Plan Overview

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Title: Análise da ação dos fungicidas carbendazim e piraclostrobim no metabolismo lipídico de células hepáticas e seu estudo translacional em modelo alternativo animal de Drosophila melanogaster

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Project abstract:

Nowadays, the n*on-alcoholic fatty liver disease or hepatic steatosis is considered a public health problem worldwide. Those diseases is established due to body's metabolic dysfunctions conducted by different etiologies, which are able to accumulate triglycerides in the hepatocytes. The lipid accumulation may generate lipotoxicity that is able to start an inflammatory process and the production of reactive oxygen species (ROS). Those metabolic changes contribute to the disease progression to more deleterious level. Among the agents that induces the NAFLD, environmental pollutants and the phitosanitaries are considered. In the world, agricultures chemicals have been used in largely amounts aiming to increase the production of food and crops. Parallel, in Brazil, huge amounts of such compounds are current used cumulatively, which may contribute with the increased number hepatic diseases. In this context, in the present study we aim to evaluate the hepatotoxic effects of the carbendazim e pyraclostrobin agrochemicals in the xenobiotic and in the lipid and metabolism, in human hepatic cell line and in the Drosophila melanogaster as an alternative animal model. For that, co-cultures of hepatic cell lines will be set and the phitosanitaries effects on cell viability, lipid metabolism and ROS production through the cytotoxic assay (MTT), gene expression measurement and biochemical assays. To translational evaluated the effects of the chemical compounds observed in cell culture, Drosophila melanogaster will be exposed to the phitosanitaries, and the viability analyses, gene expression measurement and biochemical assays will also be evaluated as previously described.*

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The data concerning the metabolic effect of the phitosanitaries carbendazim e pyraclostrobin in hepatic cell culture and in *D. melanogaster*, correlated with metabolic dysfunction will be analysed and organized in graphs, aiming to clarify their potential deleterious effect on the stablishment of the non-alcoholic fatty liver disease (NAFLD).

All the data will be stored as tables and graphics (.doc or .xls format).

Data will be collected by performing biological assays: celular, molecular and biochemical analyses, according to regular methodologies largely described in the literature. Negative and positive controls from each assay will be performed. In addition, the assays will be repeated at least 3 times

Data will be stored allowing the identification of metabolic routes activated our model of hepatic diseases.

Data will be personally stored to allow the understanding of metabolic pathways disrupted by the pesticides and they will be deposited at Unesp repository, as soon as published

Tables, graphics, and figures will be made to ensure that everyone with access to the data, could read and interpreted it in the future. The statistical analyses will be performed
Also, everyone could reach some missing information by requesting them to the PI of the project

The present proposal of investigation are going to use icommercial human cell cline and *Drosophila melanogaster*, which do not need any approval from Ethics Committee.

All the researchers of the laboratory will have access to the data.

Processed data will be freely available as long as they are produced. Raw data will be released after the publication of the results as articles, reports or 2 years after the end of the project.

During the developement of the project, data will be stored in personal computers and rigid disks, with virtual backups as google drive , for example.

All the laboratory researchers have access to the raw data stored in the hard drive and in the storage clouds. However, to have access to this, the researchers need to ask for the responsible for the project. Also, the data is secure by stronger passwords with only the PIs will have this information

The data will be shared through the academic community in scientific papers. In addition, researchers who request access to the data will need to formally request this access for the responsible researcher of the project and the identity of the subjects will be warranty.

Data will be made available for how long the institutional repository exists.

The data will be available at any time upon a formal request with the responsible for the project. Also, we intended to share the raw data via a repository to facilitate.

There are no restrictions on sharing the data.

The data management will be performed by the responsible researchers for this project

No requirements.
