

Austin Hogan  
 Stuart Brady  
 Clay Hoffman

9/2/2015  
 BIO350-005

Vial #	-ATR w/ Larvae	
	1st min #rolls	2nd min #rolls
1	6	None
2	None	None
3	1	None
4	None	None
5	None	None
6	None	None

Larvae #	+ATR w/ Larvae	
	1st min #rolls	2nd min #rolls
A 1	8	3
A 2	None	None
B 3	4	1
B 4	5	1
C 5	4	3
C 6	None	2

★ Seem to fatigue by second minute.

★ A lot of C-shaped movement in Trial B.

Trial	Adult females -ATR Dim light	
	# females	(Climb) 8cm in 10sec
1	9	5
2		6
3		5
↓		

Trial	9 Adult females -ATR Blue Light	
	# below 8cm	# above 8cm
1 →	4	5
2 →	4	5
3 →	6	3
4 →	4	5
5 →	4	5
6 →	5	4

★ 3 paralyzed flies

★ Although not much movement

After 10sec	Adult females +ATR Dim light	
	# below 8cm	# Above 8cm
Total 1:	2	10
2:	3	9
3:	5	7

★ +ATR was much more affected by blue light showing less movement.

Trial	3 individuals were more affected	
	Adult females +ATR Blue light	Blue light
Total 1 →	9	3
2 →	4	8
3 →	7	5
4 →	9	3
5 →	9	3
6 →	10	2

★ Blue light same to paralyze

### Dim light

10 Adult Males - ATR

	# below 8cm	# above 8cm
Trial 1:	1	9
2:	0	10 ~9.3
3:	1	9

\* Males much more likely to discover together  
 → remain in circles

13 Adult Males + ATR Dim Light

	# below 8cm	# above 8cm
Trial 1:	4	9
2:	5	8 ~9
3:	3	10

~4

### Blue light

Adult Males - ATR

	# below 8cm	# above 8cm
Trial 1 →	3	7
2 →	3	7
3 →	4	6
4 →	1	9
5 →	1	9
6 →	0	10

began to discover together

Adult Males + ATR Blue light trials

	# below 8cm	# above 8cm
Trial 1 →	9	4
2 →	4	9
3 →	5	8
4 →	4	9
5 →	6	7
6 →	9	4

\* Delayed Rxn w/ Males + Females  
 into 4th, 5th, & 6th trials

# LAB 1

Jeremy Nae  
Jun Zhang  
Group 2  
Sec 005

## Larva Trials

Dim Light		Blue Dispersed		Blue Focused				
+ATR	-ATR	+ATR	-ATR	+ATR	-ATR			
1	0	13	1	0	49	1	0	60
2	0	36	2	0	50	2	0	74
3	0	28	3	0	61	3	0	64

## Geotaxic Assay

Male		Female			
+ATR	-ATR	+ATR	-ATR		
1	10/10	8/8	1	3/6	11/15
2	10/10	6/8	2	5/6	10/15
3	8/16	5/8	3	4/6	12/15
<hr/>					
1	0	2/8	10	0	
2	1	5/8	20	10	
3	1	4/8	30	7	

No light

5 sec light

Elizabeth Gieslak  
 Alex Lasko  
 Noell Conley  
 B10350 005  
 9/2/15

BWC/min - Group 5

	1	2	3	Avg
<b>NATR -</b>				
Regular:	53	40	42	45
Blue light (dispersed):	45	54	41	46.67
Blue light (focused):	52	55	28	35
<b>ATR +</b>				
Regular:	23	48	44	38.3
Blue (dis)	31	38	36	35
Blue (focused)	32	32	33	32.3

ATR+ ♂	1	2	3	4	5	6
w/o light	9	10	9			
blue light	1	8	5	10	7	8

ATR+ ♀	1	2	3	4	5	6
w/o light	12	13	11			
blue light	12	14	11	12	10	12

NATR+ ♀	1	2	3	4	5	6
w/o light	13	10	14			
blue light	12	13	12	13	13	12

ATR- ♂	1	2	3	4	5	6
w/o light	9	13	11			
blue light	6	8	6	6	3	8

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Group 7

Jamie McWilliams  
Brendan McGarr

ATR - UAS - Chr2 - XXL

	<del>contraction</del> contraction	Head	Ab	tail
Dim Light	1. 45	C-shape	Pause	retract
	2. 40	C-shape	Pause	retract
	3. 43	C-shape	Pause	retract
Blue light	1. 63	C-shape	Pause	retract
	2. 66	C-shape	Pause	retract
	3. 66	C-shape	Pause	retract
Concent. Blue light	1. 52	C-shape	Pause	retract
	2. 62	C-shape	Pause	retract
	3. 59	C-shape	Pause	retract

ATR + (UAS - Chr2 - XXL x pie - GAL4)

	Contractions	Head	Ab	tail
Dim Light	1. 50	C-shape	Pause	retract
	2. 45	C-shape	Pause	retract
	3. 46	C-shape	Pause	retract
Blue light	1. 50	C-shape	Pause	retract
	2. 48	C-shape	Pause	retract
	3. 46	C-shape	Pause	retract
Concent. Blue light	1. 28	C-shape	Pause	retract
	2. 20	C-shape	Pause	retract
	3. 30	C-shape	Pause	retract

Lindsey Porter  
Austin Smith  
+ATR

Group 9  
Larva 1

BIO 350-005  
Larva 2 Larva 3

BIO 350 LAB  
48

Regular Light  
(1 min)  
# of contractions

43

30

+ATR  
Blue Light  
(1) min  
# of contractions,  
soda can

32

35

40

+ATR  
Focal Blue Light

22

40

48

ATR  
+ TOUCH  
(Larvae 3+)

Trial  
Head  
1 reared back, or curving  
2 C shape  
3 c shape

Abdomen  
1 no change  
2 stop  
3 no change

Tail  
1 no change  
2 rolling  
3 no change

-ATR

Larvae 1

Larvae 2

Larvae 3

Regular Light

33

33

36

Blue Light (can)

40

22

~~30~~ 33

Blue Light (Focal)

27

13

45

↓  
Potentially damaged larvae

ATR  
TQCN  
705

	Head	abdomen	Tail
1	<del>same shape</del> C shape	stop	no change
2	C shape	stop	tail roll
3	C shape	stop	tail roll

WHITE LIGHT

UAS-CHR2-XXL + ATR FEMALE CONTROL

TUBE 1		TUBE 2		TUBE 3	
10-5.1	20-15.3	10-4.7	20-13.8	10-2.6	20-8.1
10-4.3	20-13.8	10-3.79	20-14.5	10-3.0	20-11.1
10-4.4	20-13.9	10-2.8	20-11.6	10-2.9	20-10.7

UAS-CHR2-XXL + ATR MALE CONTROL

TUBE 1		TUBE 2		TUBE 3	
10-3.8	20-7.5	10-4.5	20-9.2	10-3.2	20-7.2
10-5.1	20-8.5	10-5.5	20-10.2	10-3.8	20-7.9
10-4.1	20-8.2	10-4.6	20-10.8	20-2.8	20-6.9

GROUP 10  
SELTON 005  
ZACH DAVIS  
ALAN CHIR

WHITE LIGHT

UAS-CHR2-XXL x D42-GAL4 + ATR FEMALE

TUBE 1		TUBE 2		TUBE 3	
10-3.2	20-12.8	10-4.1	20-14.3	10-4.7	20-16.0
10-3.8	20-13.3	10-4.4	20-12.7	10-3.6	20-12.2
10-3.6	20-13.8	10-4.3	20-11.8	10-2.2	20-10.9

UAS-CHR2-XXL x D42-GAL4 + ATR MALE

TUBE 1		TUBE 2		TUBE 3	
10-3.6	20- <del>10.6</del> 9.6	10-4.21	20-15.4	10-2.8	20-16.2
10-3.3	20-8.8	10-5.1	20-7.2	10-3.5	20-8.2
10-5.1	20-11.5	10-3.9	20-8.1	10-3.61	20-8.2



GROUP 10  
 SEZ 005  
 ZACH DAVIS  
 AVON LARK

BLUE LIGHT

VAS-CHR2-XXL x D42-GAL4 + ATR FEMALE (#3)

TRIAL	TIME			
1	10 - DID NOT REACH	(4)	20	- DID NOT REACH.
2	10	(7)	20	
3	10	(2)	20	
4	10	(6)	20	
5	10	(6)	20	
6	10	COLLIES (9)	20	
7	10	(LITTLE MOVEMENT) (1)	20	
8	10	(1)	20	
9	10	(3)	20	
10	10	(4)	20	

BLUE LIGHT.

VAS-CHR2-XXL x D42-GAL4 + ATR FEMALE

TRIAL	TIME			
1	10	DID NOT REACH (1)	20	DID NOT REACH.
2	10	(7)	20	
3	10	(5)	20	
4	10	(8)	20	
5	10	(4)	20	
6	10	(5)	20	
7	10	(8)	20	
8	10	(6)	20	
9	10	(7)	20	
10	10	(9)	20	

Group 1      Sections      WEN GAO  
Xiaoyue Chen

-ATR

No light (Bwes/min)	Dim (Bwes/min)
38	25
33	16
38.	32

+ATR

No light (Bwes/min)	Dim (Bwes/min)
<del>30</del> 42	0
42	0
34	0
<del>30.</del>	<del>27.</del>

① -ATR.  
 uAS-CHR2-XXL ♂ 15  
 XD42-Gal4

Above 8.            1.            2.            3.            (No light)  
                          14.            14            15.

Blue light

                         1            2            3            4            5 6            (1 min recover)  
                          0            4            13            14            15 12

② USA-CHR2-XXL ♂ (15)  
 +ATR (control)

Above 8            1.            2            3            (No light)  
                          12            14            12

Blue light

                         1            2            3            4            5 6            (1 min recover)  
                          10            10            12            9            12 12

③ -ATR. ♂ 12.  
 uAS-CHR2-XXL  
~~XD42-Gal4~~ (control)

Above 8            1.            2            3  
                          10            9            9

Blue light

                         1            2            3            4            5 6            (1 min recover)  
                          17            8            9            10            10 11

10 sec exposure

~~Control (8)~~  
~~1 4~~  
~~2 5~~  
~~3 5~~  
~~4 3~~  
~~5 5~~  
~~6 2~~  
~~7~~

Group 8  
 Section 5  
 Abhi Patel  
 Suraj Rama  
 Siobhan Reid

	Group 10 Control (8) ♀ -ATR	ple Gal ♂ +ATR (14)	ple Gal ♀ +ATR (12)
1	4	7	4
2	5	5	5
3	5	8	4
light			
1	0	3	0
2	3	9	7
3	3	10	7
4	3	8	8
5	4	9	6
6	4	10	8

min between every trial  
 Control +ATR ♀ (15)

1 4  
 2 4  
 3 8

3 Comparisons:

light  
 1 6  
 2 12  
 3 12  
 4 9  
 5 10  
 6 11