Analysis of Birth Ratios for Double Knockout Autophagy/Raptor Crosses

Isabelle Hatfield and Dave Bridges

March 20, 2014

Experimental Design

This was for the second batch of *C179-Gal4 + Raptor/Tsc1* knockdown crosses.

These data are stored in `/Volumes/bridges_lab/Hatfield/Drosophila/Births`, with the raw data saved in `../Data/Double Knockout Birth Data.csv` for the births. This script was most recently run on Thu Mar 20 10:10:34 2014.

24B-GAL4 Driver

This analysis is just for the C179 Driver.

These data are stored in `/Volumes/bridges_lab/Hatfield/Drosophila/Births`, with the raw data saved in `../Data/Double Knockout Birth Data.csv`. This script was most recently run on Thu Mar 20 10:10:34 2014

Strain Summaries

Driver	UAS	Double_Knockdown	Raptor_Only	ATG_Only	Wild_Type	Total	pval	padj
24B	27551	0	0	67	47	114	0.00000	0.00000
C179	34340	63	37	57	22	179	0.02897	0.04346
Mef	34340	2	9	4	4	19	0.07427	0.07427

Table 1: Gene Level Summarised Data

Driver	UAS	Gender	Double_Knockdown	Raptor_Only	ATG_Only	Wild_Type	Total	pval	padj
24B	27551	Females	0	0	34	31	65	0.00000	0.00000
24B	27551	Males	0	0	33	16	49	0.00000	0.00000
C179	34340	Females	39	24	31	13	107	0.16565	0.19878
C179	34340	Males	24	13	26	9	72	0.09697	0.14546
Mef	34340	Females	1	6	1	3	11	0.04394	0.08787
Mef	34340	Males	1	3	3	1	8	0.56472	0.56472

Table 2: Gendered Gene Level Summarised Data

24B–Gal4 Driver

Number of Eclosed Flies

60
50
40
30
20
10
0

Double_Knockdown
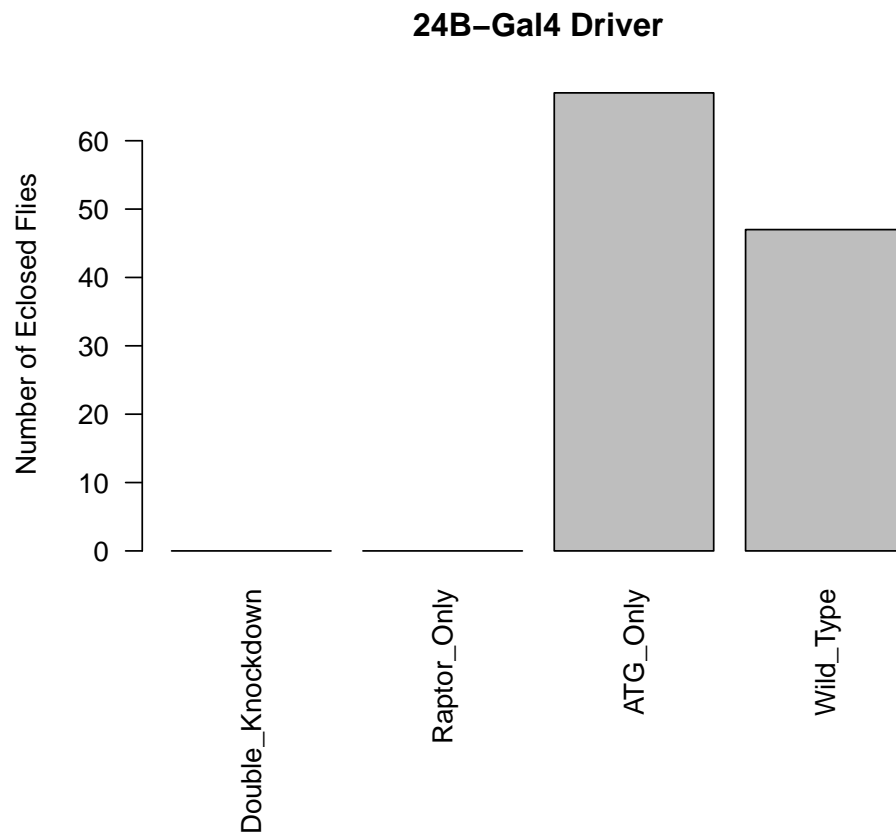Raptor_Only
ATG_Only
Wild_Type

Figure 1: Gender Specific Differences Between C517-Gal4 Driven Raptor Knockdown Strains

Driver	UAS	Gender	Double_Knockdown	Raptor_Only	ATG_Only

Table 3: Crosses with no Knockdown Flies

Crosses with no Knockdown Progeny

So far some crosses have produced no knockdown progeny. These are described in Table 3

The key packages used in this analysis were R [1] and plyr [2]

References

[1] R Core Team. *R: A Language and Environment for Statistical Computing.* R Foundation for Statistical Computing, Vienna, Austria, 2013.

[2] Hadley Wickham. The split-apply-combine strategy for data analysis. *Journal of Statistical Software*, 40(1):1–29, 2011.

Session Information

- R version 3.0.2 (2013-09-25), `x86_64-apple-darwin10.8.0`

- Locale: `en_US.UTF-8/en_US.UTF-8/en_US.UTF-8/C/en_US.UTF-8/en_US.UTF-8`

- Base packages: base, datasets, graphics, grDevices, methods, stats, utils

- Other packages: bibtex 0.3-5, plyr 1.8, xtable 1.7-1

- Loaded via a namespace (and not attached): tools 3.0.2