

Planaria Regeneration and Patterning Lab Write-up*

Introduction to Stem Cells and Planaria

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Abstract

Planaria (Genus Phylum) is a remarkable invertabrate that has the ability to regenerate within a few days of being halved. Planaria are of key interest to biologists because their signaling pathways is highly similar to humans. The process by which the Planaria are able to split and recreate vital appendages is hypothesized to be linked to calcium homeostasis. This lab exposes Planaria to PZQ (Praziquantel) to further understand the planaria's re-formation process.

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1 Data

Data collected for the lab

Worm ID	Segment ID	Days Post	New Eyespot (Y/N)	New Pharynx (Y/N)	Notes	Name
Ctrl #1	Head	1	NA	NA	NA	NA
Ctrl #1	Tail	1	NA	NA	NA	NA
Ctrl #2	Head	1	NA	NA	NA	NA
Ctrl #2	Tail	1	NA	NA	NA	NA
Ctrl #3	Head	1	NA	NA	NA	NA
Ctrl #3	Tail	1	NA	NA	NA	NA
PZQ #1	Head	1	NA	NA	NA	NA
PZQ #1	Tail	1	NA	NA	NA	NA
PZQ #2	Head	1	NA	NA	NA	NA
PZQ #2	Tail	1	NA	NA	NA	NA
PZQ #3	Head	1	NA	NA	NA	NA
PZQ #3	Tail	1	NA	NA	NA	NA

2 Figures

Figure and Figure legend: Multi-panel figure that includes at least two plots of the data. The best figures will also include images of control and experimental planaria. Label the graph(s) and images sequentially with letters (ie: Panel A, Panel B).

2.1 Setup

This lab used a dissection microscope....

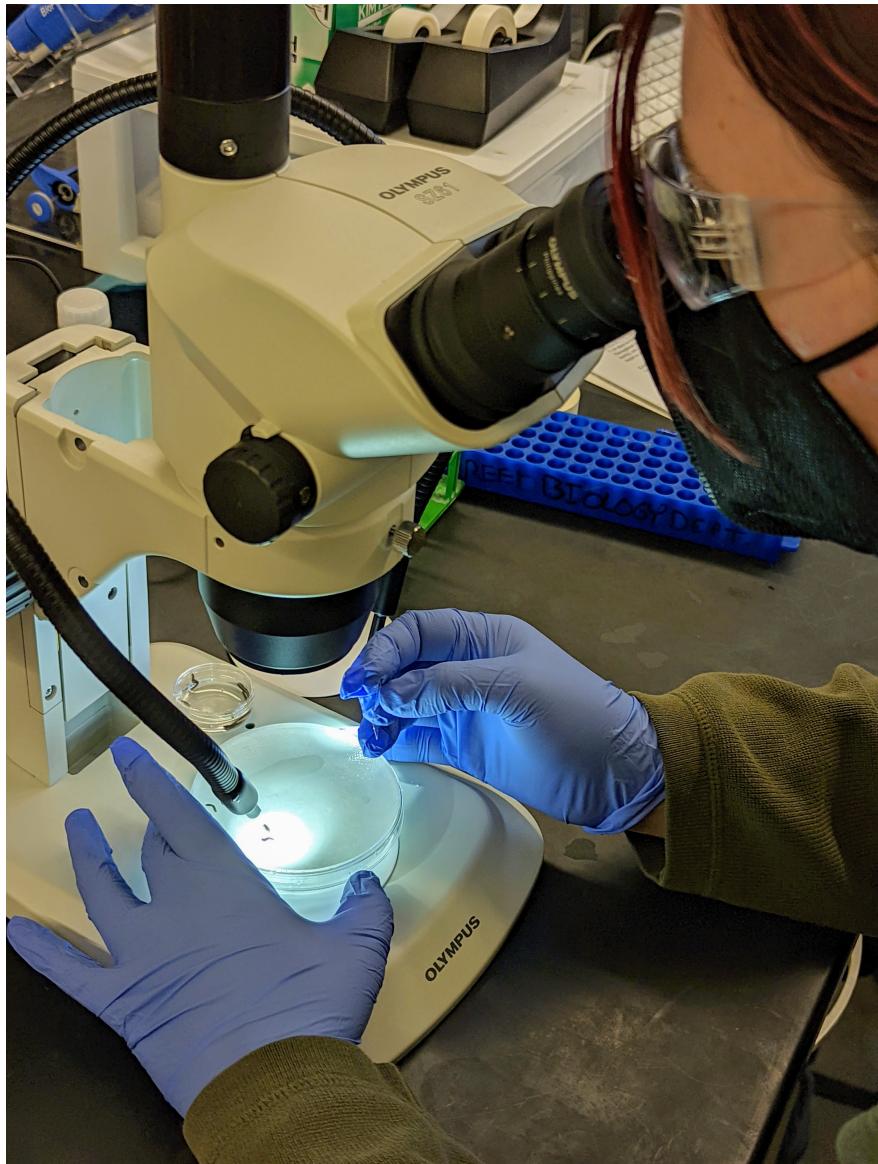


Figure 1: Morgan looking through the dissection microscope

2.1.1 Planaria

The Planaria are recognizable because....



Figure 2: Planaria under a dissection microscope

The have two distinct components in the above

2.1.2 Splitting

Splitting

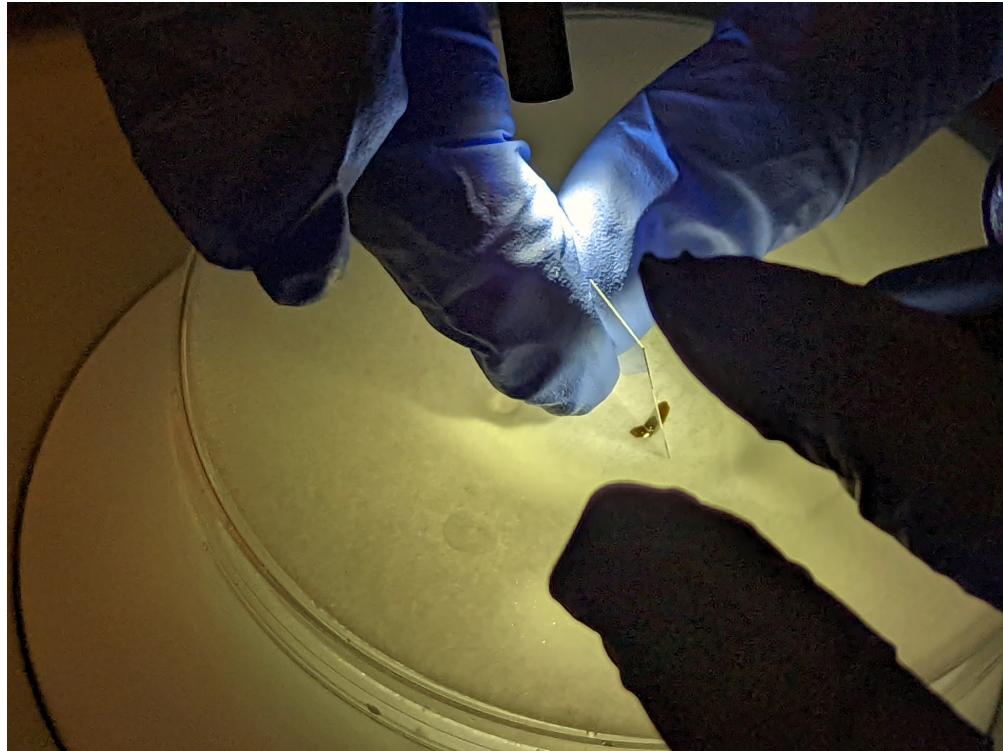


Figure 3: Splitting a planaria with a slide cover



Figure 4: A split planaria with a head (top) and tail (bottom) segment

2.2 Observations

Over time.... PICTURES OF REGENERATING

Below are sever elements from the lab...

3 Observations

Observations were performed on the following schedule:

Days since start	Date	Day of week	Time	Checker	Checked (Y/N)
0	2/3/2022	Thursday	14:52:00	All	Y
1	2/4/2022	Friday	NA	Taylor	NA
2	2/5/2022	Saturday	NA	Morgan	NA
3	2/6/2022	Sunday	NA	Connie	NA
4	2/7/2022	Monday	NA	Taylor	NA
5	2/8/2022	Tuesday	NA	Morgan	NA
6	2/9/2022	Wednesday	NA	Connie	NA
7	2/10/2022	Thursday	NA	All	NA

4 Analysis

4.1 Stastics

Statistical summary statements: At least two statistics summary statements that showcase the results from your (i) ANOVA or two-way ANOVA and (ii) chi-squared contingency analysis. See Bio Binder H-10 and H-12 for instructions and examples on how to write a summary statement, in addition to the relevant sections for ANOVA and chi-squared analyses for relevant numbers to report.

5 Misc

Non write up section

5.1 Author Contributions

Contribution statement: See contribution statement guidelines and write who did what- Bio Binder T-10; Section U for a good example, Section V for a bad example.

All authors contributed equally to this project

5.2 Grading

5.2.1 Table

Component	Excellent	Good	Satisfactory	Incomplete/Needs Work
Report organization				
Report organization				

5.2.2 Other Comments

6 Bibliography