GF2019 MEA Acute TCPL Level 0 Data Prep Running Log

Date: 2020-07-21

Level 0 - Gather and Check Files:

Reading from GF2019\_neural\_stats\_files\_log\_2020-06-21.txt...

Got 6 files.

All files are named correctly.

GF2019\_check\_summary\_2020-07-21.txt is ready.

Level 1 - Extract All Data:

Reading from GF2019\_neural\_stats\_files\_log\_2020-06-21.txt...

Got 6 files.

Reading data from files...

......

GF2019\_dat1\_2020-07-21.RData is ready.

Summary of dates/plates with wllq=0 at Level 1:

experiment.date plate.id wllq\_set\_to\_zero

1: 20190924 MW69-3910 B1

GF2019\_dat1\_2020-07-21.RData

Level 2 - Collapse Data by Plate ID:

Loading...

GF2019\_dat1\_2020-07-21.RData

Collapsing treated and baseline data...

20190924\_MW69-3820

20190924\_MW69-3902

20190924\_MW69-3910

GF2019\_dat2\_2020-07-21.RData is ready.

GF2019\_dat2\_2020-07-21.RData

Load Cytotoxicity Data:

Reading from GF2019\_calculations\_files\_log\_2020-06-21.txt...

Got 1 files.

Reading data from files...

20190911\_Acute Calculations\_Glufosinate.xlsx

AB MW69-3820 MW69-3902 MW69-3910

some values are negative. These will be set to 0

LDH MW69-3820 MW69-3902 MW69-3910

There are no NA values in cytodat.

cytodat is ready

Level 3 - Combine Cyto and Neural Stats Data; Initialize treatment, conc, and wllq

Loading...

GF2019\_dat2\_2020-07-21.RData

GF2019\_dat3\_2020-07-21.RData is ready.

Level 4 - Finalize well ID information:

GF2019\_dat3\_2020-07-21.RData

Finalize Wllq:

NA rval's: 403

Inf rval's (baseline==0): 1

Well quality set to 0 for these rval's.

Verifying control compound labels:

Confirm that the rest of these treatments look normal (nothing NA, 0, etc):

DMSO, 1, 2, Glyphosate, TTX, Loperamide, PICRO, 3, Media, 4, Lysis, 1:250 LDH, 1:2500 LDH, ½ Lysis

Prepare LDH 'p' wells (using Lysis or Half Lysis wells):

Treatments assigned to wllt 'p' for each apid:

apid LDH\_trts\_in\_p\_wells N

1: 20190924 2 \* ½ Lysis 9

Summary of median p wells by apid:

apid pval

1: 20190924 3.6632

Assign spid's:

Using spidmap file: spidmap\_2020-06-22.xlsx

No spids are NA.

Number of unique spids: 11

Assign Wllt:

wllt will be set to 't' for the MEA components for the following spid's:

EX000374, EX000371, EX000373, EX000372, EX000408, EX000411

wllt will be set to 't' for the cytotoxicity endpoints for the following spid's:

EX000374, EX000371, EX000373, EX000372, EX000408, EX000411

Well Type Assignments for Control Compounds by assay component:

treatment spid CellTiter Blue LDH MEA endpoints

1: DMSO DMSO n n n

2: Media Media - b b

3: PICRO Picrotoxin z z p

4: TTX Tetrodotoxin x x p

5: 2 \* ½ Lysis Tritonx100 - p -

6: Lysis Tritonx100 p x -

Unique of wllt:

[1] "t" "p" "n" "x" "b" "z"

Finalize Concentrations:

Concentration Corrections:

None, confirmed the stkc conc's are all exactly 20 for these compounds

All conc's as char:

NA, 0.001, 0.03, 0.1, 0.3, 1, 10, 100, 25, 3, 30

All conc's as numeric:

NA, 0.001, 0.03, 0.1, 0.3, 1, 3, 10, 25, 30, 100

Final Control Compound Conc Assignments by assay component:

treatment spid Conc Label in Source File CellTiter Blue LDH MEA components

1: DMSO DMSO Control 0.001 0.001 0.001

2: Media Media 10 - NA NA

3: PICRO Picrotoxin 25 25 25 25

4: TTX Tetrodotoxin 1 1 1 1

5: 2 \* ½ Lysis Tritonx100 ½ Lysis - NA -

6: Lysis Tritonx100 10,Lysis 10 10 -

Final Checks:

Number of unique acnm's present: 45

Wllq breakdown:

wllq N

1: 1 6051

2: 0 447

Number of plates tested: 3

Number of experiment dates: 1

The following plates don't have the expected number of points (48 for MEA/AB, 54 for LDH):

(all plates have the expected number of points for each assay component)

Summary of MEA rval's above 300% change by acnm (for wllt 't' or 'n'):

acnm wllts N

1: CCTE\_Shafer\_MEA\_acute\_interburst\_interval\_std n,t 4

2: CCTE\_Shafer\_MEA\_acute\_burst\_frequency\_std t 4

3: CCTE\_Shafer\_MEA\_acute\_interburst\_interval\_CV\_std n,t 3

4: CCTE\_Shafer\_MEA\_acute\_per\_network\_burst\_electrodes\_number\_std t 3

5: CCTE\_Shafer\_MEA\_acute\_network\_burst\_frequency t 3

6: CCTE\_Shafer\_MEA\_acute\_network\_burst\_number t 3

7: CCTE\_Shafer\_MEA\_acute\_network\_burst\_duration\_IQR t 2

8: CCTE\_Shafer\_MEA\_acute\_interburst\_interval\_mean t 2

9: CCTE\_Shafer\_MEA\_acute\_burst\_percentage\_std t 1

10: CCTE\_Shafer\_MEA\_acute\_mean\_interspike\_interval\_within\_burst\_std t 1

11: CCTE\_Shafer\_MEA\_acute\_median\_interspike\_interval\_within\_burst\_std t 1

dat4 saved on: 2020-07-21