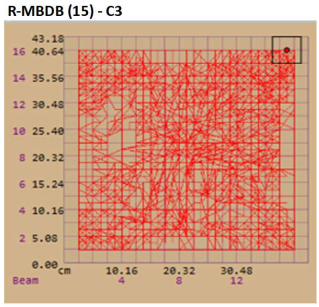
R-MBDB (3) - D7



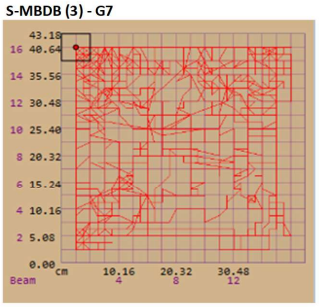
R-MBDB E2



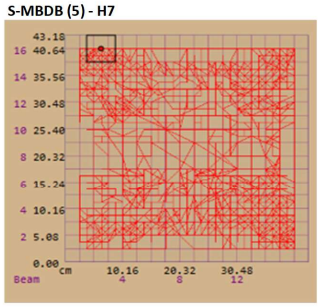
R-MBDB (15) - C3



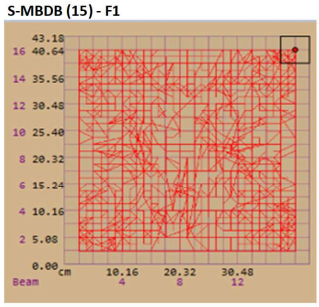
S-MBDB (3) - G7



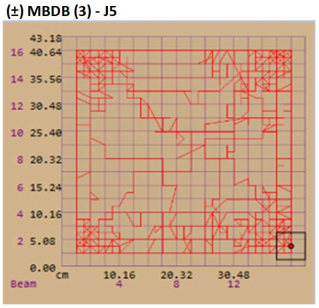
S-MBDB (5) - H7



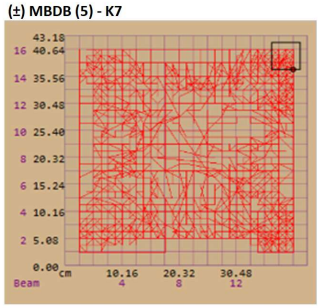
S-MBDB (15) - F1



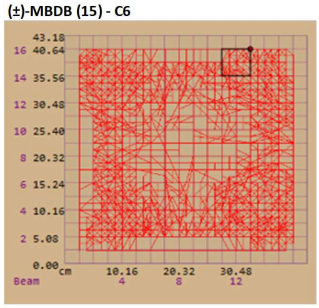
(±) MBDB (3) - J5



(±) MBDB (5) - K7

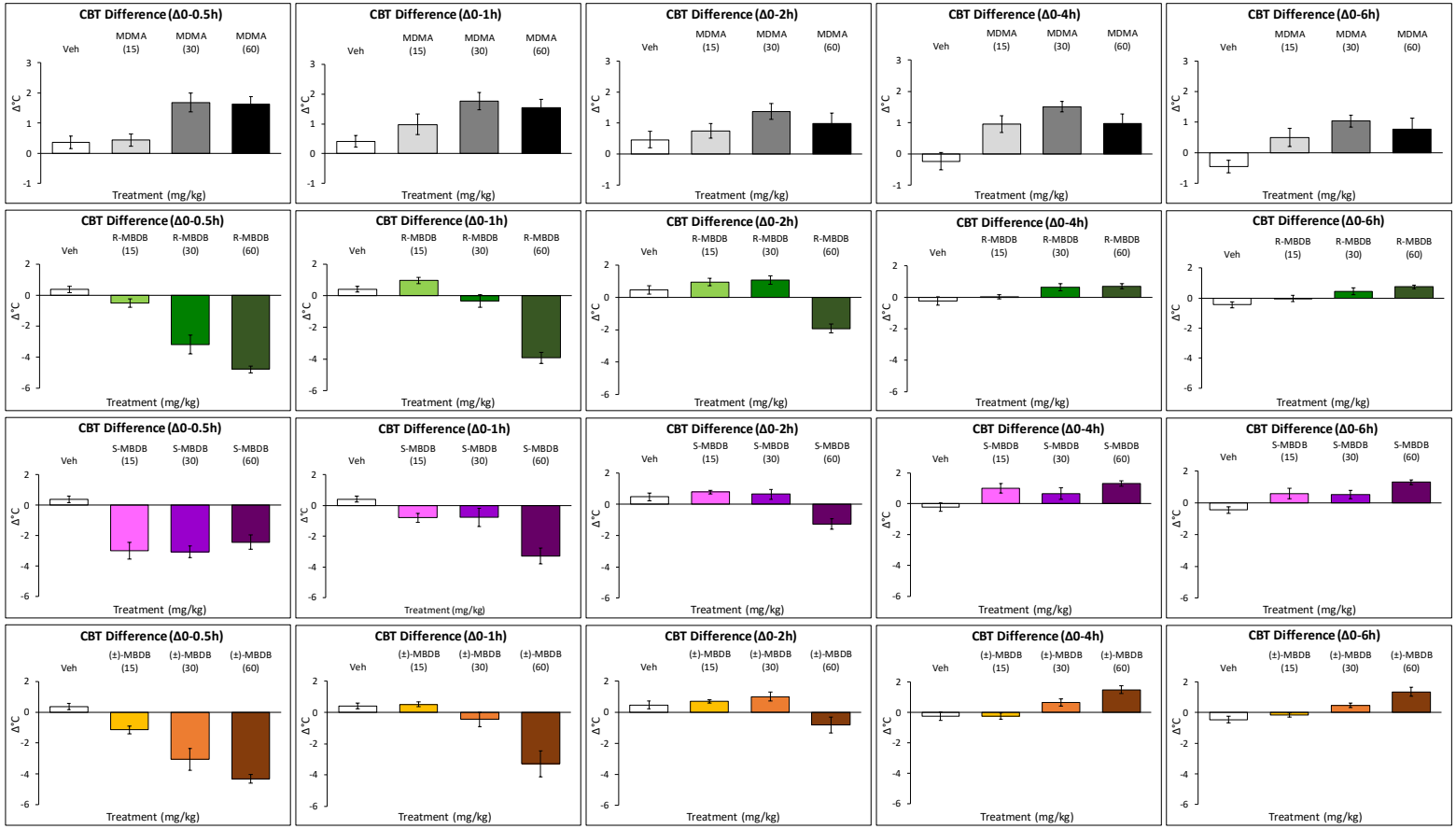


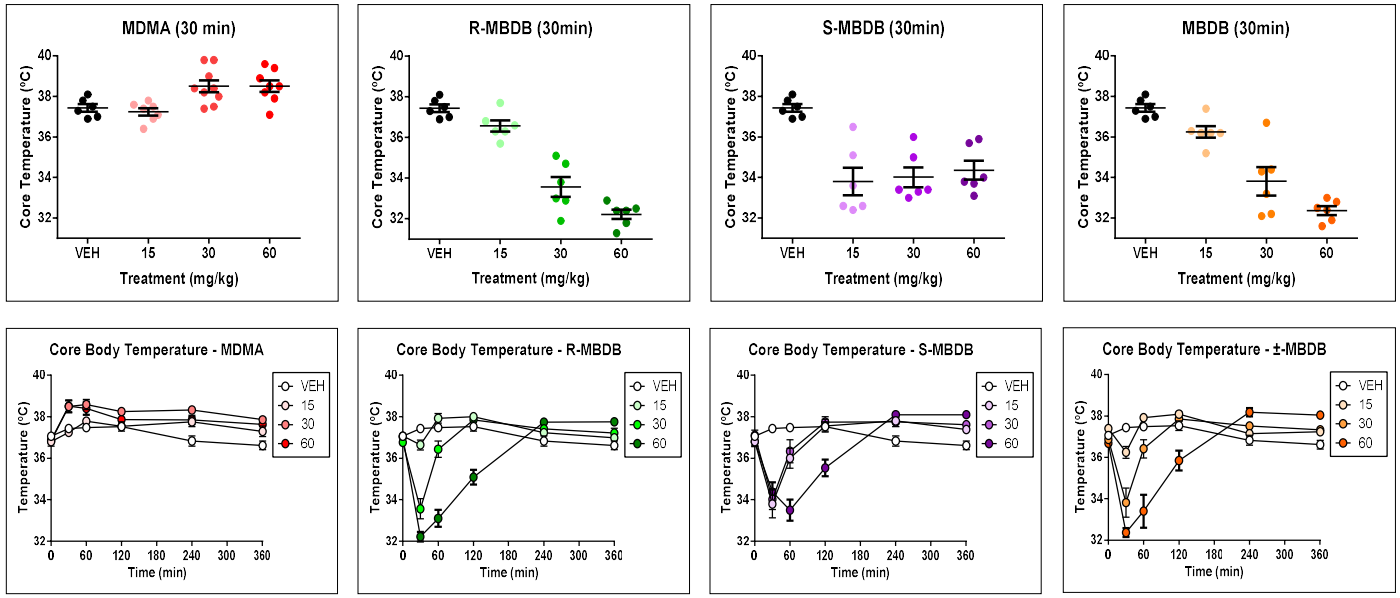
(±)-MBDB (15) - C6



APPENDIX C. CORE BODY TEMPERATURE FIGURES

Commented [WL16]: Denote significant differences.




MDMA (30 min)
R-MBDB (30min)
S-MBDB (30min)
MBDB (30min)
Core Temperature (°C)
Treatment (mg/kg)
VEH
15
30
60
Core Body Temperature - MDMA
Core Body Temperature - R-MBDB
Core Body Temperature - S-MBDB
Core Body Temperature - ±-MBDB
Temperature (°C)
Time (min)

APPENDIX D. LMA TEST #1 STATISTICAL ANALYSIS

3 mg/kg

Distance Travelled

10min

Univariate Tests of Significance, Effect Sizes, and Powers for D10 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	348420303	1	348420303	611.6090	0.000000	0.956223	611.6090	1.000000
Treatment	910249	3	303416	0.5326	0.663679	0.053985	1.5978	0.144891
Error	15950988	28	569678					

20min

Univariate Tests of Significance, Effect Sizes, and Powers for D20 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	202546946	1	202546946	248.7990	0.000000	0.898844	248.7990	1.000000
Treatment	4013891	3	1337964	1.6435	0.201812	0.149724	4.9305	0.383156
Error	22794765	28	814099					

30min

Univariate Tests of Significance, Effect Sizes, and Powers for D30 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	138598394	1	138598394	192.0403	0.000000	0.872751	192.0403	1.000000
Treatment	4781311	3	1593770	2.2083	0.109246	0.191334	6.6249	0.500632
Error	20208025	28	721715					

40min

Univariate Tests of Significance, Effect Sizes, and Powers for D40 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	87833763	1	87833763	128.9179	0.000000	0.821563	128.9179	1.000000
Treatment	11011960	3	3670653	5.3876	0.004691	0.365982	16.1628	0.896863
Error	19076831	28	681315					

Dunnett test; variable D40 (Perception Time bin 3mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 6813E2, df = 28.000

Cell No.	Treatment	{1} 2393.9
1	MDMA	
2	3RMBDB	0.001273
3	3SMBDB	0.281607
4	3+MBDB	0.285566

50min

Univariate Tests of Significance, Effect Sizes, and Powers for D50 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	45152682	1	45152682	85.70865	0.000000	0.753757	85.70865	1.000000
Treatment	8214451	3	2738150	5.19755	0.005573	0.357690	15.59264	0.885029
Error	14750846	28	526816					

Dunnett test; variable D50 (Perception Time bin 3mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 5268E2, df = 28.000

Cell No.	Treatment	{1} 1887.9
1	MDMA	
2	3RMBDB	0.001389
3	3SMBDB	0.153702
4	3+MBDB	0.182761

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for D60 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	27208515	1	27208515	44.80695	0.000000	0.615421	44.80695	0.999996
Treatment	3690967	3	1230322	2.02609	0.133011	0.178362	6.07828	0.463854
Error	17002685	28	607239					

Ambulatory Episodes

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for A10 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	632812.5	1	632812.5	597.4609	0.000000	0.955233	597.4609	1.000000
Treatment	342.7	3	114.2	0.1079	0.954795	0.011425	0.3236	0.067144
Error	29656.8	28	1059.2					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for A20 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	372384.5	1	372384.5	232.2207	0.000000	0.892399	232.2207	1.000000
Treatment	2689.3	3	896.4	0.5590	0.646481	0.056509	1.6770	0.150153
Error	44900.3	28	1603.6					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for A30 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	263356.5	1	263356.5	177.4079	0.000000	0.863686	177.4079	1.000000
Treatment	8037.3	3	2679.1	1.8048	0.169208	0.162035	5.4143	0.417660
Error	41565.1	28	1484.5					

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for A40 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	158766.1	1	158766.1	112.5616	0.000000	0.800799	112.5616	1.000000
Treatment	21134.4	3	7044.8	4.9946	0.006713	0.348592	14.9838	0.871105
Error	39493.5	28	1410.5					

Dunnett test; variable A40 (Perception Time bin 3mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1410.5, df = 28.000

Cell No.	Treatment	{1} 101.88
1	MDMA	
2	3RMBDB	0.002536
3	3SMBDB	0.622330
4	3+MBDB	0.143018

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for A50 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	79900.03	1	79900.03	62.64892	0.000000	0.691116	62.64892	1.000000
Treatment	14536.84	3	4845.61	3.79940	0.021046	0.289308	11.39821	0.756825
Error	35710.13	28	1275.36					

Dunnett test; variable A50 (Perception Time bin 3mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1275.4, df = 28.000

Cell No.	Treatment	{1} 79.750
1	MDMA	
2	3RMBDB	0.006377
3	3SMBDB	0.342610
4	3+MBDB	0.177241

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for A60 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	40115.28	1	40115.28	38.38570	0.000001	0.578222	38.38570	0.999970
Treatment	2344.09	3	781.36	0.74768	0.532849	0.074167	2.24303	0.188815
Error	29261.63	28	1045.06					

Rears

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for R10 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	503004.5	1	503004.5	281.7107	0.000000	0.909593	281.7107	1.000000
Treatment	4784.5	3	1594.8	0.8932	0.456844	0.087341	2.6796	0.219642
Error	49995.0	28	1785.5					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for R20 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	435711.1	1	435711.1	112.9938	0.000000	0.801410	112.9938	1.000000
Treatment	4281.1	3	1427.0	0.3701	0.775172	0.038139	1.1102	0.113472
Error	107969.8	28	3856.1					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for R30 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	293761.1	1	293761.1	107.0457	0.000000	0.792663	107.0457	1.000000
Treatment	1867.6	3	622.5	0.2269	0.876908	0.023729	0.6806	0.087414
Error	76839.3	28	2744.3					

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for R40 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	194532.0	1	194532.0	60.00115	0.000000	0.681822	60.00115	1.000000
Treatment	9183.1	3	3061.0	0.94414	0.432595	0.091865	2.83242	0.230588
Error	90779.9	28	3242.1					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for R50 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	103171.5	1	103171.5	39.52614	0.000001	0.585346	39.52614	0.999979
Treatment	7773.6	3	2591.2	0.99272	0.410572	0.096137	2.97815	0.241082
Error	73085.9	28	2610.2					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for R60 (Perception Time bin 3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	72010.13	1	72010.13	29.05873	0.000010	0.509278	29.05873	0.999399
Treatment	685.38	3	228.46	0.09219	0.963735	0.009781	0.27657	0.064576
Error	69386.50	28	2478.09					

Values in red indicate statistical significance

5 mg/kg

Distance Travelled

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for D10 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	401331826	1	401331826	692.7896	0.000000	0.961154	692.7896	1.000000
Treatment	665381	3	221794	0.3829	0.766126	0.039405	1.1486	0.115878
Error	16220352	28	579298					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for D20 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	272277113	1	272277113	660.7130	0.000000	0.959344	660.7130	1.000000
Treatment	842566	3	280855	0.6815	0.570768	0.068052	2.0446	0.175068
Error	11538686	28	412096					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for D30 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	227756563	1	227756563	598.6443	0.000000	0.955318	598.6443	1.000000
Treatment	778775	3	259592	0.6823	0.570302	0.068125	2.0470	0.175231
Error	10652709	28	380454					

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for D40 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	168886833	1	168886833	441.2001	0.000000	0.940324	441.2001	1.000000
Treatment	676711	3	225570	0.5893	0.627134	0.059388	1.7678	0.156236
Error	10718111	28	382790					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for D50 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	92441305	1	92441305	270.2045	0.000000	0.906105	270.2045	1.000000
Treatment	1763692	3	587897	1.7184	0.185937	0.155488	5.1552	0.399261
Error	9579252	28	342116					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for D60 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	57272348	1	57272348	109.3020	0.000000	0.796070	109.3020	1.000000
Treatment	734873	3	244958	0.4675	0.707302	0.047699	1.4025	0.132092
Error	14671509	28	523982					

Ambulatory Episodes

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for A10 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	703891.1	1	703891.1	885.5269	0.000000	0.969350	885.5269	1.000000
Treatment	2482.1	3	827.4	1.0409	0.389766	0.100333	3.1226	0.251534
Error	22256.8	28	794.9					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for A20 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	514605.1	1	514605.1	891.5460	0.000000	0.969550	891.5460	1.000000
Treatment	1819.1	3	606.4	1.0505	0.385713	0.101170	3.1516	0.253636
Error	16161.8	28	577.2					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for A30 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	442975.8	1	442975.8	688.2657	0.000000	0.960908	688.2657	1.000000
Treatment	2506.1	3	835.4	1.2979	0.294621	0.122086	3.8938	0.307782
Error	18021.1	28	643.6					

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for A40 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	320600.3	1	320600.3	421.3252	0.000000	0.937684	421.3252	1.000000
Treatment	1564.6	3	521.5	0.6854	0.568501	0.068410	2.0562	0.175863
Error	21306.1	28	760.9					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for A50 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	176269.5	1	176269.5	245.2522	0.000000	0.897531	245.2522	1.000000
Treatment	3067.1	3	1022.4	1.4225	0.257078	0.132251	4.2674	0.335082
Error	20124.4	28	718.7					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for A60 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	104882.0	1	104882.0	135.0221	0.000000	0.82624	135.0221	1.000000
Treatment	1806.3	3	602.1	0.7751	0.517745	0.076679	2.3253	0.194569
Error	21749.8	28	776.8					

Rears

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for R10 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	401184.0	1	401184.0	277.3661	0.000000	0.908307	277.3661	1.000000
Treatment	161.6	3	53.9	0.0372	0.990175	0.003974	0.1117	0.055778
Error	40499.4	28	1446.4					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for R20 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	464889.0	1	464889.0	292.5827	0.000000	0.912659	292.5827	1.000000
Treatment	6602.3	3	2200.8	1.3851	0.267821	0.129225	4.1553	0.326896
Error	44489.6	28	1588.9					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for R30 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	452438.3	1	452438.3	236.2982	0.000000	0.894059	236.2982	1.000000
Treatment	14117.3	3	4705.8	2.4577	0.083640	0.208440	7.3732	0.548810
Error	53611.4	28	1914.7					

Dunnett test; variable R30 (Perception Time bin 5mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1914.7, df = 28.000

Cell No.	Treatment	{1} 96.500
1	MDMA	
2	5RMBDB	0.039124
3	5SMBDB	0.723093
4	5+MBDB	0.858781

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for R40 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	333744.5	1	333744.5	319.9441	0.000000	0.919527	319.9441	1.000000
Treatment	5919.8	3	1973.3	1.8917	0.153923	0.168522	5.6750	0.435974
Error	29207.8	28	1043.1					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for R50 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	173460.5	1	173460.5	154.9162	0.000000	0.846924	154.9162	1.000000
Treatment	371.8	3	123.9	0.1107	0.953150	0.011718	0.3320	0.067605
Error	31351.8	28	1119.7					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for R60 (Perception Time bin 5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	128524.5	1	128524.5	117.3548	0.000000	0.807368	117.3548	1.000000
Treatment	3464.5	3	1154.8	1.0545	0.384073	0.101510	3.1634	0.254492
Error	30665.0	28	1095.2					

Values in red indicate statistical significance

15 mg/kg

Distance Travelled

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for D10 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	394194925	1	394194925	586.1330	0.000000	0.954407	586.1330	1.000000
Treatment	5013204	3	1671068	2.4847	0.081270	0.210249	7.4542	0.553865
Error	18830977	28	672535					

Dunnett test; variable D10 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 6725E2, df = 28.000

Cell No.	Treatment	{1} 3364.8
1	MDMA	
2	15RMBDB	0.149868
3	15SMBDB	0.998853
4	15+MBDB	0.851545

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for D20 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	356824805	1	356824805	457.2462	0.000000	0.942297	457.2462	1.000000
Treatment	5817384	3	1939128	2.4849	0.081259	0.210257	7.4546	0.553889
Error	21850579	28	780378					

Dunnett test; variable D20 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 7804E2, df = 28.000

Cell No.	Treatment	{1} 3091.1
1	MDMA	
2	15RMBDB	0.106459
3	15SMBDB	0.902218
4	15+MBDB	0.950474

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for D30 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	292656351	1	292656351	516.7726	0.000000	0.948602	516.7726	1.000000
Treatment	4126772	3	1375591	2.4290	0.086238	0.206508	7.2871	0.543403
Error	15856836	28	566316					

Dunnett test; variable D30 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 5663E2, df = 28.000

Cell No.	Treatment	{1} 2632.8
1	MDMA	
2	15RMBDB	0.043342
3	15SMBDB	0.559292
4	15+MBDB	0.921418

Ambulatory Episodes

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for A10 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	774390.1	1	774390.1	729.8375	0.000000	0.963053	729.8375	1.000000
Treatment	7062.6	3	2354.2	2.2188	0.108023	0.192066	6.6563	0.502704
Error	29709.3	28	1061.0					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for A20 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	705375.0	1	705375.0	546.1578	0.000000	0.951233	546.1578	1.000000
Treatment	12685.3	3	4228.4	3.2740	0.035692	0.259690	9.8220	0.686056
Error	36162.6	28	1291.5					

Dunnett test; variable A20 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1291.5, df = 28.000

Cell No.	Treatment	{1} 123.00
1	MDMA	
2	15RMBDB	0.011663
3	15SMBDB	0.434162
4	15+MBDB	0.459681

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for A30 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	609132.0	1	609132.0	581.8302	0.000000	0.954086	581.8302	1.000000
Treatment	8691.1	3	2897.0	2.7672	0.060305	0.228683	8.3016	0.604688
Error	29313.9	28	1046.9					

Dunnett test; variable A30 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1046.9, df = 28.000

Cell No.	Treatment	{1} 114.88
1	MDMA	
2	15RMBDB	0.022471
3	15SMBDB	0.508520
4	15+MBDB	0.236378

Rears

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for R10 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	268827.8	1	268827.8	100.2596	0.000000	0.781693	100.2596	1.000000
Treatment	12914.3	3	4304.8	1.6055	0.210386	0.146769	4.8164	0.374941
Error	75076.9	28	2681.3					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for R20 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	330281.3	1	330281.3	139.0499	0.000000	0.832385	139.0499	1.000000
Treatment	51022.1	3	17007.4	7.1602	0.001027	0.434121	21.4805	0.964885
Error	66507.6	28	2375.3					

Dunnett test; variable R20 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 2375.3, df = 28.000

Cell No.	Treatment	{1} 100.88
1	MDMA	
2	15RMBDB	0.094743
3	15SMBDB	0.969243
4	15+MBDB	0.057200

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for R30 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	365940.1	1	365940.1	189.4012	0.000000	0.871206	189.4012	1.000000
Treatment	52271.4	3	17423.8	9.0181	0.000243	0.491411	27.0543	0.989760
Error	54098.5	28	1932.1					

Dunnett test; variable R30 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1932.1, df = 28.000

Cell No.	Treatment	{1} 96.500
1	MDMA	
2	15RMBDB	0.008419
3	15SMBDB	0.899793
4	15+MBDB	0.163310

Values in red indicate statistical significance

15 mg/kg (continued)

Distance Travelled

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for D40 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	230868737	1	230868737	266.4646	0.000000	0.904912	266.4646	1.000000
Treatment	2665508	3	888503	1.0255	0.396302	0.098997	3.0765	0.248191
Error	24259602	28	866414					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for D50 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	172522104	1	172522104	222.2391	0.000000	0.888107	222.2391	1.000000
Treatment	5311398	3	1770466	2.2807	0.101070	0.196373	6.8420	0.514881
Error	21736134	28	776291					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for D60 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	107333703	1	107333703	104.1917	0.000000	0.788186	104.1917	1.000000
Treatment	2963110	3	987703	0.9588	0.425842	0.093158	2.8764	0.233747
Error	28844380	28	1030156					

Ambulatory Episodes

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for A40 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	490792.8	1	490792.8	311.6843	0.000000	0.917571	311.6843	1.000000
Treatment	5838.1	3	1946.0	1.2359	0.315300	0.116930	3.7076	0.294161
Error	44090.1	28	1574.6					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for A50 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	378667.5	1	378667.5	253.2175	0.000000	0.900433	253.2175	1.000000
Treatment	11591.6	3	3863.9	2.5838	0.073162	0.216813	7.7514	0.572118
Error	41871.9	28	1495.4					

Dunnett test; variable A50 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1495.4, df = 28.000

Cell No.	Treatment	{1} 79.750
1	MDMA	
2	15RMBDB	0.240951
3	15SMBDB	0.026768
4	15+MBDB	0.292160

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for A60 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	222444.5	1	222444.5	117.9021	0.000000	0.808091	117.9021	1.000000
Treatment	15060.2	3	5020.1	2.6608	0.067445	0.221841	7.9824	0.585989
Error	52827.3	28	1886.7					

Dunnett test; variable A60 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1886.7, df = 28.000

Cell No.	Treatment	{1} 47.000
1	MDMA	
2	15RMBDB	0.124330
3	15SMBDB	0.035120
4	15+MBDB	0.131452

Rears

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for R40 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	297606.1	1	297606.1	217.6151	0.000000	0.886000	217.6151	1.000000
Treatment	28643.6	3	9547.9	6.9816	0.001189	0.427926	20.9447	0.960671
Error	38292.2	28	1367.6					

Dunnett test; variable R40 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1367.6, df = 28.000

Cell No.	Treatment	{1} 90.500
1	MDMA	
2	15RMBDB	0.042632
3	15SMBDB	0.827354
4	15+MBDB	0.143872

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for R50 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	280313.3	1	280313.3	193.5108	0.000000	0.873595	193.5108	1.000000
Treatment	23649.8	3	7883.3	5.4421	0.004467	0.368322	16.3264	0.900054
Error	40599.9	28	1448.6					

Dunnett test; variable R50 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1448.6, df = 28.000

Cell No.	Treatment	{1} 72.000
1	MDMA	
2	15RMBDB	0.030328
3	15SMBDB	0.061901
4	15+MBDB	0.902348

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for R60 (Perception Time bin 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	164021.3	1	164021.3	100.5508	0.000000	0.782187	100.5508	1.000000
Treatment	17463.3	3	5821.1	3.5685	0.026492	0.276591	10.7056	0.727410
Error	45674.4	28	1631.2					

Dunnett test; variable R60 (Perception Time bin 15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1631.2, df = 28.000

Cell No.	Treatment	{1} 46.500
1	MDMA	
2	15RMBDB	0.037552
3	15SMBDB	0.098612
4	15+MBDB	0.995161

Values in red indicate statistical significance

APPENDIX E. LMA TEST #2 STATISTICAL ANALYSIS

3 mg/kg

Distance Travelled

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min dist (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	33896527	1	33896527	79.59796	0.000000	0.739772	79.59796	1.000000
Treatment	541898	3	180633	0.42417	0.737159	0.043471	1.27252	0.123730
Error	11923708	28	425847					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min dist (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	16326399	1	16326399	62.84781	0.000000	0.691792	62.84781	1.000000
Treatment	1491836	3	497279	1.91425	0.150184	0.170192	5.74276	0.440701
Error	7273748	28	259777					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min dist (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	10165303	1	10165303	43.87469	0.000000	0.610433	43.87469	0.999995
Treatment	38610	3	12870	0.05555	0.982420	0.005916	0.16664	0.058674
Error	6487304	28	231689					

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min dist (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	5410250	1	5410250	25.31485	0.000025	0.474818	25.31485	0.998089
Treatment	145543	3	48514	0.22700	0.876803	0.023744	0.68101	0.087440
Error	5984117	28	213718					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min dist (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	3008644	1	3008644	22.54383	0.000055	0.446025	22.54383	0.995601
Treatment	461578	3	153859	1.15287	0.345155	0.109942	3.45861	0.275976
Error	3736812	28	133458					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min dist (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	6439052	1	6439052	13.42165	0.001028	0.324025	13.42165	0.942405
Treatment	344186	3	114729	0.23914	0.868295	0.024982	0.71743	0.089582
Error	13433034	28	479751					

Ambulatory Episodes

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min ae (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	52488.00	1	52488.00	75.26028	0.000000	0.728841	75.26028	1.000000
Treatment	1244.25	3	414.75	0.59469	0.623718	0.059900	1.78408	0.157329
Error	19527.75	28	697.42					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min ae (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	33930.13	1	33930.13	53.95292	0.000000	0.658340	53.95292	1.000000
Treatment	3429.13	3	1143.04	1.81757	0.166861	0.162998	5.45272	0.420373
Error	17608.75	28	628.88					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min ae (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	20910.13	1	20910.13	37.58822	0.000001	0.573094	37.58822	0.999961
Treatment	29.63	3	9.88	0.01775	0.996704	0.001898	0.05325	0.052735
Error	15576.25	28	556.29					

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min ae (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	10188.78	1	10188.78	25.00780	0.000028	0.471776	25.00780	0.997902
Treatment	396.34	3	132.11	0.32427	0.807769	0.033576	0.97280	0.104957
Error	11407.87	28	407.42					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min ae (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	5460.125	1	5460.125	21.52228	0.000074	0.434598	21.52228	0.994049
Treatment	1488.375	3	496.125	1.95559	0.143587	0.173231	5.86676	0.449305
Error	7103.500	28	253.696					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min ae (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	14620.50	1	14620.50	11.34794	0.002214	0.288400	11.34794	0.901667
Treatment	1324.75	3	441.58	0.34274	0.794596	0.035422	1.02823	0.108371
Error	36074.75	28	1288.38					

Values in red indicate statistical significance.

3mg/kg

Rears

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min rear (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	83742.78	1	83742.78	38.79250	0.000001	0.580791	38.79250	0.999974
Treatment	1975.59	3	658.53	0.30505	0.821486	0.031650	0.91516	0.101434
Error	60444.63	28	2158.74					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min rear (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	59685.13	1	59685.13	37.15000	0.000001	0.570223	37.15000	0.999955
Treatment	8150.13	3	2716.71	1.69097	0.191599	0.153386	5.07291	0.393376
Error	44984.75	28	1606.60					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min rear (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	39060.13	1	39060.13	28.60088	0.000011	0.505308	28.60088	0.999306
Treatment	730.38	3	243.46	0.17827	0.910229	0.018742	0.53480	0.078975
Error	38239.50	28	1365.70					

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min rear (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	16155.03	1	16155.03	18.25160	0.000202	0.394616	18.25160	0.984676
Treatment	532.34	3	177.45	0.20048	0.895169	0.021028	0.60143	0.082806
Error	24783.62	28	885.13					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min rear (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	11819.53	1	11819.53	19.28440	0.000146	0.407839	19.28440	0.988589
Treatment	2686.09	3	895.36	1.46085	0.246493	0.135337	4.38255	0.343476
Error	17161.38	28	612.91					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min rear (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	26392.53	1	26392.53	8.394750	0.007229	0.230658	8.394750	0.798645
Treatment	3070.34	3	1023.45	0.325531	0.806868	0.033703	0.976593	0.105189
Error	88030.12	28	3143.93					

Speed

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min s (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	28830.17	1	28830.17	1014.650	0.000000	0.973145	1014.650	1.000000
Treatment	40.73	3	13.58	0.478	0.700286	0.048700	1.433	0.134101
Error	795.59	28	28.41					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min s (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	25146.38	1	25146.38	80.86483	0.000000	0.742800	80.86483	1.000000
Treatment	498.57	3	166.19	0.53443	0.662483	0.054159	1.60329	0.145253
Error	8707.11	28	310.97					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min s (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	19404.51	1	19404.51	111.6668	0.000000	0.799523	111.6668	1.000000
Treatment	581.99	3	194.00	1.1164	0.359123	0.106835	3.3492	0.267998
Error	4865.60	28	173.77					

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min s (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	11485.62	1	11485.62	91.85718	0.000000	0.766389	91.85718	1.000000
Treatment	572.11	3	190.70	1.52517	0.229723	0.140459	4.57552	0.357507
Error	3501.06	28	125.04					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min s (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	6317.229	1	6317.229	35.02397	0.000002	0.555725	35.02397	0.999910
Treatment	303.325	3	101.108	0.56056	0.645477	0.056658	1.68169	0.150465
Error	5050.324	28	180.369					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min s (Preservation2_3mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	12293.06	1	12293.06	46.54774	0.000000	0.624402	46.54774	0.999998
Treatment	174.23	3	58.08	0.21991	0.881749	0.023019	0.65972	0.086194
Error	7394.68	28	264.10					

Values in red indicate statistical significance.

5mg/kg

Distance Travelled

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min dist (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	54175507	1	54175507	71.70939	0.000000	0.719184	71.70939	1.000000
Treatment	1449693	3	483231	0.63963	0.595875	0.064136	1.91889	0.166461
Error	21153634	28	755487					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min dist (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	37420977	1	37420977	60.51436	0.000000	0.683667	60.51436	1.000000
Treatment	3805139	3	1268380	2.05113	0.129453	0.180169	6.15338	0.468979
Error	17314691	28	618382					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min dist (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	20132224	1	20132224	83.92363	0.000000	0.749829	83.92363	1.000000
Treatment	1794510	3	598170	2.49354	0.080512	0.210837	7.48063	0.555507
Error	6716848	28	239887					

Dunnett test; variable 30min dist (Preservation2_5mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 2399E2, df = 28.000

Cell No.	Treatment	{1} 589.48
1	MDMA	
2	R-MBDB	0.988157
3	S-MBDB	0.166562
4	+-MBDB	0.235135

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min dist (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	8588487	1	8588487	42.32770	0.000000	0.601864	42.32770	0.999992
Treatment	764136	3	254712	1.25533	0.308664	0.118554	3.76599	0.298434
Error	5681329	28	202905					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min dist (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	3719017	1	3719017	15.49889	0.000498	0.356305	15.49889	0.967013
Treatment	579988	3	193329	0.80569	0.501330	0.079465	2.41708	0.201018
Error	6718706	28	239954					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min dist (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	7906891	1	7906891	12.62721	0.001371	0.310807	12.62721	0.929113
Treatment	500864	3	166955	0.26662	0.848867	0.027774	0.79987	0.094479
Error	17533000	28	626179					

Ambulatory Episodes

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min ae (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	85491.13	1	85491.13	68.92312	0.000000	0.711111	68.92312	1.000000
Treatment	5462.13	3	1820.71	1.46786	0.244608	0.135898	4.40358	0.345007
Error	34730.75	28	1240.38					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min ae (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	79102.53	1	79102.53	60.39081	0.000000	0.683225	60.39081	1.000000
Treatment	8974.84	3	2991.61	2.28395	0.100716	0.196599	6.85184	0.515520
Error	36675.63	28	1309.84					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min ae (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	39903.13	1	39903.13	78.94072	0.000000	0.738173	78.94072	1.000000
Treatment	5227.38	3	1742.46	3.44712	0.029938	0.269718	10.34136	0.710887
Error	14153.50	28	505.48					

Dunnett test; variable 30min ae (Preservation2_5mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 505.48, df = 28.000

Cell No.	Treatment	{1} 24.750
1	MDMA	
2	R-MBDB	0.964493
3	S-MBDB	0.108457
4	+-MBDB	0.129114

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min ae (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	16110.13	1	16110.13	39.75793	0.000001	0.586764	39.75793	0.999981
Treatment	1978.13	3	659.38	1.62726	0.205428	0.148465	4.88178	0.379652
Error	11345.75	28	405.21					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min ae (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	7781.28	1	7781.281	13.37801	0.001044	0.323312	13.37801	0.941739
Treatment	1439.59	3	479.865	0.82501	0.491197	0.081215	2.47503	0.205108
Error	16286.13	28	581.647					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min ae (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	16698.78	1	16698.78	11.52410	0.002071	0.291571	11.52410	0.905948
Treatment	1509.34	3	503.11	0.34721	0.791416	0.035867	1.04162	0.109201
Error	40572.87	28	1449.03					

Values in red indicate statistical significance.

5mg/kg

Rears

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min rear (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	104538.8	1	104538.8	49.07317	0.000000	0.636709	49.07317	0.999999
Treatment	5790.8	3	1930.3	0.90612	0.450577	0.088493	2.71837	0.222413
Error	59647.4	28	2130.3					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min rear (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	124875.0	1	124875.0	30.69001	0.000006	0.522917	30.69001	0.999640
Treatment	13584.3	3	4528.1	1.11286	0.360506	0.106532	3.33857	0.267225
Error	113929.6	28	4068.9					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min rear (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	49219.53	1	49219.53	35.69855	0.000002	0.560430	35.69855	0.999928
Treatment	3766.34	3	1255.45	0.91057	0.448441	0.088889	2.73170	0.223367
Error	38605.13	28	1378.75					

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min rear (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	19257.03	1	19257.03	26.41584	0.000019	0.485444	26.41584	0.998636
Treatment	3954.09	3	1318.03	1.80801	0.168610	0.162279	5.42403	0.418348
Error	20411.88	28	729.00					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min rear (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	8352.78	1	8352.781	12.12564	0.001651	0.302192	12.12564	0.919320
Treatment	1184.34	3	394.781	0.57310	0.637425	0.057851	1.71930	0.152978
Error	19287.88	28	688.853					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min rear (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	22102.53	1	22102.53	8.324633	0.007446	0.229173	8.324633	0.795342
Treatment	3694.34	3	1231.45	0.463809	0.709817	0.047341	1.391427	0.131376
Error	74342.13	28	2655.08					

Speed

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min s (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	29722.50	1	29722.50	876.6680	0.000000	0.969049	876.6680	1.000000
Treatment	33.76	3	11.25	0.3319	0.802323	0.034340	0.9957	0.106364
Error	949.31	28	33.90					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min s (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	26352.49	1	26352.49	138.5826	0.000000	0.831915	138.5826	1.000000
Treatment	463.31	3	154.44	0.8121	0.497924	0.080050	2.4364	0.202384
Error	5324.40	28	190.16					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min s (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	23220.45	1	23220.45	227.9901	0.000000	0.890621	227.9901	1.000000
Treatment	578.33	3	192.78	1.8928	0.153733	0.168606	5.6784	0.436211
Error	2851.76	28	101.85					

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min s (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	16066.51	1	16066.51	153.9449	0.000000	0.846107	153.9449	1.000000
Treatment	478.65	3	159.55	1.5288	0.228819	0.140744	4.5863	0.358290
Error	2922.23	28	104.37					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min s (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	10764.77	1	10764.77	75.36337	0.000000	0.729111	75.36337	1.000000
Treatment	841.93	3	280.64	1.96476	0.142163	0.173902	5.89428	0.451208
Error	3999.47	28	142.84					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min s (Preservation2_5mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	11111.13	1	11111.13	52.48361	0.000000	0.652103	52.48361	1.000000
Treatment	234.85	3	78.28	0.36977	0.775386	0.038109	1.10932	0.113415
Error	5927.79	28	211.71					

Values in red indicate statistical significance.

15 mg/kg

Distance Travelled

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min dist (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	64610343	1	64610343	113.0815	0.000000	0.801533	113.0815	1.000000
Treatment	3811090	3	1270363	2.2234	0.107486	0.192390	6.6702	0.503621
Error	15998109	28	571361					

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min dist (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	46664261	1	46664261	58.66095	0.000000	0.676902	58.66095	1.000000
Treatment	14376542	3	4792181	6.02418	0.002671	0.392263	18.07254	0.929055
Error	22273751	28	795491					

Dunnett test; variable 20min dist (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 7955E2, df = 28.000

Cell No.	Treatment	{1} 544.13
1	MDMA	
2	R-MBDB	0.001337
3	S-MBDB	0.848178
4	+-MBDB	0.415979

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min dist (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	47619779	1	47619779	53.52642	0.000000	0.656553	53.52642	1.000000
Treatment	7414098	3	2471366	2.77791	0.059631	0.229366	8.33372	0.606542
Error	24910199	28	889650					

Dunnett test; variable 30min dist (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 8896E2, df = 28.000

Cell No.	Treatment	{1} 589.48
1	MDMA	
2	R-MBDB	0.020585
3	S-MBDB	0.479315
4	+-MBDB	0.467729

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min dist (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	38319339	1	38319339	50.43129	0.000000	0.643000	50.43129	0.999999
Treatment	7252797	3	2417599	3.18175	0.039225	0.254233	9.54526	0.672208
Error	21275311	28	759833					

Dunnett test; variable 40min dist (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 7596E2, df = 28.000

Cell No.	Treatment	{1} 456.07
1	MDMA	
2	R-MBDB	0.014158
3	S-MBDB	0.549481
4	+-MBDB	0.230047

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min dist (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	31697156	1	31697156	36.57895	0.000002	0.566422	36.57895	0.999946
Treatment	5248146	3	1749382	2.01881	0.134065	0.177835	6.05643	0.462359
Error	24263147	28	866541					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min dist (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	21179831	1	21179831	20.14729	0.000112	0.418451	20.14729	0.991106
Treatment	1061566	3	353855	0.33660	0.798969	0.034809	1.00981	0.107234
Error	29434988	28	1051250					

Ambulatory Episodes

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min ae (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	100352.0	1	100352.0	99.80220	0.000000	0.780911	99.80220	1.000000
Treatment	10483.8	3	3494.6	3.47544	0.029094	0.271333	10.42631	0.714806
Error	28154.3	28	1005.5					

Dunnett test; variable 10min ae (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1005.5, df = 28.000

Cell No.	Treatment	{1} 33.125
1	MDMA	
2	R-MBDB	0.010270
3	S-MBDB	0.602705
4	+-MBDB	0.290082

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min ae (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	94830.13	1	94830.13	54.71655	0.000000	0.661495	54.71655	1.000000
Treatment	29102.63	3	9700.88	5.59736	0.003888	0.374889	16.79208	0.908669
Error	48527.25	28	1733.12					

Dunnett test; variable 20min ae (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1733.1, df = 28.000

Cell No.	Treatment	{1} 25.000
1	MDMA	
2	R-MBDB	0.001901
3	S-MBDB	0.820181
4	+-MBDB	0.547380

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min ae (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	96250.78	1	96250.78	47.95167	0.000000	0.631345	47.95167	0.999999
Treatment	17465.34	3	5821.78	2.90038	0.052467	0.237081	8.70115	0.627318
Error	56202.88	28	2007.25					

Dunnett test; variable 30min ae (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 2007.2, df = 28.000

Cell No.	Treatment	{1} 24.750
1	MDMA	
2	R-MBDB	0.018002
3	S-MBDB	0.472379
4	+-MBDB	0.493613

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min ae (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	79500.78	1	79500.78	48.36090	0.000000	0.633320	48.36090	0.999999
Treatment	18510.84	3	6170.28	3.75343	0.022028	0.286811	11.26028	0.751173
Error	46029.38	28	1643.91					

Dunnett test; variable 40min ae (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1643.9, df = 28.000

Cell No.	Treatment	{1} 19.250
1	MDMA	
2	R-MBDB	0.006978
3	S-MBDB	0.483689
4	+-MBDB	0.324464

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min ae (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	69378.13	1	69378.13	33.09362	0.000004	0.541687	33.09362	0.999833
Treatment	12470.13	3	4156.71	1.98277	0.139411	0.175216	5.94830	0.454933
Error	58699.75	28	2096.42					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min ae (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	46741.53	1	46741.53	19.09651	0.000155	0.405476	19.09651	0.987957
Treatment	1575.34	3	525.11	0.21454	0.885476	0.022470	0.64362	0.085255
Error	68534.12	28	2447.65					

15 mg/kg

Rears

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min rear (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	82113.78	1	82113.78	95.22361	0.000000	0.772771	95.22361	1.000000
Treatment	15608.09	3	5202.70	6.03333	0.002650	0.392625	18.09999	0.929443
Error	24145.12	28	862.33					

Dunnett test; variable 10min rear (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 862.33, df = 28.000

Cell No.	Treatment	{1} 37.875
1	MDMA	
2	R-MBDB	0.004706
3	S-MBDB	0.999482
4	+-MBDB	0.999614

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min rear (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	72390.13	1	72390.13	38.69781	0.000001	0.580196	38.69781	0.999973
Treatment	29633.63	3	9877.88	5.28045	0.005169	0.361333	15.84134	0.890329
Error	52378.25	28	1870.65					

Dunnett test; variable 20min rear (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1870.7, df = 28.000

Cell No.	Treatment	{1} 29.125
1	MDMA	
2	R-MBDB	0.007490
3	S-MBDB	0.999287
4	+-MBDB	0.999998

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min rear (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	77322.78	1	77322.78	42.49244	0.000000	0.602794	42.49244	0.999992
Treatment	22421.09	3	7473.70	4.10714	0.015561	0.305580	12.32143	0.792096
Error	50951.12	28	1819.68					

Dunnett test; variable 30min rear (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1819.7, df = 28.000

Cell No.	Treatment	{1} 41.875
1	MDMA	
2	R-MBDB	0.053771
3	S-MBDB	0.957242
4	+-MBDB	0.836788

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min rear (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	63992.53	1	63992.53	44.51972	0.000000	0.613898	44.51972	0.999996
Treatment	23493.34	3	7831.11	5.44812	0.004443	0.368578	16.34436	0.900400
Error	40247.13	28	1437.40					

Dunnett test; variable 40min rear (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 1437.4, df = 28.000

Cell No.	Treatment	{1} 19.125
1	MDMA	
2	R-MBDB	0.002341
3	S-MBDB	0.624320
4	+-MBDB	0.855386

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min rear (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	62923.78	1	62923.78	38.80943	0.000001	0.580898	38.80943	0.999974
Treatment	6895.34	3	2298.45	1.41761	0.258449	0.131859	4.25283	0.334020
Error	45397.88	28	1621.35					

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min rear (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	52731.28	1	52731.28	15.70316	0.000464	0.359314	15.70316	0.968805
Treatment	317.59	3	105.86	0.03153	0.992304	0.003366	0.09458	0.054881
Error	94024.13	28	3358.00					

Speed

10 min

Univariate Tests of Significance, Effect Sizes, and Powers for 10min s (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	25421.43	1	25421.43	1068.778	0.000000	0.974471	1068.778	1.000000
Treatment	231.03	3	77.01	3.238	0.037039	0.257555	9.713	0.680665
Error	665.99	28	23.79					

Dunnett test; variable 10min s (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 23.786, df = 28.000

Cell No.	Treatment	{1} 31.427
1	MDMA	
2	R-MBDB	0.367774
3	S-MBDB	0.714340
4	+-MBDB	0.014308

20 min

Univariate Tests of Significance, Effect Sizes, and Powers for 20min s (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	24853.63	1	24853.63	150.3436	0.000000	0.843000	150.3436	1.000000
Treatment	152.08	3	50.69	0.3066	0.820351	0.031810	0.9199	0.101724
Error	4628.74	28	165.31					

30 min

Univariate Tests of Significance, Effect Sizes, and Powers for 30min s (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	25756.79	1	25756.79	516.9127	0.000000	0.948616	516.9127	1.000000
Treatment	406.07	3	135.36	2.7165	0.063604	0.225437	8.1494	0.595844
Error	1395.19	28	49.83					

Dunnett test; variable 30min s (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 49.828, df = 28.000

Cell No.	Treatment	{1} 28.877
1	MDMA	
2	R-MBDB	0.861748
3	S-MBDB	0.866100
4	+-MBDB	0.184252

40 min

Univariate Tests of Significance, Effect Sizes, and Powers for 40min s (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	24326.54	1	24326.54	466.5070	0.000000	0.943378	466.5070	1.000000
Treatment	355.54	3	118.51	2.2727	0.101940	0.195820	6.8181	0.513320
Error	1460.09	28	52.15					

50 min

Univariate Tests of Significance, Effect Sizes, and Powers for 50min s (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	22042.58	1	22042.58	305.4961	0.000000	0.916041	305.4961	1.000000
Treatment	1107.50	3	369.17	5.1164	0.006002	0.354083	15.3492	0.879627
Error	2020.30	28	72.15					

Dunnett test; variable 50min s (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 72.153, df = 28.000

Cell No.	Treatment	{1} 16.663
1	MDMA	
2	R-MBDB	0.033227
3	S-MBDB	0.002162
4	+-MBDB	0.040091

60 min

Univariate Tests of Significance, Effect Sizes, and Powers for 60min s (Preservation2_15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	16976.05	1	16976.05	96.54776	0.000000	0.775187	96.54776	1.000000
Treatment	1484.32	3	494.77	2.81392	0.057424	0.231651	8.44176	0.612728
Error	4923.26	28	175.83					

Dunnett test; variable 60min s (Preservation2_15mg)
Probabilities for Post Hoc Tests (2-sided)
Error: Between MSE = 175.83, df = 28.000

Cell No.	Treatment	{1} 15.665
1	MDMA	
2	R-MBDB	0.996169
3	S-MBDB	0.140112
4	+-MBDB	0.077049

APPENDIX F. CORE BODY TEMPERATURE STATISTICAL ANALYSIS

15 mg/kg

0 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T0 (Preservation 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	42346.53	1	42346.53	241361.3	0.000000	0.999892	241361.3	1.000000
Treatment	1.53	4	0.38	2.2	0.098864	0.251473	8.7	0.560453
Error	4.56	26	0.18					

LSD test; variable T0 (Preservation 15mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .17545, df = 26.000

Cell No.	Treatment	{1} 37.067	{2} 36.800	{3} 37.083	{4} 36.800	{5} 37.400
1	Vehicle		0.262918	0.945582	0.280263	0.179837
2	MDMA15	0.262918		0.234971	1.000000	0.016076
3	R-MBDB15	0.945582	0.234971		0.251979	0.201837
4	S-MBDB15	0.280263	1.000000	0.251979		0.019891
5	+MBDB15	0.179837	0.016076	0.201837	0.019891	

0.5 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T0.5 (Preservation 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	40600.54	1	40600.54	50318.10	0.000000	0.999484	50318.10	1.000000
Treatment	51.87	4	12.97	16.07	0.000001	0.712016	64.28	0.999997
Error	20.98	26	0.81					

LSD test; variable T0.5 (Preservation 15mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .80688, df = 26.000

Cell No.	Treatment	{1} 37.433	{2} 37.243	{3} 36.567	{4} 33.800	{5} 36.250
1	Vehicle		0.706193	0.106692	0.000000	0.030934
2	MDMA15	0.706193		0.187684	0.000000	0.057587
3	R-MBDB15	0.106692	0.187684		0.000014	0.546763
4	S-MBDB15	0.000000	0.000000	0.000014		0.000070
5	+MBDB15	0.030934	0.057587	0.546763	0.000070	

1 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T1 (Preservation 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	43305.97	1	43305.97	98077.69	0.000000	0.999735	98077.69	1.000000
Treatment	16.88	4	4.22	9.55	0.000069	0.595132	38.22	0.998169
Error	11.48	26	0.44					

LSD test; variable T1 (Preservation 15mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .44155, df = 26.000

Cell No.	Treatment	{1} 37.483	{2} 37.786	{3} 38.050	{4} 36.000	{5} 37.917
1	Vehicle		0.420828	0.151670	0.000662	0.268992
2	MDMA15	0.420828		0.481049	0.000053	0.726028
3	R-MBDB15	0.151670	0.481049		0.000014	0.730980
4	S-MBDB15	0.000662	0.000053	0.000014		0.000034
5	+MBDB15	0.268992	0.726028	0.730980	0.000034	

2 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T2 (Preservation 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	44021.50	1	44021.50	161726.1	0.000000	0.999839	161726.1	1.000000
Treatment	2.00	4	0.50	1.8	0.151968	0.220357	7.3	0.480979
Error	7.08	26	0.27					

4 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T4 (Preservation 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	43046.43	1	43046.43	167075.5	0.000000	0.999844	167075.5	1.000000
Treatment	4.50	4	1.12	4.4	0.007824	0.401754	17.5	0.880602
Error	6.70	26	0.26					

LSD test; variable T4 (Preservation 15mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .25765, df = 26.000

Cell No.	Treatment	{1} 36.833	{2} 37.757	{3} 37.133	{4} 37.800	{5} 37.150
1	Vehicle		0.003017	0.315411	0.002819	0.289812
2	MDMA15	0.003017		0.036191	0.880546	0.041035
3	R-MBDB15	0.315411	0.036191		0.031398	0.955082
4	S-MBDB15	0.002819	0.880546	0.031398		0.035499
5	+MBDB15	0.289812	0.041035	0.955082	0.035499	

6 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T6 (Preservation 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	42552.62	1	42552.62	183680.4	0.000000	0.999858	183680.4	1.000000
Treatment	2.26	4	0.56	2.4	0.072645	0.272488	9.7	0.613433
Error	6.02	26	0.23					

LSD test; variable T6 (Preservation 15mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .23167, df = 26.000

Cell No.	Treatment	{1} 36.617	{2} 37.300	{3} 37.067	{4} 37.383	{5} 37.233
1	Vehicle		0.016939	0.117439	0.010478	0.035414
2	MDMA15	0.016939		0.391532	0.758130	0.805348
3	R-MBDB15	0.117439	0.391532		0.264866	0.553858
4	S-MBDB15	0.010478	0.758130	0.264866		0.593939
5	+MBDB15	0.035414	0.805348	0.553858	0.593939	

24 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T24 (Preservation 15mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	42234.42	1	42234.42	220606.5	0.000000	0.999882	220606.5	1.000000
Treatment	1.16	4	0.29	1.5	0.228239	0.188545	6.0	0.400761
Error	4.98	26	0.19					

Values in red indicate statistical significance.

30 mg/kg

0 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T0 (Preservation 30mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	43824.04	1	43824.04	218513.2	0.000000	0.999872	218513.2	1.000000
Treatment	0.57	4	0.14	0.7	0.594165	0.091690	2.8	0.200063
Error	5.62	28	0.20					

0.5 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T0.5 (Preservation 30mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	40432.00	1	40432.00	30979.55	0.000000	0.999097	30979.55	1.000000
Treatment	154.12	4	38.53	29.52	0.000000	0.808333	118.09	1.000000
Error	36.54	28	1.31					

LSD test; variable T0.5 (Preservation 30mg)
Probabilities for Post Hoc Tests
Error: Between MSE = 1.3051, df = 28.000

Cell No.	Treatment	{1} 37.433	{2} 38.500	{3} 33.567	{4} 34.017	{5} 33.817
1	Vehicle		0.087353	0.000003	0.000017	0.000007
2	MDMA30	0.087353		0.000000	0.000000	0.000000
3	R-MBDB30	0.000003	0.000000		0.500682	0.707523
4	S-MBDB30	0.000017	0.000000	0.500682		0.763960
5	+-MBDB30	0.000007	0.000000	0.707523	0.763960	

1 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T1 (Preservation 30mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	44125.23	1	44125.23	48695.24	0.000000	0.999425	48695.24	1.000000
Treatment	29.56	4	7.39	8.15	0.000172	0.538076	32.62	0.994308
Error	25.37	28	0.91					

LSD test; variable T1 (Preservation 30mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .90615, df = 28.000

Cell No.	Treatment	{1} 37.483	{2} 38.589	{3} 36.433	{4} 36.333	{5} 36.417
1	Vehicle		0.035945	0.066357	0.045583	0.062406
2	MDMA30	0.035945		0.000189	0.000110	0.000173
3	R-MBDB30	0.066357	0.000189		0.856930	0.976023
4	S-MBDB30	0.045583	0.000110	0.856930		0.880568
5	+-MBDB30	0.062406	0.000173	0.976023	0.880568	

2 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T2 (Preservation 30mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	46013.44	1	46013.44	135089.3	0.000000	0.999793	135089.3	1.000000
Treatment	1.74	4	0.44	1.3	0.302023	0.154433	5.1	0.345987
Error	9.54	28	0.34					

4 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T4 (Preservation 30mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	45369.80	1	45369.80	221123.5	0.000000	0.999873	221123.5	1.000000
Treatment	8.69	4	2.17	10.6	0.000024	0.602113	42.4	0.999382
Error	5.74	28	0.21					

LSD test; variable T4 (Preservation 30mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .20518, df = 28.000

Cell No.	Treatment	{1} 36.833	{2} 38.333	{3} 37.417	{4} 37.750	{5} 37.517
1	Vehicle		0.000001	0.033902	0.001556	0.014278
2	MDMA30	0.000001		0.000645	0.021109	0.001936
3	R-MBDB30	0.033902	0.000645		0.212928	0.705067
4	S-MBDB30	0.001556	0.021109	0.212928		0.379880
5	+-MBDB30	0.014278	0.001936	0.705067	0.379880	

6 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T6 (Preservation 30mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	44786.67	1	44786.67	239292.7	0.000000	0.999883	239292.7	1.000000
Treatment	6.04	4	1.51	8.1	0.000185	0.535437	32.3	0.993864
Error	5.24	28	0.19					

LSD test; variable T6 (Preservation 30mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .18716, df = 28.000

Cell No.	Treatment	{1} 36.617	{2} 37.856	{3} 37.217	{4} 37.617	{5} 37.333
1	Vehicle		0.000008	0.023176	0.000416	0.007742
2	MDMA30	0.000008		0.009111	0.303736	0.029740
3	R-MBDB30	0.023176	0.009111		0.120503	0.644052
4	S-MBDB30	0.000416	0.303736	0.120503		0.266264
5	+-MBDB30	0.007742	0.029740	0.644052	0.266264	

24 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T24 (Preservation 30mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	43531.77	1	43531.77	185507.8	0.000000	0.999849	185507.8	1.000000
Treatment	0.76	4	0.19	0.8	0.531696	0.103274	3.2	0.224763
Error	6.57	28	0.23					

Values in red indicate statistical significance.

60 mg/kg

0 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T0 (Preservation 60mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	42971.03	1	42971.03	256401.7	0.000000	0.999895	256401.7	1.000000
Treatment	0.59	4	0.15	0.9	0.488874	0.115347	3.5	0.242108
Error	4.52	27	0.17					

0.5 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T0.5 (Preservation 60mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	38638.17	1	38638.17	68020.15	0.000000	0.999603	68020.15	1.000000
Treatment	223.44	4	55.86	98.34	0.000000	0.935769	393.36	1.000000
Error	15.34	27	0.57					

LSD test; variable T0.5 (Preservation 60mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .56804, df = 27.000

Cell No.	Treatment	{1} 37.433	{2} 32.217	{3} 38.513	{4} 34.367	{5} 32.367
1	Vehicle		0.000000	0.013253	0.000000	0.000000
2	R-MBDB60	0.000000		0.000000	0.000036	0.732978
3	MDMA60	0.013253	0.000000		0.000000	0.000000
4	S-MBDB60	0.000000	0.000036	0.000000		0.000090
5	+-MBDB60	0.000000	0.732978	0.000000	0.000090	

1 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T1 (Preservation 60mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	39081.28	1	39081.28	27481.11	0.000000	0.999018	27481.11	1.000000
Treatment	176.03	4	44.01	30.95	0.000000	0.820933	123.78	1.000000
Error	38.40	27	1.42					

LSD test; variable T1 (Preservation 60mg)
Probabilities for Post Hoc Tests
Error: Between MSE = 1.4221, df = 27.000

Cell No.	Treatment	{1} 37.483	{2} 33.100	{3} 38.413	{4} 33.500	{5} 33.400
1	Vehicle		0.000001	0.160600	0.000004	0.000003
2	R-MBDB60	0.000001		0.000000	0.566079	0.666499
3	MDMA60	0.160600	0.000000		0.000000	0.000000
4	S-MBDB60	0.000004	0.566079	0.000000		0.885598
5	+-MBDB60	0.000003	0.666499	0.000000	0.885598	

2 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T2 (Preservation 60mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	41777.64	1	41777.64	52297.72	0.000000	0.999484	52297.72	1.000000
Treatment	41.40	4	10.35	12.96	0.000005	0.657488	51.83	0.999932
Error	21.57	27	0.80					

LSD test; variable T2 (Preservation 60mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .79884, df = 27.000

Cell No.	Treatment	{1} 37.533	{2} 35.083	{3} 37.862	{4} 35.533	{5} 35.850
1	Vehicle		0.000060	0.501090	0.000614	0.002994
2	R-MBDB60	0.000060		0.000004	0.390869	0.148937
3	MDMA60	0.501090	0.000004		0.000049	0.000282
4	S-MBDB60	0.000614	0.390869	0.000049		0.544572
5	+-MBDB60	0.002994	0.148937	0.000282	0.544572	

4 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T4 (Preservation 60mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	44978.13	1	44978.13	162029.3	0.000000	0.999833	162029.3	1.000000
Treatment	6.98	4	1.75	6.3	0.001035	0.482378	25.2	0.971993
Error	7.50	27	0.28					

LSD test; variable T4 (Preservation 60mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .27759, df = 27.000

Cell No.	Treatment	{1} 36.833	{2} 37.733	{3} 37.850	{4} 38.100	{5} 38.183
1	Vehicle		0.006357	0.001353	0.000286	0.000138
2	R-MBDB60	0.006357		0.685030	0.238511	0.150622
3	MDMA60	0.001353	0.685030		0.387369	0.251644
4	S-MBDB60	0.000286	0.238511	0.387369		0.786206
5	+-MBDB60	0.000138	0.150622	0.251644	0.786206	

6 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T6 (Preservation 60mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	44726.23	1	44726.23	151037.5	0.000000	0.999821	151037.5	1.000000
Treatment	8.66	4	2.16	7.3	0.000400	0.519858	29.2	0.987765
Error	8.00	27	0.30					

LSD test; variable T6 (Preservation 60mg)
Probabilities for Post Hoc Tests
Error: Between MSE = .29613, df = 27.000

Cell No.	Treatment	{1} 36.617	{2} 37.767	{3} 37.638	{4} 38.100	{5} 38.050
1	Vehicle		0.001079	0.001748	0.000064	0.000099
2	R-MBDB60	0.001079		0.663790	0.298105	0.375128
3	MDMA60	0.001748	0.663790		0.127197	0.171837
4	S-MBDB60	0.000064	0.298105	0.127197		0.874739
5	+-MBDB60	0.000099	0.375128	0.171837	0.874739	

24 Hour

Univariate Tests of Significance, Effect Sizes, and Powers for T24 (Preservation 60mg)
Sigma-restricted parameterization
Effective hypothesis decomposition

Effect	SS	Degr. of Freedom	MS	F	p	Partial eta-squared	Non-centrality	Observed power (alpha=0.05)
Intercept	43011.81	1	43011.81	228063.6	0.000000	0.999882	228063.6	1.000000
Treatment	0.44	4	0.11	0.6	0.681907	0.078721	2.3	0.167961
Error	5.09	27	0.19					

Values in red indicate statistical significance.

APPENDIX G. LMA TEST #1 RAW DATA

IVS247-22025-MZ (Preservation): LMA TEST 1

Date: 2022-03-17	**Test Article: MDMA**	**(R)-MBDB**	**(S)-MBDB**	**(±)-MBDB**
Experimenters: LD, MB, JA, LBS	**Dose(s)** 3mg/kg	3, 5, 15mg/kg	3, 5, 15mg/kg	3, 15, 15mg/kg
Subjects: Male C57/BL6 mice	**Route; Volume:** IP; 10mL/kg	IP; 10mL/kg	IP; 10mL/kg	IP; 10mL/kg
	Pretreatment time: 15 min	15 min	15 min	15 min

ID	Treatment	Distance Travelled (10 min timebins)							Ambulatory Episodes (10 min timebins)							Rears (10 min timebins)							Speed (10 min timebins)						
		10	20	30	40	50	60	Total	10	20	30	40	50	60	Total	10	20	30	40	50	60	Total	10	20	30	40	50	60	Total
A1	Vehicle	1979	882	263	153	99	32	**3408**	96	40	10	5	4	1	**156**	90	45	5	18	1	14	**173**	27	28	19	24	18	22	**23**
A2		2163	1357	297	503	0	0	**4320**	99	63	13	23	0	0	**198**	108	104	39	18	2	5	**276**	24	32	24	27	0	0	**18**
A3		2543	1493	912	983	932	510	**7372**	125	70	46	42	44	24	**351**	77	105	104	78	57	59	**480**	27	21	28	29	29	26	**27**
A4		2355	1194	414	617	648	71	**5298**	116	55	17	24	29	3	**244**	115	77	25	16	21	3	**257**	28	26	24	27	27	16	**25**
A5		2049	1135	885	297	0	142	**4508**	109	59	39	11	0	6	**224**	110	76	47	5	0	0	**238**	29	30	22	20	0	20	**20**
A6		3036	989	150	0	36	182	**4393**	128	30	4	0	3	8	**173**	176	33	8	0	5	5	**227**	27	25	22	0	15	18	**18**
A7		1982	1276	1221	1177	845	652	**7153**	97	64	59	60	46	37	**363**	113	95	116	129	77	82	**612**	25	31	29	28	30	34	**30**
A8		2317	2316	1695	1035	741	191	**8293**	111	106	79	48	34	8	**386**	140	146	104	57	31	10	**488**	29	31	26	30	29	20	**27**
	AVG	**2303**	**1330**	**730**	**596**	**412**	**223**	**5593**	**110**	**61**	**33**	**27**	**20**	**11**	**262**	**116**	**85**	**56**	**40**	**24**	**22**	**344**	**27**	**28**	**24**	**23**	**19**	**20**	**23**
	SEM	**126**	**157**	**192**	**154**	**146**	**83**	**627**	**4**	**8**	**9**	**8**	**7**	**5**	**32**	**11**	**13**	**16**	**16**	**10**	**11**	**56**	**1**	**1**	**1**	**3**	**4**	**3**	**2**
B1	MDMA (3mg/kg)	2851	2878	1656	1703	1544	969	**11600**	133	133	74	79	83	46	**548**	103	149	69	81	31	53	**486**	24	32	30	31	32	27	**29**
B2		4564	4012	2815	2562	2252	3352	**19557**	178	130	144	127	94	39	**712**	126	152	120	115	102	23	**638**	25	32	29	35	31	29	**30**
B3		2227	2013	2444	2442	2225	1637	**12988**	90	88	113	111	112	74	**588**	33	29	70	102	100	74	**408**	22	28	24	30	32	27	**27**
B4		4033	3573	3455	2953	2213	1957	**18183**	186	151	136	112	81	77	**743**	140	171	146	99	88	104	**748**	28	36	30	30	30	35	**32**
B5		3156	2536	2559	2484	1764	1308	**13805**	119	97	111	101	74	57	**559**	172	103	130	85	73	56	**619**	26	30	27	25	28	25	**27**
B6		2533	2838	2691	1929	1248	700	**11940**	126	130	125	81	43	26	**531**	71	65	75	70	35	17	**333**	26	28	28	28	25	22	**26**
B7		3825	4284	3351	3023	2027	335	**16846**	131	142	125	107	67	12	**584**	99	59	54	62	65	10	**349**	24	28	29	29	26	23	**27**
B8		3731	2594	2091	2056	1831	1163	**13466**	146	113	91	97	84	45	**576**	130	79	108	110	82	35	**544**	25	28	35	30	34	23	**29**
	AVG	**3365**	**3091**	**2633**	**2394**	**1888**	**1428**	**14798**	**139**	**123**	**115**	**102**	**80**	**47**	**605**	**109**	**101**	**97**	**91**	**72**	**47**	**516**	**25**	**30**	**29**	**30**	**30**	**26**	**28**
	SEM	**284**	**278**	**212**	**167**	**128**	**328**	**1058**	**11**	**8**	**8**	**6**	**7**	**8**	**28**	**15**	**18**	**12**	**7**	**10**	**11**	**52**	**1**	**1**	**1**	**1**	**1**	**2**	**1**
C1	R-MBDB (3mg/kg)	3118	1679	1517	601	237	424	**7576**	144	87	76	26	7	21	**361**	141	86	74	34	14	23	**372**	30	30	28	24	16	29	**26**
C2		3169	1963	1382	16	0	462	**6992**	148	99	61	1	0	18	**327**	166	144	86	3	1	34	**434**	27	28	29	13	0	22	**20**
C3		2854	1923	925	231	0	0	**5933**	137	100	53	9	0	0	**299**	112	154	38	14	0	4	**322**	25	28	32	36	0	0	**20**
C4		2676	1375	507	0	152	0	**4710**	129	49	17	0	5	0	**200**	85	56	13	0	7	0	**161**	24	24	24	0	20	0	**15**
C5		3492	2957	2781	1920	1614	1496	**14259**	149	131	122	78	78	76	**634**	165	212	204	162	140	159	**1042**	29	30	32	31	34	40	**33**
C6		2875	2786	1650	675	145	1000	**9131**	117	132	61	29	4	49	**392**	109	132	57	22	7	73	**400**	25	27	26	27	20	29	**26**
C7		2331	1416	1242	883	603	427	**6901**	93	58	51	36	21	18	**277**	88	35	59	74	49	27	**332**	27	28	29	28	33	23	**28**
C8		4318	3338	2565	1690	897	38	**12844**	177	151	122	78	44	1	**573**	160	148	140	170	32	10	**660**	27	29	25	26	29	30	**28**
	AVG	**3104**	**2180**	**1571**	**752**	**456**	**481**	**8543**	**137**	**101**	**70**	**32**	**20**	**23**	**383**	**128**	**121**	**84**	**60**	**31**	**41**	**465**	**27**	**28**	**28**	**23**	**19**	**22**	**24**
	SEM	**212**	**264**	**272**	**256**	**199**	**187**	**1188**	**9**	**13**	**13**	**11**	**10**	**10**	**53**	**12**	**21**	**22**	**25**	**17**	**19**	**96**	**1**	**1**	**1**	**4**	**5**	**5**	**2**
D1	R-MBDB (5mg/kg)	2877	2586	2263	2286	1270	995	**12277**	121	104	104	98	50	40	**517**	75	81	96	92	34	35	**413**	32	28	27	26	27	23	**27**
D2		4874	2944	3218	2569	1794	837	**16236**	188	141	99	69	63	59	**619**	103	119	120	127	103	83	**655**	30	27	36	34	29	27	**30**
D3		4179	3246	2967	2236	922	436	**13986**	172	156	129	109	43	16	**625**	218	196	192	167	58	36	**867**	28	29	28	31	30	22	**28**
D4		2528	1913	1505	953	1244	448	**8590**	109	97	68	50	58	23	**405**	101	156	103	73	55	47	**535**	26	29	26	29	28	29	**28**
D5		3634	3202	3145	2315	1976	1359	**15631**	150	137	153	112	94	62	**708**	93	144	178	172	120	82	**789**	25	27	33	29	30	33	**30**
D6		3259	2372	3142	2487	1662	2093	**15016**	149	99	139	126	73	90	**676**	133	144	262	180	108	145	**972**	24	25	27	25	27	26	**25**
D7		4022	3397	2765	2784	1307	1655	**15929**	160	153	120	133	69	91	**726**	93	147	112	94	80	72	**598**	26	30	27	28	27	32	**28**
D8		3288	2951	2373	1527	498	1074	**11710**	141	142	109	68	18	66	**544**	98	138	163	94	23	98	**614**	24	27	29	29	29	33	**29**
	AVG	**3583**	**2826**	**2672**	**2145**	**1334**	**1112**	**13672**	**149**	**129**	**115**	**96**	**59**	**56**	**603**	**114**	**141**	**153**	**125**	**73**	**75**	**680**	**27**	**28**	**29**	**29**	**28**	**28**	**28**
	SEM	**268**	**178**	**209**	**214**	**170**	**203**	**936**	**9**	**9**	**9**	**11**	**8**	**10**	**38**	**16**	**11**	**20**	**15**	**13**	**13**	**65**	**1**	**1**	**1**	**1**	**1**	**2**	**1**
E1	R-MBDB (15mg/kg)	3358	2943	3224	2676	1836	1476	**15513**	144	146	150	124	84	70	**718**	67	102	129	107	98	107	**610**	34	38	39	35	38	36	**37**
E2		4743	5762	5188	4742	3675	3740	**27850**	184	201	193	185	167	165	**1095**	90	108	163	151	128	143	**783**	26	27	28	30	30	34	**29**
E3		4582	3122	2743	2206	1550	1303	**15507**	190	157	133	121	86	66	**753**	127	224	248	188	153	92	**1032**	31	34	33	35	30	30	**32**
E4		4024	4325	3567	3208	2185	2651	**19961**	217	232	188	165	112	124	**1038**	36	173	205	192	147	189	**942**	42	41	36	35	34	30	**36**
E5		4444	4902	3609	2287	1479	846	**17567**	182	191	138	82	58	32	**683**	197	197	169	78	58	24	**723**	26	29	30	27	23	24	**26**
E6		4509	3722	3495	1783	2332	1007	**16847**	190	151	158	91	133	53	**776**	133	134	150	103	145	61	**726**	27	30	28	31	29	32	**29**
E7		2924	2991	2845	2592	2410	1824	**15586**	146	156	146	137	121	93	**799**	102	158	161	129	139	96	**785**	25	27	30	31	25	27	**28**
E8		4717	4461	4061	3509	3198	2958	**22904**	182	197	180	153	137	128	**977**	98	136	117	154	120	82	**707**	26	27	28	27	27	25	**27**
	AVG	**4163**	**4028**	**3592**	**2876**	**2333**	**1976**	**18967**	**179**	**179**	**161**	**132**	**112**	**91**	**855**	**106**	**154**	**168**	**138**	**124**	**99**	**789**	**30**	**32**	**32**	**31**	**30**	**30**	**31**
	SEM	**240**	**359**	**274**	**330**	**273**	**365**	**1565**	**8**	**11**	**8**	**12**	**12**	**16**	**56**	**17**	**15**	**15**	**14**	**11**	**18**	**48**	**2**	**2**	**1**	**1**	**2**	**2**	**1**

IVS247-22025-MZ (Preservation): LMA TEST 1

Date: 2022-03-17	**Test Article:**	**MDMA**	**(R)-MBDB**	**(S)-MBDB**	**(±)-MBDB**
Experimenters: LD, MB, JA, LBS	**Dose(s)**	3mg/kg	3, 5, 15mg/kg	3, 5, 15mg/kg	3, 15, 15mg/kg
Subjects: Male C57/BL6 mice	**Route; Volume:**	IP; 10mL/kg	IP; 10mL/kg	IP; 10mL/kg	IP; 10mL/kg
	Pretreatment time:	15 min	15 min	15 min	15 min

ID	Treatment	Distance Travelled (10 min timebins)							Ambulatory Episodes (10 min timebins)							Rears (10 min timebins)							Speed (10 min timebins)						
		10	20	30	40	50	60	Total	10	20	30	40	50	60	Total	10	20	30	40	50	60	Total	10	20	30	40	50	60	Total
F1	S-MBDB (3mg/kg)	2163	943	518	394	0	1200	**5218**	108	51	23	19	0	57	**258**	75	46	20	13	0	87	**241**	33	30	42	25	0	24	**26**
F2		3110	2140	1688	1712	1397	1035	**11082**	133	103	77	83	63	50	**509**	162	199	106	123	85	59	**734**	32	35	29	31	30	25	**30**
F3		3238	2465	2160	2159	2027	1159	**13209**	150	126	104	109	98	61	**648**	143	85	85	75	87	83	**558**	29	29	28	31	29	29	**29**
F4		2939	2407	2036	1874	2057	1166	**12478**	134	119	93	94	99	51	**590**	133	158	162	139	134	81	**807**	28	25	27	28	24	26	**26**
F5		2212	1541	1685	1548	295	0	**7282**	97	71	82	56	9	0	**315**	100	102	115	60	18	1	**396**	27	32	29	23	22	0	**22**
F6		4405	3386	3377	3006	1564	1210	**16948**	193	163	155	156	71	43	**781**	247	232	161	229	117	98	**1084**	28	33	35	35	28	29	**31**
F7		3398	2026	1559	1263	816	106	**9167**	154	92	78	67	36	4	**431**	114	84	72	62	26	0	**358**	29	30	24	30	28	20	**27**
F8		4040	3295	2445	1955	1338	701	**13774**	194	134	98	79	53	27	**585**	170	154	120	89	62	25	**620**	32	30	37	25	29	24	**29**
	AVG	**3188**	**2275**	**1934**	**1739**	**1187**	**822**	**11145**	**145**	**107**	**89**	**83**	**54**	**37**	**515**	**143**	**133**	**105**	**99**	**66**	**54**	**600**	**30**	**30**	**31**	**29**	**24**	**22**	**28**
	SEM	**278**	**290**	**289**	**265**	**268**	**178**	**1340**	**12**	**13**	**13**	**14**	**13**	**8**	**62**	**19**	**23**	**17**	**23**	**17**	**14**	**97**	**1**	**1**	**2**	**1**	**4**	**3**	**1**
G1	S-MBDB (5mg/kg)	4181	3334	3461	2957	2083	1137	**17152**	176	136	136	120	99	50	**717**	148	201	154	128	74	50	**755**	29	29	29	27	26	26	**28**
G2		2656	2559	2694	2234	1816	1748	**13708**	118	135	139	123	101	94	**710**	68	75	108	71	79	76	**477**	23	31	28	30	29	24	**27**
G3		4190	3171	3349	2541	2212	1395	**16858**	179	154	147	111	88	71	**750**	146	153	111	132	116	85	**743**	39	41	35	35	34	41	**38**
G4		3125	2440	2145	1820	417	387	**10335**	138	109	109	93	19	12	**480**	77	74	80	55	7	5	**298**	25	28	24	26	22	18	**24**
G5		3748	3472	3513	2798	2815	2227	**18573**	157	158	157	134	120	107	**833**	104	134	143	105	109	77	**672**	26	32	34	33	31	37	**32**
G6		4001	3878	3068	3392	1989	2381	**18710**	184	165	139	132	86	100	**806**	59	93	92	129	99	102	**574**	31	32	33	34	31	33	**32**
G7		4029	2835	2707	2264	2858	2454	**17146**	169	119	119	94	111	95	**707**	146	149	156	112	118	118	**799**	29	33	32	30	29	31	**31**
G8		4090	2736	2278	1867	1184	387	**12542**	177	128	112	78	52	16	**563**	134	117	79	69	33	27	**459**	33	29	32	36	27	26	**31**
	AVG	**3753**	**3053**	**2902**	**2484**	**1922**	**1515**	**15628**	**162**	**138**	**132**	**111**	**85**	**68**	**696**	**110**	**125**	**115**	**100**	**79**	**68**	**597**	**29**	**32**	**31**	**31**	**29**	**30**	**30**
	SEM	**199**	**175**	**187**	**193**	**287**	**296**	**1082**	**8**	**7**	**6**	**7**	**12**	**13**	**42**	**13**	**15**	**11**	**11**	**14**	**13**	**62**	**2**	**1**	**1**	**1**	**1**	**3**	**1**
H1	S-MBDB (15mg/kg)	1383	2238	1738	2522	2423	1804	**12109**	63	107	77	112	120	89	**568**	43	67	75	89	133	89	**496**	28	30	33	28	30	33	**30**
H2		2850	3491	3858	4647	4471	3379	**22696**	132	138	150	192	180	156	**948**	32	48	52	65	82	104	**383**	30	27	28	32	28	30	**29**
H3		4530	3621	3082	3125	2810	2484	**19652**	197	194	151	146	153	131	**972**	175	198	185	171	168	119	**1016**	32	37	35	39	42	37	**37**
H4		3385	2875	2391	1804	2102	1615	**14171**	160	137	118	95	109	86	**705**	131	147	139	115	148	133	**813**	24	31	31	37	34	37	**32**
H5		3786	3948	3488	3500	3178	2824	**20725**	165	155	144	148	124	122	**858**	146	149	163	144	139	142	**883**	32	32	35	33	35	41	**35**
H6		3560	2642	2476	1394	988	25	**11086**	142	106	108	64	43	0	**463**	121	132	82	65	38	0	**438**	27	29	27	23	28	0	**22**
H7		3823	4361	4121	4172	4774	3827	**25079**	166	186	174	188	192	160	**1066**	55	82	83	86	125	56	**487**	27	27	26	32	32	30	**29**
H8		4000	3504	3234	3306	3034	1944	**19021**	179	148	150	152	144	91	**864**	37	54	91	92	106	78	**458**	25	26	31	28	30	30	**28**
	AVG	**3415**	**3335**	**3049**	**3059**	**2973**	**2238**	**18067**	**151**	**146**	**134**	**137**	**133**	**104**	**806**	**93**	**110**	**109**	**103**	**117**	**90**	**622**	**28**	**30**	**31**	**32**	**32**	**30**	**30**
	SEM	**337**	**248**	**284**	**393**	**434**	**418**	**1795**	**14**	**11**	**11**	**16**	**16**	**18**	**74**	**20**	**19**	**17**	**13**	**15**	**16**	**86**	**1**	**1**	**1**	**2**	**2**	**4**	**2**
I1	(±)-MBDB (3mg/kg)	3031	2243	1517	1481	1021	898	**10191**	93	46	22	0	0	0	**161**	70	66	34	0	0	0	**170**	25	30	22	0	0	0	**13**
I2		2800	1433	391	104	0	0	**4728**	104	51	13	4	0	0	**172**	110	77	13	1	0	0	**201**	26	30	27	26	0	0	**18**
I3		2556	911	1567	799	308	0	**6140**	120	39	81	46	12	0	**298**	92	33	50	12	9	2	**198**	25	21	23	30	22	0	**20**
I4		2843	1563	1635	1003	599	462	**8104**	117	60	68	37	21	17	**320**	153	91	122	56	33	23	**478**	32	30	29	27	25	22	**28**
I5		4317	3321	3210	2774	1529	854	**16006**	157	131	131	99	52	23	**593**	147	122	116	102	44	25	**556**	28	28	28	26	27	27	**27**
I6		3962	2668	2183	1305	877	422	**11418**	183	126	105	66	43	15	**538**	81	86	95	49	34	28	**373**	28	29	33	31	24	30	**29**
I7		4458	4118	3406	3124	3011	2499	**20617**	180	178	156	135	131	107	**887**	152	156	159	147	165	123	**902**	29	31	35	34	40	33	**34**
I8		4371	3880	3590	3348	2421	2527	**20136**	180	171	135	132	114	119	**851**	163	269	193	135	177	181	**1118**	28	32	30	31	31	28	**30**
	AVG	**3542**	**2517**	**2187**	**1742**	**1221**	**958**	**12168**	**142**	**100**	**89**	**65**	**47**	**35**	**478**	**121**	**113**	**98**	**63**	**58**	**48**	**500**	**28**	**29**	**28**	**26**	**21**	**17**	**25**
	SEM	**286**	**419**	**398**	**421**	**369**	**359**	**2164**	**13**	**20**	**19**	**19**	**18**	**17**	**101**	**13**	**26**	**22**	**21**	**25**	**24**	**123**	**1**	**1**	**2**	**4**	**5**	**5**	**2**
J1	(±)-MBDB (5mg/kg)	3031	2243	1517	1481	1021	898	**10191**	138	93	73	66	52	42	**464**	119	89	53	51	43	57	**412**	31	26	28	30	21	24	**27**
J2		2736	1820	1550	1332	714	983	**9135**	120	87	68	54	34	46	**409**	76	69	53	47	36	59	**340**	24	37	39	28	25	31	**30**
J3		3542	2415	2336	2386	1558	1962	**14199**	163	118	98	89	53	77	**598**	139	134	105	79	58	42	**557**	28	33	31	29	29	28	**30**
J4		4034	2674	2332	2213	1439	595	**13288**	160	123	109	90	59	23	**564**	133	140	102	106	57	31	**569**	30	27	27	27	26	29	**28**
J5		3326	2940	3317	2917	2312	1328	**16141**	146	129	152	118	114	59	**718**	93	147	201	140	102	91	**774**	29	29	30	31	26	32	**29**
J6		2093	2024	2225	1096	1736	1403	**10577**	79	81	92	40	77	74	**443**	104	109	128	106	119	105	**671**	28	29	31	27	34	27	**29**
J7		4946	3635	3108	3371	2277	1474	**18812**	176	150	122	145	99	65	**757**	129	132	106	119	68	66	**620**	28	28	31	31	30	27	**29**
J8		4018	3825	3332	2537	2181	1732	**17627**	167	160	153	136	105	78	**799**	120	109	136	96	81	67	**609**	24	26	31	32	31	26	**28**
	AVG	**3466**	**2697**	**2465**	**2167**	**1655**	**1297**	**13746**	**144**	**118**	**108**	**92**	**74**	**58**	**594**	**114**	**116**	**111**	**93**	**71**	**65**	**569**	**28**	**29**	**31**	**29**	**28**	**28**	**29**
	SEM	**312**	**258**	**258**	**284**	**209**	**160**	**1273**	**11**	**10**	**11**	**14**	**10**	**7**	**53**	**8**	**10**	**17**	**11**	**10**	**9**	**49**	**1**	**1**	**1**	**1**	**1**	**1**	**0**
K1	(±)-MBDB (15mg/kg)	2135	2601	2431	1795	1768	1568	**12299**	120	140	120	109	108	92	**689**	54	24	23	30	48	48	**227**	43	36	29	37	42	37	**27**
K2		2842	2951	2924	2506	2047	1838	**15107**	157	174	177	153	124	121	**906**	13	8	10	35	49	55	**170**	37	33	34	40	48	39	**30**
K3		3834	3991	3354	3531	3270	2540	**20520**	181	187	163	162	159	111	**963**	137	127	158	135	162	91	**810**	27	33	32	30	29	30	**30**
K4		3738	2511	2255	2435	1971	1334	**14245**	166	108	104	114	92	69	**653**	96	74	99	111	96	78	**554**	31	29	26	29	27	32	**28**
K5		1859	1408	1751	1529	1336	897	**8781**	111	91	115	87	77	51	**532**	2	1	20	25	19	18	**85**	38	45	40	38	30	35	**29**
K6		2761	1944	2152	602	542	219	**8220**	123	79	76	22	21	7	**328**	139	78	66	8	19	1	**311**	24	25	24	21	21	21	**29**
K7		3539	3555	3624	3339	3279	2087	**19423**	173	154	164	156	162	104	**913**	15	13	33	55	70	50	**236**	30	28	26	27	29	34	**29**
K8		4068	4259	4099	3590	2538	2995	**21548**	199	232	219	190	137	171	**1148**	13	10	29	34	29	63	**178**	31	34	35	32	36	33	**28**
	AVG	**3097**	**2903**	**2824**	**2416**	**2094**	**1685**	**15018**	**154**	**146**	**142**	**124**	**110**	**91**	**767**	**59**	**42**	**55**	**54**	**62**	**51**	**321**	**32**	**33**	**31**	**32**	**33**	**33**	**29**
	SEM	**291**	**350**	**288**	**377**	**330**	**314**	**1820**	**11**	**18**	**16**	**19**	**17**	**17**	**94**	**20**	**16**	**18**	**16**	**17**	**10**	**85**	**2**	**2**	**2**	**2**	**3**	**2**	**0**

APPENDIX H. LMA TEST #2 RAW DATA

IVS247-22025-MZ (Preservation): LMA TEST 2

Date: 2022-04-29
Experimenters: LD, MB, JA, LBS
Subjects: Male C57/BL6 mice

Test Article:	**MDMA**	**(R)-MBDB**	**(S)-MBDB**	**(±)-MBDB**
Dose(s)	3mg/kg	3, 5, 15mg/kg	3, 5, 15mg/kg	3, 15, 15mg/kg
Route; Volume:	IP; 10mL/kg	IP; 10mL/kg	IP; 10mL/kg	IP; 10mL/kg
Pretreatment time:	0 min	0 min	0 min	0 min

ID	Treatment	Habituation Period						Distance Travelled (10 min timebins)							Ambulatory Episodes (10 min timebins)							Rears (10 min timebins)							Speed (10 min timebins)						
		-50	-40	-30	-20	-10	0	10	20	30	40	50	60	Total	10	20	30	40	50	60	Total	10	20	30	40	50	60	Total	10	20	30	40	50	60	Total
K5	Vehicle	1840	1052	994	1075	836	613	47	255	411	0	0	886	**1598**	2	11	17	0	0	42	**72**	2	8	16	0	0	47	**73**	50	21	38	0	0	28	**23**
K6		1510	303	255	263	216	157	95	0	0	0	0	8	**103**	4	0	0	0	0	0	**4**	0	0	1	0	0	0	**1**	35	0	0	0	0	0	**6**
A3		3751	1061	853	765	782	877	1262	0	0	0	0	0	**1262**	55	0	0	0	0	0	**55**	36	0	0	0	0	0	**36**	28	0	0	0	0	0	**5**
A4		3922	2047	1604	1656	732	882	911	195	180	84	0	0	**1370**	20	5	5	5	0	0	**35**	12	3	2	2	0	0	**19**	32	24	22	15	0	0	**16**
B5		3522	2280	1578	1977	1571	990	462	657	284	431	364	1523	**3720**	22	25	8	24	18	70	**167**	23	26	14	33	37	130	**263**	32	34	25	37	25	36	**32**
C8		2802	1509	1267	1308	1155	1315	1567	1041	240	169	0	1177	**4194**	70	48	10	7	0	47	**182**	103	64	10	6	3	46	**232**	29	29	25	16	0	24	**21**
A1		1410	1160	950	787	956	84	383	551	145	374	0	249	**1702**	16	22	7	16	0	12	**73**	24	62	2	25	1	16	**130**	31	31	36	22	0	20	**23**
A2		2418	1701	1691	1532	901	979	1003	500	177	0	83	0	**1763**	44	15	6	0	2	0	**67**	23	19	5	0	2	0	**49**	31	33	29	0	30	0	**21**
	AVG	**2647**	**1389**	**1149**	**1170**	**894**	**737**	**716**	**400**	**180**	**132**	**56**	**480**	**1964**	**29**	**16**	**7**	**7**	**3**	**21**	**82**	**28**	**23**	**6**	**8**	**5**	**30**	**100**	**34**	**21**	**22**	**11**	**7**	**14**	**18**
	SEM	**358**	**223**	**172**	**197**	**136**	**151**	**196**	**126**	**49**	**63**	**45**	**220**	**474**	**9**	**6**	**2**	**3**	**2**	**10**	**22**	**12**	**9**	**2**	**5**	**5**	**16**	**35**	**2**	**5**	**5**	**5**	**5**	**5**	**3**
B3	MDMA (3mg/kg)	2815	1715	1336	1297	1014	744	1836	594	360	63	0	235	**3089**	38	32	17	2	0	11	**100**	59	35	43	6	3	21	**167**	21	40	31	16	0	28	**23**
B4		2567	1366	960	911	507	372	1787	1284	1048	708	698	256	**5780**	32	68	53	31	31	11	**226**	49	109	75	32	70	15	**350**	27	28	34	21	28	19	**26**
C4		3688	3433	2071	3005	1806	848	527	498	1028	1057	723	3136	**6970**	24	21	41	42	30	163	**321**	48	37	108	66	40	255	**554**	29	35	33	35	33	39	**34**
H2		3394	1746	579	578	26	124	1162	0	498	482	0	566	**2708**	50	0	18	22	0	29	**119**	66	0	36	8	1	27	**138**	36	0	29	33	0	23	**20**
F5		2320	1018	584	525	0	0	1175	836	901	629	414	15	**3971**	49	34	36	26	17	1	**163**	32	8	44	22	21	1	**128**	43	20	24	24	25	0	**23**
C7		2173	1359	1256	850	594	772	510	625	201	170	0	0	**1505**	18	22	7	7	0	0	**54**	10	28	10	0	6	0	**54**	27	23	37	16	0	0	**17**
XJ1		3000	1537	882	1089	307	1580	311	32	256	353	417	0	**1368**	11	1	8	16	13	0	**49**	6	0	5	15	27	2	**55**	37	76	21	19	21	0	**29**
XJ2		2349	1469	1544	1103	454	55	948	484	423	188	211	70	**2323**	43	22	18	8	10	3	**104**	33	16	14	4	14	0	**81**	32	25	22	30	26	16	**25**
	AVG	**2788**	**1705**	**1151**	**1170**	**588**	**562**	**1032**	**544**	**589**	**456**	**308**	**535**	**3464**	**33**	**25**	**25**	**19**	**13**	**27**	**142**	**38**	**29**	**42**	**19**	**23**	**40**	**191**	**31**	**31**	**29**	**24**	**17**	**16**	**25**
	SEM	**192**	**260**	**179**	**278**	**208**	**189**	**203**	**147**	**123**	**118**	**107**	**378**	**709**	**5**	**8**	**6**	**5**	**5**	**20**	**33**	**8**	**13**	**12**	**8**	**8**	**31**	**62**	**2**	**8**	**2**	**3**	**5**	**5**	**2**
A5	R-MBDB (3mg/kg)	2007	1206	1125	962	715	693	108	15	690	579	0	574	**1968**	3	1	33	27	0	22	**86**	17	3	40	57	1	22	**140**	40	80	20	31	0	24	**33**
A6		1835	1043	923	829	779	616	616	654	205	225	4	0	**1705**	32	29	9	9	0	0	**79**	32	39	22	10	0	0	**103**	34	33	24	15	0	0	**18**
C1		1967	1068	969	871	658	179	105	0	0	39	534	0	**678**	5	0	0	1	24	0	**30**	10	0	0	2	37	0	**49**	20	0	0	15	18	0	**9**
D5		2653	1171	770	1814	1008	840	1067	491	781	238	979	2123	**5679**	51	23	36	13	54	113	**290**	106	22	47	7	112	183	**477**	32	18	23	22	28	33	**26**
D6		2366	1877	1511	1570	1872	1477	1327	1115	906	1007	827	101	**5284**	64	53	50	53	40	6	**266**	97	61	21	51	38	6	**274**	28	30	26	31	21	33	**28**
D7		2809	1511	1649	1133	759	858	1733	361	836	48	1127	177	**4282**	62	14	33	2	52	6	**169**	62	15	44	1	53	5	**180**	31	34	21	19	22	20	**24**
D8		3081	2261	1774	1496	1232	974	1173	510	0	0	461	1022	**3166**	52	19	0	0	21	55	**147**	57	19	0	1	18	63	**158**	34	25	0	0	37	31	**21**
F8		2945	1862	1742	1501	1304	923	957	674	635	1843	0	550	**4658**	41	32	36	78	0	24	**211**	54	45	53	106	2	15	**275**	28	24	31	29	0	29	**23**
	AVG	**2458**	**1500**	**1308**	**1272**	**1041**	**820**	**886**	**478**	**507**	**498**	**492**	**568**	**3427**	**39**	**21**	**25**	**23**	**24**	**28**	**160**	**54**	**26**	**28**	**29**	**33**	**37**	**207**	**31**	**30**	**18**	**20**	**16**	**21**	**23**
	SEM	**170**	**160**	**143**	**131**	**146**	**129**	**204**	**129**	**133**	**227**	**162**	**255**	**648**	**8**	**6**	**7**	**10**	**8**	**14**	**33**	**12**	**7**	**7**	**14**	**13**	**22**	**47**	**2**	**8**	**4**	**4**	**5**	**5**	**3**
D4	R-MBDB (5mg/kg)	2815	1853	1288	1414	894	1208	1748	356	260	0	0	0	**2364**	84	14	9	0	0	0	**107**	116	14	13	5	0	2	**150**	28	24	21	0	0	0	**12**
E1		2428	883	795	935	277	0	805	0	57	234	267	223	**1585**	33	0	1	12	13	7	**66**	45	3	0	9	6	8	**71**	32	0	25	27	24	24	**22**
E2		3376	2694	2220	2238	2420	1469	2440	1294	987	868	70	811	**6470**	100	52	31	32	2	25	**242**	88	30	21	32	0	8	**179**	31	31	26	24	23	29	**27**
E7		3653	1974	1657	1219	1895	197	3465	3465	1366	1321	73	244	**9935**	132	144	54	43	2	13	**388**	141	191	45	41	3	7	**428**	31	31	34	26	33	31	**31**
E8		2720	1636	1353	1132	1735	1128	864	1074	24	0	191	656	**2808**	33	52	0	0	9	27	**121**	58	64	5	3	6	77	**213**	23	29	0	0	26	23	**17**
F6		2910	2048	2047	1781	1670	1341	1709	1392	1190	838	538	273	**5940**	75	62	53	37	23	13	**263**	104	106	72	60	26	18	**386**	38	39	32	31	30	48	**36**
XG1		1960	935	925	691	813	719	647	824	330	829	0	0	**2630**	31	33	16	42	0	0	**122**	48	90	23	79	7	0	**247**	33	24	25	34	0	0	**19**
XG2		2838	1455	691	695	78	79	546	8	0	156	70	80	**859**	14	0	0	7	2	3	**26**	6	1	7	5	2	2	**23**	33	0	0	20	17	18	**15**
	AVG	**2838**	**1685**	**1372**	**1263**	**1223**	**768**	**1528**	**1052**	**527**	**531**	**151**	**286**	**4074**	**63**	**45**	**21**	**22**	**6**	**11**	**167**	**76**	**62**	**23**	**29**	**6**	**15**	**212**	**31**	**22**	**20**	**20**	**19**	**22**	**22**
	SEM	**185**	**212**	**201**	**190**	**294**	**213**	**363**	**395**	**199**	**175**	**64**	**106**	**1091**	**15**	**17**	**8**	**7**	**3**	**4**	**43**	**16**	**23**	**9**	**10**	**3**	**9**	**50**	**1**	**5**	**5**	**5**	**4**	**6**	**3**
C2	R-MBDB (15mg/kg)	2322	1621	969	1209	830	1023	1491	1971	1779	1577	668	0	**7486**	62	81	78	79	32	0	**332**	63	70	68	55	16	1	**273**	24	29	28	26	26	0	**22**
C3		2884	1935	1225	1412	849	1229	2819	3453	3042	2675	2539	1778	**16307**	134	162	146	133	127	83	**785**	143	164	155	133	143	130	**868**	28	29	39	31	27	25	**30**
D3		2590	1503	1077	1210	1002	1068	1714	2286	1681	1206	137	419	**7443**	68	99	73	64	3	18	**325**	97	142	86	93	5	17	**440**	29	25	34	34	24	18	**27**
E3		4832	1724	1065	1223	831	777	3498	4200	3882	3289	2291	2139	**19299**	142	178	166	144	110	100	**840**	87	156	181	117	126	67	**734**	31	33	31	30	30	27	**30**
E4		2541	1499	1063	1092	876	676	1942	2378	2028	2042	1731	1267	**11387**	88	135	121	113	95	66	**618**	126	147	142	192	121	57	**785**	34	30	38	35	34	33	**34**
F3		1744	1302	879	995	1320	1358	1370	616	297	1001	860	671	**4817**	60	29	11	46	42	36	**224**	33	9	2	57	65	47	**213**	24	21	21	24	25	33	**25**
F4		2737	971	784	599	147	143	1260	1545	1996	1381	559	0	**6743**	58	70	98	67	31	0	**324**	114	78	102	53	18	8	**373**	26	29	29	31	30	0	**24**
B7		3418	1210	992	503	0	362	1607	2031	849	1040	697	0	**6225**	54	83	30	46	30	0	**243**	48	36	17	21	9	0	**131**	28	26	29	31	26	0	**23**
	AVG	**2884**	**1471**	**1007**	**1030**	**732**	**829**	**1963**	**2310**	**1944**	**1777**	**1185**	**784**	**9963**	**83**	**105**	**90**	**87**	**59**	**38**	**461**	**89**	**100**	**94**	**90**	**63**	**41**	**477**	**28**	**28**	**31**	**30**	**28**	**17**	**27**
	SEM	**325**	**108**	**47**	**113**	**155**	**149**	**279**	**390**	**400**	**294**	**312**	**300**	**1855**	**13**	**18**	**19**	**14**	**16**	**14**	**88**	**14**	**21**	**23**	**20**	**21**	**16**	**100**	**1**	**1**	**2**	**1**	**1**	**5**	**1**

InterVivo SOLUTIONS

IVS247-22025-MZ (Preservation): LMA TEST 2

Date: 2022-04-29
Experimenters: LD, MB, JA, LBS
Subjects: Male C57/BL6 mice

	(R)-MBDB	(S)-MBDB	(±)-MBDB
Test Article:	MDMA		
Dose(s)	3mg/kg	3, 5, 15mg/kg	3, 5, 15mg/kg
Route; Volume:	IP; 10mL/kg	IP; 10mL/kg	IP; 10mL/kg
Pretreatment time:	0 min	0 min	0 min

ID	Treatment	Habituation Period						Distance Travelled (10 min timebins)							Ambulatory Episodes (10 min timebins)							Rears (10 min timebins)							Speed (10 min timebins)						
		-50	-40	-30	-20	-10	0	10	20	30	40	50	60	Total	10	20	30	40	50	60	Total	10	20	30	40	50	60	Total	10	20	30	40	50	60	Total
E5	S-MBDB (3mg/kg)	2429	1386	975	963	967	921	1816	604	163	78	0	149	**2810**	81	25	4	3	0	5	**118**	42	39	3	0	0	7	**91**	32	28	20	19	0	26	**21**
E6		1470	1041	1021	861	875	784	962	1231	234	0	160	0	**2587**	36	65	10	0	4	0	**115**	58	69	6	0	5	0	**138**	25	31	19	0	18	0	**15**
G5		2536	1629	1042	773	1092	1549	1277	748	703	445	35	714	**3921**	58	35	29	16	1	34	**173**	18	23	19	10	0	32	**102**	27	32	30	22	25	31	**28**
G6		2534	1108	754	1175	639	323	1369	310	304	0	0	807	**2790**	57	13	10	0	0	30	**110**	81	17	8	2	0	66	**174**	27	30	28	0	0	29	**19**
G7		2592	1623	1337	1151	888	638	384	1015	814	234	244	292	**2983**	18	51	45	13	9	10	**146**	20	92	41	31	11	11	**206**	31	30	29	28	24	21	**27**
F7		3118	2051	1820	1883	1750	1467	781	1317	1642	739	563	601	**5643**	28	57	81	31	18	26	**241**	63	77	143	23	25	32	**363**	31	31	36	30	24	34	**31**
G8		2926	1789	1689	1587	1717	1179	1211	1265	72	248	0	0	**2795**	48	54	3	11	0	0	**116**	35	37	4	11	0	0	**87**	26	22	23	26	0	0	**16**
I7		2837	2006	1543	1429	1074	1029	2088	1628	819	960	263	239	**5997**	77	83	34	36	9	6	**245**	115	130	53	82	43	7	**430**	29	33	38	24	29	19	**29**
	AVG	**2555**	**1579**	**1273**	**1228**	**1125**	**986**	**1236**	**1015**	**594**	**338**	**158**	**350**	**3691**	**50**	**48**	**27**	**14**	**5**	**14**	**158**	**54**	**61**	**35**	**20**	**11**	**19**	**199**	**29**	**30**	**28**	**19**	**15**	**20**	**23**
	SEM	**176**	**134**	**135**	**135**	**142**	**146**	**193**	**153**	**183**	**125**	**70**	**112**	**487**	**8**	**8**	**9**	**5**	**2**	**5**	**20**	**12**	**14**	**17**	**10**	**6**	**8**	**46**	**1**	**1**	**2**	**4**	**5**	**5**	**2**
G3	S-MBDB (5mg/kg)	2818	1812	1277	1293	963	834	1887	1648	1559	1299	1036	415	**7845**	82	79	76	59	44	25	**365**	162	177	166	92	75	23	**695**	37	35	35	42	23	25	**33**
G4		2575	1961	1333	1215	693	1113	1850	1776	862	364	71	551	**5475**	67	91	41	11	1	22	**233**	87	159	46	29	2	32	**355**	26	38	27	25	25	20	**27**
A7		2658	2197	859	1555	993	1196	609	1746	1283	1045	88	929	**5700**	19	77	65	57	4	41	**263**	32	37	83	78	6	70	**306**	24	30	37	27	21	33	**28**
H1		2758	2148	1747	1708	1398	1117	2084	1130	931	367	85	0	**4597**	86	54	40	14	3	0	**197**	94	42	34	6	2	2	**180**	29	29	23	20	23	0	**21**
H7		1917	1713	1046	156	216	0	476	1221	1378	1674	1988	1595	**8332**	16	55	60	76	95	78	**380**	28	35	21	81	29	33	**227**	30	38	33	30	35	31	**33**
H8		3177	2134	1854	1278	1066	1188	1147	1820	1067	142	615	53	**4843**	55	100	51	6	33	2	**247**	40	83	50	0	23	7	**203**	30	31	32	20	33	30	**29**
XD1		2992	2281	2165	2282	1846	1297	1078	2072	854	769	173	0	**4945**	38	82	35	36	8	0	**199**	2	44	18	22	8	0	**94**	25	36	40	27	25	0	**25**
XD2		2731	1523	1221	1061	986	651	105	409	483	381	144	908	**2429**	3	15	20	22	5	38	**103**	1	27	11	10	3	100	**152**	44	19	27	31	22	28	**29**
	AVG	**2703**	**1971**	**1438**	**1319**	**1020**	**924**	**1154**	**1478**	**1052**	**755**	**525**	**556**	**5521**	**46**	**69**	**49**	**35**	**24**	**26**	**248**	**56**	**76**	**54**	**40**	**19**	**33**	**277**	**31**	**32**	**32**	**28**	**26**	**21**	**28**
	SEM	**131**	**94**	**156**	**214**	**168**	**152**	**259**	**188**	**122**	**191**	**242**	**200**	**662**	**11**	**10**	**6**	**9**	**12**	**9**	**32**	**19**	**21**	**18**	**13**	**9**	**12**	**67**	**2**	**2**	**2**	**2**	**2**	**5**	**1**
F1	S-MBDB (15mg/kg)	2334	1822	1535	1308	1372	629	910	937	1275	960	1175	1368	**6626**	28	35	46	35	55	55	**254**	39	59	74	70	82	115	**439**	37	36	38	38	49	43	**40**
F2		1866	1062	801	772	417	835	1043	162	582	362	617	8	**2773**	34	4	23	12	26	0	**99**	24	1	28	23	19	3	**98**	24	24	37	29	26	0	**23**
H4		2983	2018	1453	1267	1202	892	1691	1778	2519	1663	1710	1249	**10610**	73	82	113	96	80	62	**506**	65	50	56	52	63	50	**336**	30	28	29	33	35	45	**33**
I4		2102	783	1388	1412	289	558	908	215	353	407	314	407	**2604**	28	9	11	15	13	13	**89**	26	8	2	10	12	16	**74**	26	37	23	29	33	25	**29**
I5		3228	2742	1248	511	1225	189	971	0	537	910	948	876	**4243**	37	0	18	40	38	34	**167**	16	2	4	23	22	32	**99**	30	0	28	31	28	30	**24**
I6		1790	777	102	195	0	549	2713	2036	2098	2070	2594	2017	**13529**	122	103	107	104	135	92	**663**	95	71	65	70	98	65	**464**	28	38	35	38	35	30	**34**
A8		2040	2034	1440	1390	1247	1045	577	159	529	362	796	96	**2518**	20	8	20	11	37	5	**101**	16	9	7	31	65	7	**135**	30	31	24	22	27	21	**26**
H3		2845	2013	1468	1397	1345	807	1147	1419	1455	819	926	1256	**7021**	55	77	82	39	49	70	**372**	33	51	30	27	45	73	**259**	31	33	35	34	30	36	**33**
	AVG	**2399**	**1656**	**1179**	**1031**	**887**	**688**	**1245**	**838**	**1168**	**944**	**1135**	**910**	**6241**	**50**	**40**	**53**	**44**	**54**	**41**	**281**	**39**	**31**	**33**	**38**	**51**	**45**	**238**	**29**	**28**	**31**	**32**	**33**	**29**	**30**
	SEM	**194**	**250**	**174**	**168**	**196**	**94**	**237**	**289**	**287**	**222**	**253**	**246**	**1440**	**12**	**15**	**15**	**13**	**14**	**12**	**76**	**10**	**10**	**10**	**8**	**11**	**14**	**56**	**1**	**4**	**2**	**2**	**3**	**5**	**2**
H5	(±)-MBDB (3mg/kg)	1872	1290	1021	692	597	524	1415	1784	1310	1122	702	251	**6584**	53	86	64	55	30	12	**300**	45	75	53	44	33	6	**256**	32	25	37	28	20	63	**34**
H6		2110	1338	813	954	601	415	515	551	1264	9	1166	0	**3504**	18	18	56	0	43	0	**135**	7	38	52	0	37	0	**134**	23	20	31	0	27	0	**17**
I2		2105	1274	837	437	0	0	170	25	0	0	8	237	**440**	5	0	0	0	0	11	**16**	2	3	1	0	0	19	**25**	34	0	0	0	0	27	**10**
J5		2057	1312	930	685	674	1241	429	884	0	170	8	824	**2314**	17	42	0	6	0	41	**106**	10	45	1	5	3	51	**115**	31	27	0	20	0	31	**18**
J6		2921	1806	426	344	0	724	179	231	383	799	0	372	**1964**	7	9	16	31	0	17	**80**	17	16	42	56	2	13	**146**	22	19	60	29	0	20	**25**
J7		3215	1819	662	124	0	631	645	0	0	0	0	0	**645**	27	0	0	0	0	0	**27**	25	2	4	0	0	5	**36**	26	0	0	0	0	0	**4**
I8		3308	1769	1450	1158	902	650	1839	1311	216	0	0	1045	**4411**	76	48	8	0	0	48	**180**	170	143	12	0	0	55	**380**	33	41	32	0	0	30	**23**
K8		4316	3435	3073	3073	2750	2408	2513	1780	1342	726	270	0	**6631**	115	85	63	32	12	0	**307**	191	139	114	67	13	0	**524**	32	38	29	24	23	0	**24**
	AVG	**2738**	**1755**	**1152**	**933**	**691**	**824**	**963**	**821**	**564**	**353**	**269**	**341**	**3312**	**40**	**36**	**26**	**16**	**11**	**16**	**144**	**58**	**58**	**35**	**22**	**11**	**19**	**202**	**29**	**21**	**24**	**13**	**9**	**21**	**19**
	SEM	**301**	**255**	**294**	**327**	**320**	**257**	**305**	**261**	**222**	**161**	**155**	**140**	**857**	**14**	**12**	**10**	**7**	**6**	**7**	**40**	**27**	**20**	**14**	**10**	**5**	**8**	**62**	**2**	**5**	**8**	**5**	**4**	**8**	**3**
J3	(±)-MBDB (5mg/kg)	3110	2511	1706	1397	1536	743	2819	2124	1392	311	0	2740	**9387**	119	90	63	12	0	115	**399**	103	126	45	5	0	96	**375**	30	31	27	32	0	27	**25**
J4		2271	1888	1203	790	220	0	2885	2553	1907	451	323	451	**8570**	127	129	85	15	13	21	**390**	93	82	37	1	6	3	**222**	27	28	24	21	17	22	**23**
K1		1962	1351	1207	1212	704	1251	1308	1958	1511	452	1191	0	**6419**	70	99	78	19	61	0	**327**	55	124	50	42	113	2	**386**	33	38	38	29	34	0	**29**
K2		2354	1680	1201	577	0	698	1152	544	322	118	0	0	**2135**	47	30	15	2	0	0	**94**	42	25	6	3	0	0	**76**	31	29	43	18	0	0	**20**
J8		2318	1387	629	345	0	0	91	609	851	0	0	225	**1776**	2	23	40	0	0	6	**71**	8	46	90	7	0	14	**165**	33	25	29	0	0	24	**19**
K7		3514	2180	1103	871	219	720	2087	846	1246	1223	1486	1379	**8267**	84	43	62	60	79	73	**401**	9	6	4	5	13	16	**53**	22	32	27	23	25	32	**27**
XB1		1421	1091	260	0	0	291	256	88	0	0	38	96	**477**	11	3	0	0	1	4	**19**	5	0	0	0	1	0	**6**	23	20	0	0	17	25	**14**
XB2		2931	1770	1739	1090	824	529	1324	1296	807	87	0	0	**3515**	61	64	37	2	0	0	**164**	159	254	73	17	4	0	**507**	32	36	26	18	0	0	**19**
	AVG	**2485**	**1732**	**1131**	**785**	**438**	**529**	**1490**	**1252**	**1005**	**330**	**380**	**611**	**5068**	**65**	**60**	**48**	**14**	**19**	**27**	**233**	**59**	**83**	**38**	**10**	**17**	**16**	**224**	**29**	**30**	**27**	**18**	**12**	**16**	**22**
	SEM	**237**	**164**	**176**	**164**	**193**	**149**	**371**	**310**	**224**	**143**	**215**	**345**	**1239**	**16**	**15**	**11**	**7**	**11**	**15**	**58**	**20**	**30**	**12**	**5**	**14**	**12**	**64**	**2**	**2**	**5**	**4**	**5**	**5**	**2**
I1	(±)-MBDB (15mg/kg)	2110	2011	1076	1097	936	447	681	592	714	583	541	546	**3658**	25	20	26	19	23	25	**138**	7	13	18	13	16	15	**82**	21	27	28	26	27	30	**26**
I3		1577	775	923	219	0	84	573	225	70	297	389	192	**1746**	18	7	2	9	12	6	**54**	26	6	0	4	17	10	**63**	21	19	23	29	27	21	**23**
K3		2577	1775	1223	1019	1096	548	2410	1756	2021	1560	927	604	**9276**	84	70	96	64	36	25	**375**	48	35	47	25	27	25	**207**	22	29	32	32	24	30	**28**
K4		1712	1086	1336	895	82	411	1826	824	227	334	332	33	**3576**	86	33	5	11	18	1	**154**	31	3	0	5	9	0	**48**	22	28	19	23	24	22	**23**
C5		2500	2328	2159	3427	2041	3136	923	81	0	0	875	221	**2099**	39	3	0	0	39	13	**94**	30	0	0	0	36	12	**78**	26	17	0	0	31	44	**20**
B6		3087	1474	482	587	0	82	1613	3127	3092	3353	3523	3077	**17786**	69	131	139	148	182	150	**819**	89	130	94	95	96	134	**638**	34	29	28	33	37	31	**32**
C6		3322	1524	1052	488	912	826	3042	2009	2630	3182	3798	3340	**18001**	121	102	113	134	159	144	**773**	54	33	47	99	108	88	**429**	26	23	26	28	28	27	**26**
B8		1848	1070	566	575	656	447	486	489	663	294	437	191	**2561**	22	21	33	12	17	7	**112**	8	16	13	10	19	6	**72**	21	25	24	22	24	40	**26**
	AVG	**2342**	**1505**	**1102**	**1038**	**715**	**748**	**1444**	**1138**	**1177**	**1200**	**1353**	**1026**	**7338**	**58**	**48**	**52**	**50**	**61**	**46**	**315**	**37**	**30**	**27**	**31**	**41**	**36**	**202**	**24**	**25**	**22**	**24**	**28**	**31**	**26**
	SEM	**227**	**184**	**184**	**357**	**247**	**352**	**332**	**375**	**433**	**480**	**510**	**482**	**2449**	**13**	**17**	**20**	**21**	**24**	**22**	**110**	**10**	**15**	**12**	**15**	**14**	**17**	**77**	**2**	**2**	**3**	**4**	**2**	**3**	**1**

APPENDIX I. CORE BODY TEMPERATURE RAW DATA

Commented [WL17]: Diff. at 24h removed?

IVS247-22025-MZ (Preservation): Core Body Temperature Test

InterVivo SOLUTIONS

Date: 2022-06-24, 2022-07-14
Experimenters: LD, MB, JA
Subjects: Male C57/BL6 mice

	MDMA	(R)-MBDB	(S)-MBDB	(±)-MBDB
Test Article:	MDMA	(R)-MBDB	(S)-MBDB	(±)-MBDB
Dose(s)	15, 30, 60mg/kg	15, 30, 60mg/kg	15, 30, 60mg/kg	15, 30, 60mg/kg
Route; Volume:	IP; 10mL/kg	IP; 10mL/kg	IP; 10mL/kg	IP; 10mL/kg
Pretreatment time:	15 min	15 min	15 min	15 min

ID	Treatment	BW (g)	CBT (°C) Timepoint							Difference from Baseline (0h)				
			0h	0.5h	1h	2h	4h	6h	24h	0.5h	1h	2h	4h	6h
A6	Vehicle	25.1	36.8	37	36.9	37.4	36.1	36	36.8	0.2	0.1	0.6	-0.7	-0.8
C3		30.3	36.8	37.8	37.5	38.1	37.6	36.5	36.5	1.0	0.7	1.3	0.8	-0.3
D8		31.2	37.1	38.1	38.3	38.1	37.5	37.5	37.1	1.0	1.2	1.0	0.4	0.4
F7		40.7	37	36.9	37.3	36.6	36.5	36.6	36.8	-0.1	0.3	-0.4	-0.5	-0.4
H5		33.7	37.3	37.5	37.6	37.6	36.8	36.8	36.7	0.2	0.3	0.3	-0.5	-0.5
XJ2		33.5	37.4	37.3	37.3	37.4	36.5	36.3	37.4	-0.1	-0.1	0.0	-0.9	-1.1
	AVG	**32.4**	**37.1**	**37.4**	**37.5**	**37.5**	**36.8**	**36.6**	**36.9**	**0.4**	**0.4**	**0.5**	**-0.2**	**-0.4**
	SEM	**2.1**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	**0.2**	**0.2**	**0.3**	**0.3**	**0.2**
A1	MDMA (15mg/kg)	31.2	37	37.1	37.2	37.8	37.8	36.5	36.9	0.1	0.2	0.8	0.8	-0.5
B7		33	37.4	37.8	37.8	38	38.6	38.4	37.3	0.4	0.4	0.6	1.2	1.0
D4		26.9	36.5	36.9	37.8	37.9	38.4	37.8	36.4	0.4	1.3	1.4	1.9	1.3
F1		32.1	37.7	37.5	37.3	37.3	37.4	37.1	37.9	-0.2	-0.4	-0.4	-0.3	-0.6
F2		36.1	36.3	37.4	38.2	36.7	37	37	36.5	1.1	1.9	0.4	0.7	0.7
H1		41.1	36.4	37.6	37.9	37.4	37.2	36.7	36.6	1.2	1.5	1.0	0.8	0.3
I6		35.6	36.3	36.4	38.3	37.7	37.9	37.6	36.5	0.1	2.0	1.4	1.6	1.3
	AVG	**33.7**	**36.8**	**37.2**	**37.8**	**37.5**	**37.8**	**37.3**	**36.9**	**0.4**	**1.0**	**0.7**	**1.0**	**0.5**
	SEM	**1.7**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.3**	**0.2**	**0.2**	**0.3**	**0.2**	**0.3**	**0.3**
A7	MDMA (30mg/kg)	32.7	37	38.2	38.3	38.4	38.5	37.6	37.2	1.2	1.3	1.4	1.5	0.6
C4		32.5	37.8	38.4	38.5	38	38.6	37.9	38.0	0.6	0.7	0.2	0.8	0.1
E1		33.7	36.5	38	38.9	38.6	38.3	38.1	36.7	1.5	2.4	2.1	1.8	1.6
F8		30.4	37	38.4	38.1	38.15	38.2	37.8	37.2	1.4	1.1	1.2	1.2	0.8
H6		32.6	37	39.8	39.4	37.9	38	37.8	37.2	2.8	2.4	0.9	1.0	0.8
J3		35.3	36.7	39.8	39.8	38.3	37.9	37.4	36.6	3.1	3.1	1.6	1.2	0.7
K3		30	36.6	37.5	37.4	37.9	38.4	37.9	36.5	0.9	0.8	1.3	1.8	1.3
K4		32	36.3	39	39	39.2	38.6	38.1	36.2	2.7	2.7	2.9	2.3	1.8
K5		32.7	36.5	37.4	37.9	37.3	38.5	38.1	36.4	0.9	1.4	0.8	2.0	1.6
	AVG	**32.4**	**36.8**	**38.5**	**38.6**	**38.2**	**38.3**	**37.9**	**36.9**	**1.7**	**1.8**	**1.4**	**1.5**	**1.0**
	SEM	**0.6**	**0.2**	**0.3**	**0.3**	**0.2**	**0.1**	**0.1**	**0.2**	**0.3**	**0.3**	**0.3**	**0.2**	**0.2**
B3	MDMA (60mg/kg)	32.5	37.1	38.9	39	38.3	38.5	38.4	37.3	1.8	1.9	1.2	1.4	1.3
C8		25	37.2	38.5	38.7	37.4	37.9	37.9	37.1	1.3	1.5	0.2	0.7	0.7
E5		34.1	36.4	37.1	37.4	37.2	38.4	38.3	36.6	0.7	1.0	0.8	2.0	1.9
G4		32.7	36.4	38.2	38.9	38.3	38.1	38	36.6	1.8	2.5	1.9	1.7	1.6
I2		30.9	37	39.6	39.6	39.4	37	35.7	37.2	2.6	2.6	2.4	0.0	-1.3
K6		35.5	36.6	37.9	36.9	37.8	38	37.8	36.5	1.3	0.3	1.2	1.4	1.2
K7		30.3	37.4	38.5	38.3	36.7	36.9	37.2	37.3	1.1	0.9	-0.7	-0.5	-0.2
K8		35.3	36.9	39.4	38.5	37.8	38	37.8	37.1	2.5	1.6	0.9	1.1	0.9
	AVG	**32.0**	**36.9**	**38.5**	**38.4**	**37.9**	**37.9**	**37.6**	**37.0**	**1.6**	**1.5**	**1.0**	**1.0**	**0.8**
	SEM	**1.2**	**0.1**	**0.3**	**0.3**	**0.3**	**0.2**	**0.3**	**0.1**	**0.2**	**0.3**	**0.3**	**0.3**	**0.4**
A2	R-MBDB (15mg/kg)	36.1	37.5	36.6	38.3	38.4	37.6	36.7	37.9	-0.9	0.8	0.9	0.1	-0.8
B8		29.2	37.1	37.7	38.4	38.5	37.6	37.3	36.7	0.6	1.3	1.4	0.5	0.2
D5		33.4	37.4	36.3	38	38	37.3	37.4	37.5	-1.1	0.6	0.6	-0.1	0.0
F3		32.3	37.2	36.8	38.7	37.3	36.7	36.9	37.1	-0.4	1.5	0.1	-0.5	-0.3
H2		33.4	36.7	35.7	37	38	36.8	36.9	36.8	-1.0	0.3	1.3	0.1	0.2
I7		32.2	36.6	36.3	37.9	38	36.8	37.2	36.6	-0.3	1.3	1.4	0.2	0.6
	AVG	**32.8**	**37.1**	**36.6**	**38.1**	**38.0**	**37.1**	**37.1**	**37.1**	**-0.5**	**1.0**	**0.9**	**0.0**	**0.0**
	SEM	**0.9**	**0.1**	**0.3**	**0.2**	**0.2**	**0.2**	**0.1**	**0.2**	**0.3**	**0.2**	**0.2**	**0.1**	**0.2**
A8	R-MBDB (30mg/kg)	30.1	36.7	31.9	35.4	37.5	37.4	36.5	36.4	-4.8	-1.3	0.8	0.7	-0.2
C5		30.2	36.2	35.1	37.1	38.4	37.7	37.7	35.9	-1.1	0.9	2.2	1.5	1.5
E2		30.6	37.2	33	37.5	38.1	36.9	37.3	36.9	-4.2	0.3	0.9	-0.3	0.1
XG1		31	36.6	32.9	35.1	37.3	37.3	37.1	36.4	-3.7	-1.5	0.7	0.7	0.5
H7		36.2	37.5	33.8	36.8	38	38.1	38	37.4	-3.7	-0.7	0.5	0.6	0.5
J4		33.9	36.4	34.7	36.7	37.8	37.1	36.7	36.6	-1.7	0.3	1.4	0.7	0.3
	AVG	**32.0**	**36.8**	**33.6**	**36.4**	**37.9**	**37.4**	**37.2**	**36.6**	**-3.2**	**-0.3**	**1.1**	**0.6**	**0.4**
	SEM	**1.0**	**0.2**	**0.5**	**0.4**	**0.2**	**0.2**	**0.2**	**0.2**	**0.6**	**0.4**	**0.3**	**0.2**	**0.2**
B4	R-MBDB (60mg/kg)	32.9	36.9	32.5	32	35	37.6	37.6	36.9	-4.4	-4.9	-1.9	0.7	0.7
XD1		27.8	36.6	31.3	32.3	33.8	37.2	37.8	36.6	-5.3	-4.3	-2.8	0.6	1.2
E6		30.6	37.1	32.4	34.5	36.3	38.4	38.1	37.1	-4.7	-2.6	-0.8	1.3	1.0
G6		31.2	37	31.8	32.4	34.6	38.1	37.6	37.0	-5.2	-4.6	-2.4	1.1	0.6
I3		37.9	36.9	32.9	33.5	35.1	37.2	37.5	36.9	-4.0	-3.4	-1.8	0.3	0.6
J8		34.3	37.6	32.4	33.9	35.7	37.9	38	37.6	-5.2	-3.7	-1.9	0.3	0.4
	AVG	**32.5**	**37.0**	**32.2**	**33.1**	**35.1**	**37.7**	**37.8**	**37.0**	**-4.8**	**-3.9**	**-1.9**	**0.7**	**0.8**
	SEM	**1.4**	**0.1**	**0.2**	**0.4**	**0.4**	**0.2**	**0.1**	**0.1**	**0.2**	**0.3**	**0.3**	**0.2**	**0.1**

IVS247-22025-MZ (Preservation): Core Body Temperature Test

Date: 2022-06-24, 2022-07-14	**Test Article:**	**MDMA**	**(R)-MBDB**	**(S)-MBDB**	**(±)-MBDB**
Experimenters: LD, MB, JA	**Dose(s)**	15, 30, 60mg/kg	15, 30, 60mg/kg	15, 30, 60mg/kg	15, 30, 60mg/kg
Subjects: Male C57/BL6 mice	**Route; Volume:**	IP; 10mL/kg	IP; 10mL/kg	IP; 10mL/kg	IP; 10mL/kg
	Pretreatment time:	15 min	15 min	15 min	15 min

ID	Treatment	BW (g)	CBT (°C) Timepoint							Difference from Baseline (0h)				
			0h	0.5h	1h	2h	4h	6h	24h	0.5h	1h	2h	4h	6h
A3	S-MBDB (15mg/kg)	24.4	36.8	32.6	35.5	37.3	38.2	36.9	36.2	-4.2	-1.3	0.5	1.4	0.1
C1		29	35.9	32.4	34.5	36.4	38.1	37.9	36.2	-3.5	-1.4	0.5	2.2	2.0
D6		31.2	36.6	33.6	35	37.1	37.8	37.5	36.6	-3.0	-1.6	0.5	1.2	0.9
F4		34.1	37	32.6	36.6	38.1	37.1	37.1	37.2	-4.4	-0.4	1.1	0.1	0.1
H3		33.2	37.2	36.5	37.4	38.2	37.5	37	37.2	-0.7	0.2	1.0	0.3	-0.2
I8		30.6	37.3	35.1	37	38.3	38.1	37.9	37.1	-2.2	-0.3	1.0	0.8	0.6
AVG		**30.4**	**36.8**	**33.8**	**36.0**	**37.6**	**37.8**	**37.4**	**36.8**	**-3.0**	**-0.8**	**0.8**	**1.0**	**0.6**
SEM		**1.4**	**0.2**	**0.7**	**0.5**	**0.3**	**0.2**	**0.2**	**0.2**	**0.6**	**0.3**	**0.1**	**0.3**	**0.3**
XB1	S-MBDB (30mg/kg)	30.8	36.4	33	36.7	38.2	37.3	37.1	36.2	-3.4	0.3	1.8	0.9	0.7
C6		34.8	37.6	35	37.3	38.3	38.1	37.9	37.9	-2.6	-0.3	0.7	0.5	0.3
E3		28.9	37.6	36	38.2	38.4	37	37.8	37.2	-1.6	0.6	0.8	-0.6	0.2
XG2		29.6	37.5	33.4	34.9	37	37.6	37	37.2	-4.1	-2.6	-0.5	0.1	-0.5
H8		30.4	37.3	33.4	34.7	37.4	38.2	38.3	37.1	-3.9	-2.6	0.1	0.9	1.0
J5		34.2	36.2	33.3	36.2	37.1	38.3	37.6	36.4	-2.9	0.0	0.9	2.1	1.4
AVG		**31.5**	**37.1**	**34.0**	**36.3**	**37.7**	**37.8**	**37.6**	**37.0**	**-3.1**	**-0.8**	**0.6**	**0.7**	**0.5**
SEM		**1.0**	**0.3**	**0.5**	**0.6**	**0.3**	**0.2**	**0.2**	**0.3**	**0.4**	**0.6**	**0.3**	**0.4**	**0.3**
B5	S-MBDB (60mg/kg)	38.1	36.9	35.9	34.5	37	38.4	38.4	37.6	-1.0	-2.4	0.1	1.5	1.5
XD2		33.8	36.5	33.7	32.9	35.1	38.3	38.3	36.7	-2.8	-3.6	-1.4	1.8	1.8
E7		29.5	35.9	34	33.5	34.4	37.4	37.5	35.6	-1.9	-2.4	-1.5	1.5	1.6
G7		27.6	36.8	33.8	32.6	35.6	38.2	37.9	36.2	-3.0	-4.2	-1.2	1.4	1.1
I4		29.9	37.4	35.7	35.4	36.3	38.4	38.2	37.1	-1.7	-2.0	-1.1	1.0	0.8
K1		29.9	37.3	33.1	32.1	34.8	37.9	38.3	36.9	-4.2	-5.2	-2.5	0.6	1.0
AVG		**31.5**	**36.8**	**34.4**	**33.5**	**35.5**	**38.1**	**38.1**	**36.7**	**-2.4**	**-3.3**	**-1.3**	**1.3**	**1.3**
SEM		**1.6**	**0.2**	**0.5**	**0.5**	**0.4**	**0.2**	**0.1**	**0.3**	**0.5**	**0.5**	**0.3**	**0.2**	**0.2**
A5	(±)-MBDB (15mg/kg)	30	37.5	36.2	37.9	38.3	36.8	36.8	37.2	-1.3	0.4	0.8	-0.7	-0.7
C2		35	37	36.2	37.9	37.9	37.4	37.3	37.3	-0.8	0.9	0.9	0.4	0.3
D7		30.7	37.5	37.4	38.4	38.5	37.6	37.6	37.3	-0.1	0.9	1.0	0.1	0.1
F6		30.7	37.2	35.2	37.3	37.6	36.9	36.8	37.0	-2.0	0.1	0.4	-0.3	-0.4
H4		29.6	37.7	36.2	38.3	38.3	37.6	37.6	37.4	-1.5	0.6	0.6	-0.1	-0.1
XJ1		32.8	37.5	36.3	37.7	38	36.6	37.3	37.6	-1.2	0.2	0.5	-0.9	-0.2
AVG		**31.5**	**37.4**	**36.3**	**37.9**	**38.1**	**37.2**	**37.2**	**37.3**	**-1.2**	**0.5**	**0.7**	**-0.3**	**-0.2**
SEM		**0.8**	**0.1**	**0.3**	**0.2**	**0.1**	**0.2**	**0.1**	**0.1**	**0.3**	**0.1**	**0.1**	**0.2**	**0.1**
XB2	(±)-MBDB (30mg/kg)	30	37	32.1	35.1	37.7	37.4	37.2	36.7	-4.9	-1.9	0.7	0.4	0.2
C7		30.2	36.5	34.4	37.4	38.5	38	37.6	36.2	-2.1	0.9	2.0	1.5	1.1
E4		29.4	37.3	34.3	36.5	38.4	37.2	37.4	36.9	-3.0	-0.8	1.1	-0.1	0.1
G3		33	36.5	32.2	35.1	36.5	36.8	36.7	36.5	-4.3	-1.4	0.0	0.3	0.2
I1		30.3	36.9	36.7	37.4	38.4	37.9	37.5	36.6	-0.2	0.5	1.5	1.0	0.6
J6		32	37	33.2	37	37.7	37.8	37.6	36.9	-3.8	0.0	0.7	0.8	0.6
AVG		**30.8**	**36.9**	**33.8**	**36.4**	**37.9**	**37.5**	**37.3**	**36.6**	**-3.1**	**-0.4**	**1.0**	**0.7**	**0.5**
SEM		**0.6**	**0.1**	**0.7**	**0.4**	**0.3**	**0.2**	**0.1**	**0.1**	**0.7**	**0.4**	**0.3**	**0.2**	**0.2**
B6	(±)-MBDB (60mg/kg)	34.6	36.8	32.5	34.6	36.2	38.5	37.8	37.0	-4.3	-2.2	-0.6	1.7	1.0
D3		33.1	36.3	33	35.1	37.1	38.7	38.1	36.4	-3.3	-1.2	0.8	2.4	1.8
E8		31.4	37.2	32.4	35.4	37.2	38.3	37.6	37.1	-4.8	-1.8	0.0	1.1	0.4
G8		36.1	37.2	31.9	30.5	34.4	37.9	38	37.6	-5.3	-6.7	-2.8	0.7	0.8
I5		34.4	36.6	32.8	32	35	38.4	38.6	36.8	-3.8	-4.6	-1.6	1.8	2.0
K2		32.7	36	31.6	32.8	35.2	37.3	38.2	37.0	-4.4	-3.2	-0.8	1.3	2.2
AVG		**33.7**	**36.7**	**32.4**	**33.4**	**35.9**	**38.2**	**38.1**	**37.0**	**-4.3**	**-3.3**	**-0.8**	**1.5**	**1.4**
SEM		**0.7**	**0.2**	**0.2**	**0.8**	**0.5**	**0.2**	**0.1**	**0.2**	**0.3**	**0.8**	**0.5**	**0.2**	**0.3**

APPENDIX J. PROTOCOL RELATED DOCUMENTS

InterVivo SOLUTIONS

PROTOCOL AMENDMENT NO. 2

STUDY TITLE: Study to examine MBDB analogs and their enantiomers in the mouse LMA and core body temperature test

STUDY NO.: IVS247-22025-MZ

EFFECTIVE DATE (YYYY-MM-DD): 2022-04-07

AUTHORISATION:

Harpreet Kaur	2022-04-07
Sponsor Representative	Date (YYYY-MM-DD)
	2022-04-08
Study Director/Investigator	Date (YYYY-MM-DD)

SECTION CHANGED:

5.3 Treatment Groups

REVISION/ADDITION/DELETION:

All animals previously tested in the locomotor activity experiment will have it repeated. This time all animals will be placed in the LMA boxes for a 60 minute acclimation period prior to being dosed with test article.

JUSTIFICATION FOR CHANGE:

Sponsor is concerned that the animals are still exhibiting exploratory behaviour in the LMA boxes and would like to see if acclimating them to the box first will change their behaviour when being dosed with test article.

EFFECT OF CHANGES ON STUDY:

Additional testing days will be required

Form QAU.09.A
Effective Date:2010-11-01

InterVivo SOLUTIONS

STUDY DEVIATION REPORT NO. 1

STUDY NO.: IVS247-22025-MZ **DATE OF DEVIATION:** 2022-03-17

DEVIATION DESCRIPTION:

16 animals were dosed with the wrong drug concentration.

REASON FOR OCCURRENCE:

Formulation error.

	Printed Name	Signature	Date
Author	Matt Brown	Matt Brown	2022-03-17
Person(s) Responsible	Matt Brown	Matt Brown	2022-03-17

FOR STUDY COORDINATOR USE ONLY

TYPE OF DEVIATION: **PROTOCOL** ☑ **SOP** ☐ **OTHER** ☐ _____

IMPACT ON STUDY (CATEGORIZATION AND DESCRIPTION):

Unlikely ☐ Possibly ☐ Probably ☑

Animals were dosed with incorrect drug concentration and need to be naive for first LMA testing. Additional animals will need to be ordered to use.

CORRECTIVE MEASURES:

Study Coordinator will ensure that all calculations are double or triple checked to avoid error before dosing.

	Printed Name	Signature	Date
Study Coordinator	Matt Brown	Matt Brown	2022-03-17
Quality Assurance	Chitra Unadkat	Cunadkat	2022-04-06
Sponsor Notified By	Leo Silenieks	[illegible]	2022-03-17

Form QAU.10.A
Effective Date: 2021-02-01

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