

Effects of resveratrol in *Aedes aegypti* embryonic culture

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Resveratrol, a polyphenolic compound found in several plants, became recently headline for its systemic action, increasing healthy life span among different organisms like *C. elegans* or mammals mimetizing calorie restriction effects, and intracellular action promoting antiproliferative and proapoptotic effects, especially in tumor lines. Notably, the effects of this drug have not been studied in vectors with strong medical importance like *A. aegypti* and *R. prolixus*. In order to understand in a simply and swiftly way possible biochemical effects and molecular targets of resveratrol on *A. aegypti*, the aim of this present work is to analyze how capable this cell line is to represent a good model of study comparable to the adult mosquito, making more practical the acquirement of material to experimental procedures. We intend to describe what parameters are being modulated by resveratrol and what pathways would be altered. The cells showed a doubling time of 14 hours. Resveratrol treatment (25uM–24h) showed no effect either over the viability or over the energetic metabolism. Otherwise, an increase of the phosphatase activity was detected with 1 hour of treatment. This increase is more pronounced at pH 4 and the activity is totally inhibited with sodium vanadate, sodium potassium tartrate and sodium fluoride, but not with phenylalanine oxide or sodium azide. Western Blotting showed that some residues of tyrosine are being dephosphorylated by the incubation with resveratrol. These results are in behalf of our laboratory results with adult mosquitoes. We are now studying new resveratrol targets and other insulin pathway products in order to better understand new connections with molecules like Sirt1.

Keywords: Aag-2/Metabolism/Resveratrol

Supported by FAPERJ/CNPQ/WHO/IFS