

IBERS Biology: Parasites and Drug Screening module - EXAMPLE PAPER

Comparison of the drug resistance status of two strains of *Panagrellus redivivus*

E. Hart

Abstract

The nematode *Panagrellus redivivus* was used as a model organism to study the effects of drug NGF 10xx on two different strains. The methods we used were A, B and C. We found that..... In conclusion this study has determined that.....

Introduction

Anthelmintic resistance is a worldwide problem (Waller, 1997). In this study we used the model nematode *Panagrellus redivivus*.... Etc. (use the introduction from the workshops as a guideline)

Write about a paragraph.

Materials and Methods (use the information from the practical worksheets to help write a few sentences for each section).

Drug screening assay

Into a well plate, 100µl of distilled water, 100µl of solution containing strain 1 or strain 2 of *P. redivivus* and varying concentrations of the drug NGF 10xx were added.... Etc

Extracting DNA

Using the DNeasyiagen kit, DNA was extracted from the *P. redivivus* samples...etc

PCR

We added 50-100ng of DNA from our extracted samples into the PCR mix....etc (you can watch the video to gain extra information on PCR or do your own search for PCR information if you wish).

Gel electrophoresis

A 1X TAE gel was set up and the samples from the PCR ran out to check the quality of the DNA before the samples were sent for sequencing.

Bioinformatics

A sequence BLAST was conducted on the sequence data from the 2 nematode strains... write briefly what we did in the computer practical (just a few sentences) use the worksheet to help you.

Results

Results from the drug screening assay show that... (write a few sentences on the results, mention the importance of including a solvent and a water control).

Strain	Drug Concentration	No. moving before treatment	No. moving after treatment
1	0	26	26
1	0.1	30	30
1	0.2	16	8
1	0.5	16	0
1	0.8	24	0
2	0	58	58
2	0.1	28	26
2	0.2	38	36
2	0.5	32	32
2	0.8	25	25

You can copy and paste this table into your paper

Include a graph if you wish

Discussion

From the drug screening assay we found that strain X was resistant and strain Y was susceptible. This correlates by work done by Joe Bloggs *et al.*, 2009. These results were further validated by conducting bioinformatics on the sequence data. Etc...write a short paragraph of what we can conclude from the experiments and what we could do for future improvements and how our experiments fits in with furthering current scientific information (for example you could mention how by studying this model organism we can gain good insights into biological mechanisms for important parasitic species).

References

Bloggs, J. and Smith J. 2009. This is an example reference. *Journal of examples*. **1 (10)**, 32-44.

Waller, P. 1997. Anthelmintic Resistance. *Veterinary Parasitology*. **72 (3-4)**, 391-412.

You may add as many references to your paper as you wish, please try and include at least two.