

POSTER PRESENTATION

Open Access

# Effects of hecogenin on Larvicidal activity against *Aedes aegypti* mosquito, the dengue vector

Louise Oliveira\*, Débora Lacerda, Fabíola Nunes

From 5th Congress of the Brazilian Biotechnology Society (SBBIOTEC)  
Florianópolis, Brazil. 10-14 November 2013

## Background

Dengue is a viral disease, caused by the dengue virus, a Flaviviridae family virus. Dengue is transmitted by several species of mosquito within the genus *Aedes*, principally *A. aegypti*. The dengue control is based on the mosquito combat, most of time through chemical insecticides. Hecogenin is a sapogenin present in the leaves of species from the *Agave* genus, with a wide spectrum of reported pharmacological activities. The present study was undertaken to evaluate the effect of hecogenin in *Aedes aegypti* mortality. Currently, several studies have shown the increase of the insect resistance for various chemical pesticides. In this way, the aim of this study was verify de larvicidal activity of the hecogenin acetate against *A. aegypti* larvae (L4).

## Methods

Twenty larvae in the fourth stage (L4) were exposed to the concentration (20 mg/mL) of the hecogenin acetate for 5 days. The Hecogenin Acetate was dissolved in water and Tween 80. The control group consisted of 20 larvae in the fourth stage, exposed to tap water plus tween 80 for 5 days.

## Results and conclusions

As results we found that the hecogenin acetate doesn't killed larvae in the first 24 and 48 hours, killed 10% of larvae after 72 hours, 80% of larvae after 96 hours and 95% of larvae in 120 hours in the concentration. This results confirm that the hecogenin have larvicidal activity against *A. aegypti*. As mechanism of action, it is possible that the acetate mimics the insect growth hormone, stopping its development and causing him to death.

## Acknowledgements

Biotechnology Center and Federal University of Paraiba

Published: 1 October 2014

doi:10.1186/1753-6561-8-S4-P33

Cite this article as: Oliveira et al.: Effects of hecogenin on Larvicidal activity against *Aedes aegypti* mosquito, the dengue vector. *BMC Proceedings* 2014 **8**(Suppl 4):P33.

## Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at  
[www.biomedcentral.com/submit](http://www.biomedcentral.com/submit)



Biotechnology Center, Federal University of Paraiba, João Pessoa, Brasil



© 2014 Oliveira et al.; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated.