CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

Name(s)

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Project Number

38625

Project Title

The Effect of Heteractis magnifica on the Cell Viability of Multicentric Canine Lymphoma: Year II

Abstract

Objectives/Goals

Venom from the sea anemone, Heteractis magnifica, has bioactive and cytotoxic compounds. In this study, cytotoxicity induced by Heteractis magnifica venom was investigated using a hemocytometer and a trypan blue solution to determine malignant canine lymphoid CLL-1390 cell viability.

Methods/Materials

Heteractis magnifica venom was obtained by the milking technique. This process is proven not to be harmful to the animal. The CLL- 1390 cell line was obtained from the Leukocyte Antigen Biology Laboratory at UC Davis. The cell line was supplemented with a hybridoma media.

Results

If the Heteractis magnifica venom is introduced to the multicentric canine lymphoma cells, then multicentric canine lymphoma cell viability will be significantly reduced, appears to be supported. The result of the experiment was a reduction of cell viability to an average of 12.82%.

Conclusions/Discussion

Overall, H. magnifica venom was highly cytotoxic to CLL-1390, and the phenomenon could be the killing phenomenon via the death receptor- mediated and the mitochondria-mediated apoptotic pathways.

Summary Statement

I investigated and examined a novel aproach to reduce malignant cell viability through sea anemone venom.

Help Received

I conducted all work independently although received extensive support from Dr. Stan Kunin, Dr. Sue Downing, and Kristy Harmon.